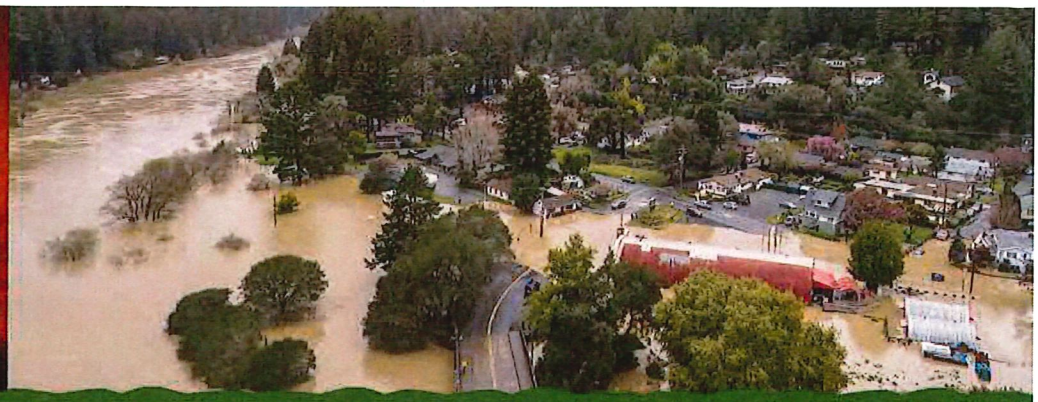




Sonoma County Hazard Mitigation Plan

Volume II—Jurisdictional Annexes

May 2026



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Sonoma County Hazard Mitigation Plan

VOLUME II—JURISDICTIONAL ANNEXES

May 2026

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#105S045062

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1. INTRODUCTION

1.1 BACKGROUND

The Federal Emergency Management Agency (FEMA) encourages multi-jurisdictional planning for local hazard mitigation. Such planning efforts can generate a unified local voice on hazard mitigation, with cross-jurisdictional support for a hazard mitigation plan's recommended mitigation actions. They also help to form working relationships among participants' emergency managers, floodplain administrations, and other development agencies (FEMA 2021). Eligible participants for multi-jurisdiction hazard mitigation plans are local governments defined as follows (44 CFR Section 201.2):

> "Any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity."

In multi-jurisdictional hazard mitigation planning, every participating jurisdiction must meet the federal requirements for local mitigation planning. This means that each jurisdiction must actively participate in the planning process and must officially adopt the plan (44 CFR Section 201.6a(4)).

For the Sonoma County Multijurisdictional Hazard Mitigation Plan (HMP), a Planning Partnership was formed to leverage resources and to meet the federal local mitigation planning requirements for as many eligible governments in the County as possible. Members of the Planning Partnership consisted of representatives from each participating jurisdiction. Sonoma County was the lead agency for this planning effort and directed the planning process with assistance from a contract planning consultant (Tetra Tech). A Hazard Mitigation Working Group (HMWG) with broad representation across the county provided guidance and direction for the HMP planning process. Each participating planning partner has prepared a jurisdictional annex to this plan.

This chapter describes the Sonoma County HMP Planning Partnership, its responsibilities throughout the planning process, and the jurisdictional annexes developed as a result of the plan update efforts. The remaining chapters in this volume of the HMP present the annexes for each participating jurisdiction.

1.2 PLANNING PARTNER INVOLVEMENT

1.2.1 Initial Solicitation and Letters of Intent

Sonoma County solicited the participation of all eligible jurisdictions in the County at the commencement of this project. All jurisdictions interested signed a letter of intent and/or a resolution

committing their participation and resources to the development of the Sonoma County HMP (Appendix A). The following is a list of the jurisdictions that participated in the update process and have met the minimum requirements of participation as established by the County and the HMWG:

- Bodega Bay Public Utility District
- City of Cloverdale
- City of Cotati
- City of Healdsburg
- City of Petaluma
- City of Rohnert Park
- City of Santa Rosa
- City of Sebastopol
- City of Sonoma
- Cloverdale Fire Protection District
- County of Sonoma
- Gold Ridge Fire Protection District
- North Sonoma Coast Fire Protection District
- Northern Sonoma County Fire Protection District
- Rancho Adobe Fire Protection District
- Santa Rosa Junior College
- Sonoma County Ag and Open Space
- Sonoma County Fire Protection District
- Sonoma Valley Fire Protection District
- Sonoma Water
- Timber Cove Fire Protection District
- Town of Windsor

1.2.2 Planning Partner Expectations

The Planning Partnership is responsible for developing and reviewing draft sections of the hazard mitigation plan, creating the mitigation strategy for their jurisdiction, and adopting the final plan. Members of the Planning Partnership have the expertise to develop the plan and have their jurisdiction's authority to implement the mitigation strategy developed during the planning process. The following list of planning partner expectations was agreed to in each letter of commitment:

- Meet the requirements for mitigation plans identified in 44 CFR §201.6
- Provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements
- Identify hazards unique to the jurisdiction and not addressed in the master planning document
- Conduct a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- Formulate mitigation goals responsive to public input and development of mitigation actions complementary to those goals
- Demonstrate that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.
- Document an effective process to maintain and implement the plan
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body

Under the plan implementation and maintenance protocol established in Volume I of the HMP, it is intended that the Planning Partnership will remain active to support maintenance of the HMP after the plan has been adopted. By adopting this plan, each planning partner agrees to the plan implementation and maintenance protocol. Given that individual commitments change over time, it will be the responsibility of each jurisdiction and its points of contact to inform the County's coordinator for this HMP of any changes in representation.

1.3 JURISDICTIONAL ANNEX PREPARATION PROCESS

Jurisdictional annexes provide a unique, stand-alone guide to mitigation planning for each jurisdiction participating in a multi-jurisdiction HMP. The Sonoma County HMP is organized so that there is an annex for Sonoma County and one for each of the 22 Planning Partners, including all incorporated municipalities within the County.

Workshops and additional meetings (in person, by email, or by teleconference) to complete the jurisdictional annexes were held with the County, the contract consultant, and the HMWG throughout the planning process. Details regarding these meetings are described further in Volume I. The Cal OES MJLHMP Annex Review Tool was completed to ensure each annex met state requirements.

1.3.1 Incorporation of Information from Previous HMP

In order to facilitate the update of the jurisdictional annexes, data from the most recent County and municipal HMPs was transferred to the most current annex format, which has evolved to meet changing federal and state criteria. Clear instructions were provided to the representatives of each planning partner. This transfer of information provided a basis to address the following:

- Changes in local capabilities and vulnerabilities
- The current status of the 2021 Sonoma County HMP, 2021 Petaluma HMP, 2018 Rohnert Park HMP, and 2022 Sebastopol HMP mitigation strategies
- A new mitigation strategy to address identified issues and to increase community resiliency

1.3.2 Kickoff Meeting

The County invited the Planning Partnership to participate in a planning partner kickoff meeting held on December 4, 2024, to provide an overview of the planning process, including meetings and worksheets that would be used to gather information for annex preparation. Key elements of the worksheets were discussed and subsequently completed by the appropriate jurisdictional personnel for each worksheet. The worksheets were collected, and the information was incorporated into each jurisdictional annex. In the event additional information was needed, the jurisdictional point of contact was contacted to provide more input into their annex.

1.3.3 Hazard Ranking Exercise

At the risk assessment meeting on July 29, 2025, the consultant summarized the findings of the risk assessment for the hazards of concern evaluated in this HMP, including an initial ranking of hazards using the risk-related ranking methodology described in Volume I. Each planning partner was asked to review the hazard ranking for its jurisdiction and revise as appropriate based on history of events, probability of occurrence, and the potential impact on people, property, and the economy. This exercise familiarized the planning partners with how to use the risk assessment as a tool to support other planning and hazard mitigation processes and to help prioritize types of mitigation actions that should be considered. Hazards that were ranked as “high” for each jurisdiction as a result of this exercise were considered to be priorities for identifying appropriate mitigation actions, although jurisdictions also identified actions to mitigate “medium” or “low” ranked hazards as appropriate.

1.3.4 Mitigation Strategy Workshop

A mitigation strategy workshop was held on July 29, 2025, to provide an overview on how to develop a strong mitigation strategy. In preparation for this workshop, the consultant provided a list of problem areas and vulnerabilities identified during the planning process, along with feedback from the public survey, to support the development of relevant projects for the mitigation strategy. Workshop participants received the following FEMA publications to use as a resource as part of a comprehensive review of all possible activities and mitigation measures to address hazards of concern:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)

This workshop included the development of focused problem statements based on the impacts of natural hazards in the County and its communities. These problem statements provide detailed descriptions of problem areas, including known impacts on the jurisdiction (past damage, loss of service, etc.). Where possible, the statements include the street address of the problem location, adjacent streets, water bodies, and well-known structures as well as a brief description of existing site conditions (topography, terrain, hydrology). The problem statements form a bridge between the risk assessment (which quantifies impacts on each community), the capability assessment (which identifies capabilities for reducing hazard risks and supporting hazard mitigation), and the development of actionable mitigation strategies.

The County and the mitigation consultant worked with each jurisdiction to identify clear, implementable mitigation actions and to further support the completion of the jurisdictional annexes.

1.4 JURISDICTIONAL ANNEX FORMAT

The jurisdictional annex format is designed to document local compliance with the 44 CFR local mitigation planning regulations. It also achieves the following:

- Providing a locally relevant synthesis of the overall mitigation plan that can be readily presented, distributed, and maintained
- Facilitating local understanding of the community's risk from natural hazards
- Facilitating local understanding of the community's capabilities to manage natural hazard risk, including opportunities to improve those capabilities
- Facilitating local understanding of the efforts the community has taken, and plans to take, to reduce its natural hazard risk
- Facilitating the implementation of mitigation strategies, including the development of grant applications
- Providing a framework by which the community can continue to capture relevant data and information for future plan updates

The following are the elements of the jurisdictional annex.

- **Section X.1: Hazard Mitigation Planning Team:** Identifies the hazard mitigation planning primary and alternate contacts and floodplain administrator. Provides details on which departments were involved in the development of the jurisdictional annex. The widest range of departments, stakeholders, and persons familiar with the jurisdiction should be involved in the development of the jurisdictional annexes. Further detail on participants is provided in Volume I.
- **Section X.2: Community Profile:** Provides a profile of the jurisdiction, including population and socially vulnerably populations.
- **Section X.3: Public Engagement:** Summarizes the individual public outreach efforts undertaken by the jurisdiction, including website posts, social media, newsletters, public events, and printed materials in public spaces.
- **Section X.4: Stakeholder Engagement:** Identifies the stakeholders that each jurisdiction invited to participate in the plan update.
- **Section X.5: Changes in Priorities:** Identifies jurisdiction changes in priorities since the last HMP.
- **Section X.6: Jurisdictional Capability Assessment and Integration:** Provides an inventory and evaluation of the jurisdiction's tools, mechanisms, and resources available to support hazard mitigation and natural hazard risk reduction. Tables provide an inventory of the jurisdiction's planning, regulatory, administrative, technical, and fiscal capabilities, its level of participation in state and federal programs designed to promote and incentivize local risk reduction efforts, and its adaptive capacity to adjust to damage and respond to consequences.
- **Section X.7: National Flood Insurance Program (NFIP) Compliance:** Summarizes jurisdiction-specific information related to managing and regulating the regulatory floodplain, including current and future compliance with the NFIP.
- **Section X.8: Growth/Development Trends:** Summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development.
- **Section X.9: Jurisdictional Risk Assessment:** Provides information regarding each jurisdiction's vulnerability to the identified hazards. Full data and information on the hazards of

concern, the methodology used to develop the vulnerability assessments, and the results of those assessments that serve as the basis of these local hazard rankings may be found in Volume I.

- ***Hazard Area:*** Each annex includes a map (or series of maps) illustrating identified hazard zones and critical facilities. The maps also show areas of known or anticipated future development, as available.
- ***Hazard Event History:*** Identifies hazard events that have caused significant impacts within the jurisdiction, including a summary characterization of those impacts identified by the jurisdiction.
- ***Hazard Ranking and Vulnerabilities:*** Each jurisdiction has differing degrees of risk exposure and vulnerability. The local hazard ranking identifies each jurisdiction's local degree of risk to each hazard, supporting the selection and prioritization of actions to reduce the highest levels of risk for each community.
- ***Critical Facilities:*** Identifies potential flood losses to critical facilities in the jurisdiction based on the flood vulnerability assessment process presented in Volume I.
- ***Identified Issues:*** Presents other specific hazard vulnerabilities as identified by the jurisdiction.

- **Section X.10: Mitigation Strategy and Prioritization:** Discusses and provides the status of past mitigation actions and status and describes proposed hazard mitigation actions and prioritization.
  - ***Past Mitigation Action Status:*** Where applicable, a review of progress on the jurisdiction's prior mitigation strategy is presented, identifying the disposition of each prior action in the jurisdiction's updated mitigation strategy. Other completed or ongoing mitigation activities that were not specifically part of a prior local mitigation strategy may be included in this subsection as well.
  - ***Completed Mitigation Actions Not Identified in the Previous Mitigation Strategy:*** Other completed or ongoing mitigation activities that were not specifically part of a prior local mitigation strategy may be included in this subsection as well.
  - ***Proposed Hazard Mitigation Actions for the Plan Update:*** Tables and action worksheets at the end of each annex present the jurisdiction's updated mitigation strategy, a summary of the local mitigation strategy prioritization and a summary of the action categories and hazards addressed.

Each jurisdiction's annex is a living document that will continue to be improved as resources permit. Continued efforts to maintain the annex will ensure that it remains current and will improve its effectiveness as the key tool, reference, and guiding document by which the jurisdiction will implement hazard mitigation locally.

1.5 COVERAGE UNDER THE PLAN

Of the 22 original planning partners, 22 fully met the participation requirements specified by the HMWG and have annexes included in this volume. Those that did not meet the requirements will not be able to

seek FEMA or state approval at the time of plan submittal, nor will they be eligible to obtain FEMA grant funding. Table 1-1 lists the status of each jurisdiction. Note that participation in scheduled Planning Partnership meetings provides only a partial indication of the level of participation of each jurisdiction. Appendices in Volume I provide details on further participation and meeting attendance.

Table 1-1. Jurisdictional Status

	Letter of Intent to Participate	Attended Workshops, Meetings, and Calls	Provided Update on Past Projects	Submitted Mitigation Actions for Current Plan	Seeking Approval for Adoption (meets all previous requirements)
Bodega Bay Public Utility District	X	X	-	X	X
City of Cloverdale	X	X	-	X	X
City of Cotati	X	X	X	X	X
City of Healdsburg	X	X	-	X	X
City of Petaluma	X	X	X	X	X
City of Rohnert Park	X	X	-	X	X
City of Santa Rosa	X	X	X	X	X
City of Sebastopol	X	X	-	X	X
City of Sonoma	X	X	X	X	X
Cloverdale Fire Protection District	X	X	X	X	X
County of Sonoma	-	X	X	X	X
Gold Ridge Fire Protection District	X	X	X	X	X
North Sonoma Coast Fire Protection District	X	X	X	X	X
Northern Sonoma County Fire Protection District	X	X	X	X	X
Rancho Adobe Fire Protection District	X	X	X	X	X
Santa Rosa Junior College	X	X	-	X	X
Sonoma County Ag and Open Space	X	X	X	X	X
Sonoma County Fire Protection District	X	X	-	X	X
Sonoma Valley Fire Protection District	X	X	X	X	X
Sonoma Water	X	X	-	X	X
Timber Cove Fire Protection District	X	X	X	X	X
Town of Windsor	X	X	X	X	X

X = yes; - = N/A

2. COUNTY OF SONOMA

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the County of Sonoma with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of Sonoma County. The annex presents a general overview of Sonoma County, describes who participated in the planning process, assesses Sonoma County's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

2.1 HAZARD MITIGATION PLANNING TEAM

The County of Sonoma identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many County departments. The Department of Emergency Management represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group (HMWG) and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The County officials who participated in the development of the annex are listed below and shown in Table 2-1. Additional documentation of the County's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Sage Limpp, Supervising Hazard Mitigation Coordinator

Address: 2300 County Center Drive, Suite B220 Santa Rosa, CA 95403

Phone Number: 707-565-2097

Email: Sage.Limpp@sonomacounty.gov

Alternate Point of Contact: Katrina Braehmer, Supervising Planner

Address: 2550 Ventura Avenue, Santa Rosa, CA 95403

Phone Number: 707-565-1903

Email: Katrina.Braehmer@sonomacounty.gov

NFIP Administrator: Steve Snow, Floodplain Manager

Address: 2550 Ventura Avenue, Santa Rosa, CA 95403

Phone Number: 707-565-4443

Email: Steve.Snow@sonomacounty.gov

Table 2-1. Additional Contributors

Name	Department	Position	HMP Contribution
Sage Limpp	Department of Emergency Management	Supervising Hazard Mitigation Coordinator	Lead
Katrina Braehmer	Permit Sonoma	Supervising Planner, Comprehensive Planning	HMWG Member; Capability Assessment; Mitigation Action Review and Development
Amanda Bouillerce	Public Infrastructure	Grants Manager	HMWG Member; Capability Assessment; Mitigation Action Review and Development
Adriane Garayalde	Public Infrastructure	Special Projects	HMWG Member; Capability Assessment; Mitigation Action Review and Development
Marc Chandler	Community Development Commission	Asset and Construction Services Manager	HMWG Member; Capability Assessment; Mitigation Action Review and Development
Caerleon Safford	Permit Sonoma	Program Manager, Fire Prevention	HMWG Member; Capability Assessment; Mitigation Action Review and Development
Steve Snow	Permit Sonoma	Floodplain Manager	Capability Assessment
Sam Wallis	Department of Emergency Management	Deputy Director	Mitigation Action Review and Development

2.2 COMMUNITY PROFILE

Sonoma County is the northernmost of the nine counties in the San Francisco Bay Area, located along the Pacific coast approximately 40 miles north of San Francisco. Covering over 1,500 square miles, it is the largest county in the Bay Area by land area. The county is bordered by the Pacific Ocean to the west, Marin County and San Pablo Bay to the south, Solano, Napa, and Lake Counties to the east, and Mendocino County to the north.

Historically, the region was home to Indigenous communities including the Pomo, Miwok, and Kashia peoples. European influence began in the early 19th century with the establishment of Fort Ross by Russian settlers and the Sonoma Mission during the Mexican period. Over time, Sonoma County developed into a hub for agriculture, tourism, and local governance.

Today, the county is known for its diverse landscapes, agricultural heritage, and growing wine industry. The Russian River area remains a popular destination for visitors, while urban centers continue to expand with new housing, commercial development, and infrastructure. Governance is provided by the Sonoma County Board of Supervisors, which also oversees various special districts and agencies that support water, sanitation, open space, and community development.

The 2020 total U.S. Census population for Sonoma County was 488,863, a 0.86 percent increase from the 2010 Census. The 2023 American Community Survey (ACS) estimated that the 2023 total population of Sonoma County was 485,642; this estimate is used throughout the HMP.

Populations with decreased resources or physical abilities can be more susceptible to hazard events based factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the ACS indicates that 4.7 percent of the

population is 5 years of age or younger, 21.0 percent is 65 years of age or older, 4.1 percent is non-English speaking, 8.5 percent is below the poverty threshold, 12.0 percent has a disability, 2.0 percent live in a single parent household, and 4.3 percent have no vehicle access.

In 2024, the total homeless population in the County of Sonoma was reported as 2,522 individuals, including 945 sheltered and 1,577 unsheltered persons (Sonoma County 2024).

2.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the County of Sonoma completed specific activities to collect input from the people the County serves. The public was invited to participate in the plan by responding to the public survey, attending virtual HMWG meetings, attending an in-person meeting, and reviewing the draft plan.

Below are several examples of public outreach event collaborations with the County and planning partners, including Sonoma Valley Fire District and the City of Sonoma. Additional examples can be found in Appendix D (Outreach Documentation).

The Springs in Sonoma Valley Evacuation Exercise, May 3, 2025

- This event was designed to help community members practice safe evacuation procedures, familiarize themselves with evacuation routes and ensure they are prepared for future emergencies. It brought together a variety of partners including Sonoma County Department of Emergency Management, Sonoma County Human Services, Sonoma County Sheriff's Office, CAL FIRE and Sonoma Valley Fire District. Sonoma County and Sonoma Valley Fire District distributed flyers with information on the HMP update in both English and Spanish, encouraging community members to learn more and complete the survey. See Figure 2-1.

2025 Wildfire and Earthquake Expo, June 1, 2025

- The Wildfire and Earthquake Safety Expo was a hands-on event designed to help Sonoma County be better prepared for the next wildfire or earthquake. It was the largest in-person emergency preparedness event in Sonoma County and took place at the Sonoma County Fairgrounds on Sunday, June 1. Members of Sonoma County Department of Emergency Management distributed HMP update flyers and spoke with community members about the plan update. The DEM Alert and Warning Program Manager also held an informational session on alerts and warnings and spoke about the HMP update, encouraging people to engage in the survey and learn more. See Figure 2-2.

City of Sonoma Community Partners Emergency Preparedness Meeting, June 3, 2025

- Meeting facilitated by the City of Sonoma for its Community Partners Emergency Preparedness and Response Network. Originally established during the COVID-19 emergency, these regular online meetings served an important purpose in real-time information sharing and coordination. Now, the meetings are quarterly in person and focus on proactive planning, coordination, and collaboration. Sonoma County Department of Emergency Management presented on the HMP update. See Figure 2-3.

Figure 2-1. Spring Evacuation Exercise



Figure 2-2 Wildfire and Earthquake Expo



Figure 2-3. City of Sonoma Community Partners Emergency Preparedness Meeting



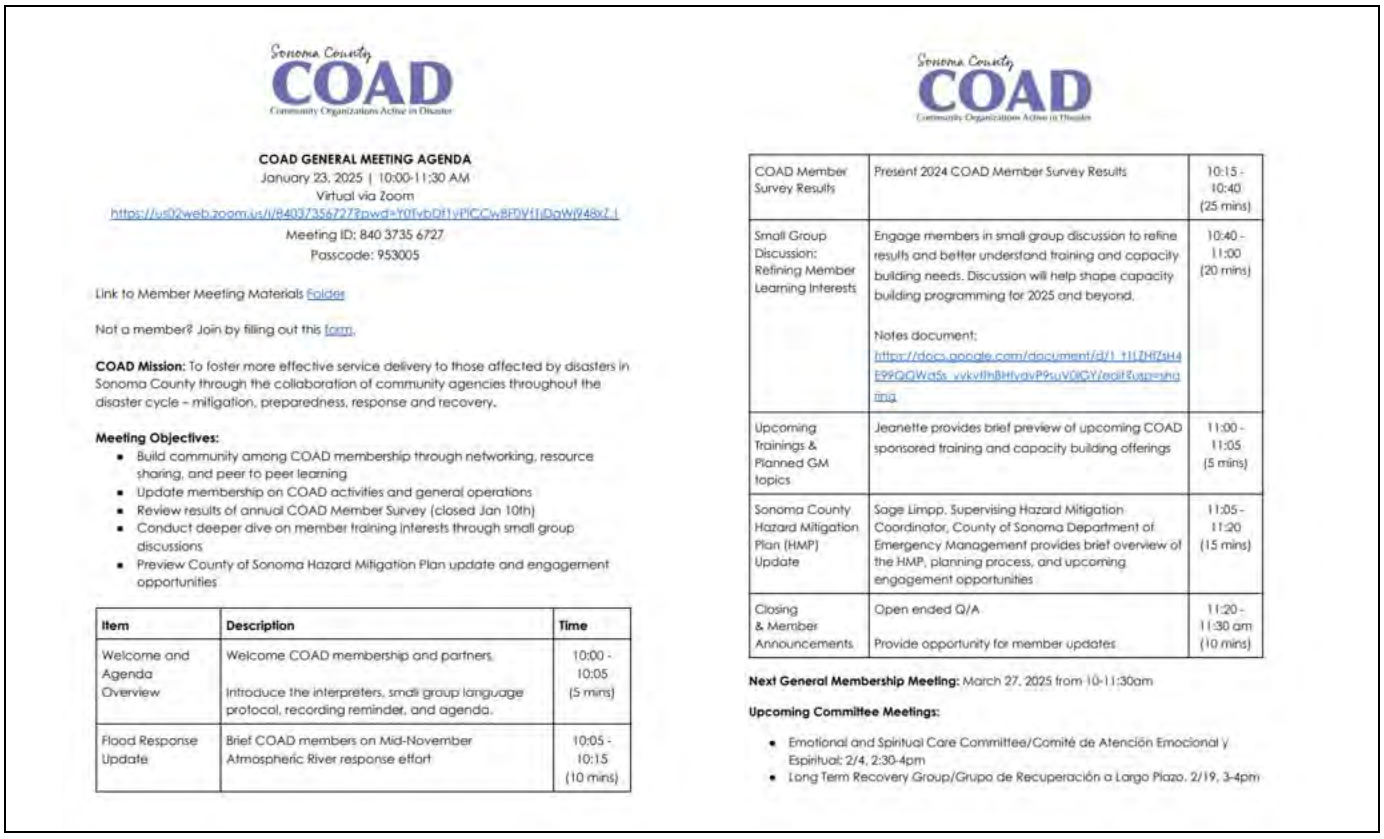
The following targeted outreach was made to underserved communities and vulnerable populations through trusted partners and traditional public outreach methods:

- Presenting on the plan update and distributing the link to the survey to the Sonoma County Access and Functional Needs Advisory Committee. This committee is comprised of county agencies, city agencies, healthcare providers, nonprofits, and members of the community that serve access and functional needs communities. This includes anyone with physical, developmental, or intellectual disabilities, chronic conditions, those with limited English proficiency, older adults, children, low income, homeless or transportation disadvantaged and pregnant individuals.
- Presenting on the plan update and distributing the link to the survey at a general meeting of the Community Organizations Active in Disaster (COAD) (Figure 2-4). Member agencies serve vulnerable populations including those with limited English proficiency, the elderly, children and low income.

The Sonoma County website, survey, and public outreach materials were all available in English and Spanish. They were distributed digitally via social media and flyers as well as in-person at community events. Figure 2-5 through Figure 2-8 illustrate the various outreach methods that were used by Sonoma County.

The public survey results emphasized the importance of wildfire mitigation, resilient infrastructure, and timely public communication. Participants expressed a strong desire for more proactive vegetation management, backup power solutions, and clearer and timely emergency alerts. These priorities are reflected in some of the developed mitigation actions, which aim to reduce wildfire risk, create resilient community hubs, and improve emergency alert systems.

Figure 2-4. COAD General Meeting



Sonoma County COAD
Community Organizations Active in Disaster

COAD GENERAL MEETING AGENDA
January 23, 2025 | 10:00-11:30 AM
Virtual via Zoom
https://us02web.zoom.us/j/84037356727?pwd=Y0tfvbDf1vPlCCwBF0Vf1jDgWj948xZ.1
Meeting ID: 840 3735 6727
Passcode: 953005

Link to Member Meeting Materials Folder

Not a member? Join by filling out this form.

COAD Mission: To foster more effective service delivery to those affected by disasters in Sonoma County through the collaboration of community agencies throughout the disaster cycle – mitigation, preparedness, response and recovery.

Meeting Objectives:

- Build community among COAD membership through networking, resource sharing, and peer to peer learning
- Update membership on COAD activities and general operations
- Review results of annual COAD Member Survey (closed Jan 10th)
- Conduct deeper dive on member training interests through small group discussions
- Preview County of Sonoma Hazard Mitigation Plan update and engagement opportunities

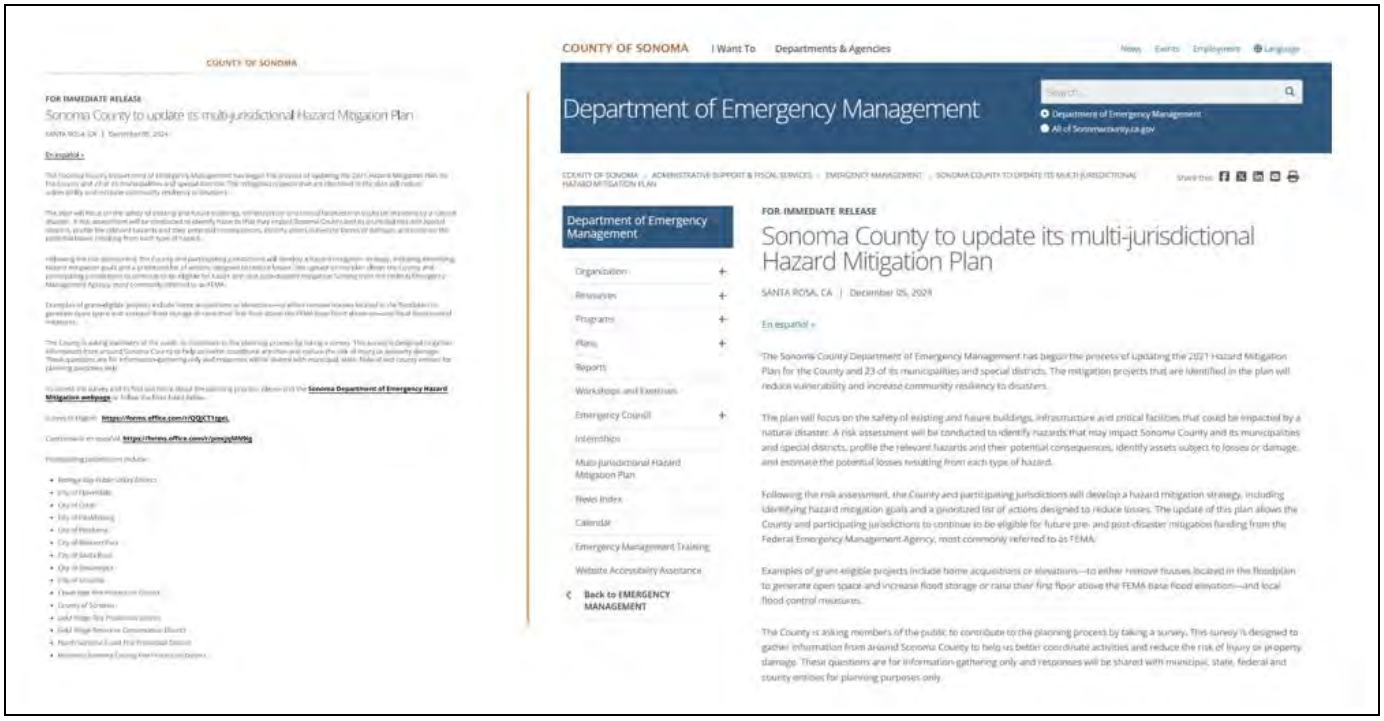
Item	Description	Time
Welcome and Agenda Overview	Welcome COAD membership and partners Introduce the interpreters, small group language protocol, recording reminder, and agenda.	10:00 - 10:05 (5 mins)
Flood Response Update	Brief COAD members on Mid-November Atmospheric River response effort	10:05 - 10:15 (10 mins)
COAD Member Survey Results	Present 2024 COAD Member Survey Results	10:15 - 10:40 (25 mins)
Small Group Discussion: Refining Member Learning Interests	Engage members in small group discussion to refine results and better understand training and capacity building needs. Discussion will help shape capacity building programming for 2025 and beyond. Notes document: https://docs.google.com/document/d/1_t1LZHfZaH4E99QdQWd5s_vvkvIfhBHfvqvP9suV08GY/edit?usp=sharing	10:40 - 11:00 (20 mins)
Upcoming Trainings & Planned GM topics	Jeanette provides brief preview of upcoming COAD sponsored training and capacity building offerings	11:00 - 11:05 (5 mins)
Sonoma County Hazard Mitigation Plan (HMP) Update	Sage Limpp, Supervising Hazard Mitigation Coordinator, County of Sonoma Department of Emergency Management provides brief overview of the HMP, planning process, and upcoming engagement opportunities	11:05 - 11:20 (15 mins)
Closing & Member Announcements	Open ended Q/A Provide opportunity for member updates	11:20 - 11:30 am (10 mins)

Next General Membership Meeting: March 27, 2025 from 10-11:30am

Upcoming Committee Meetings:

- Emotional and Spiritual Care Committee/Comité de Atención Emocional y Espiritual: 2/4, 2:30-4pm
- Long Term Recovery Group/Grupo de Recuperación a Largo Plazo. 2/19, 3-4pm

Figure 2-5. Sonoma County Press Release



COUNTY OF SONOMA

FOR IMMEDIATE RELEASE

Sonoma County to update its multi-jurisdictional Hazard Mitigation Plan

COUNTY OF SONOMA | I Want To | Departments & Agencies

Department of Emergency Management

Department of Emergency Management
All of Sonomacounty.ca.gov

Department of Emergency Management

- Organization
- Resources
- Programs
- Plans
- Reports
- Workshops and Exercises
- Emergency Council
- Internships
- Multi-Jurisdictional Hazard Mitigation Plan
- News Index
- Calendar
- Emergency Management Training
- Website Accessibility Assistance

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FOR IMMEDIATE RELEASE

Sonoma County to update its multi-jurisdictional Hazard Mitigation Plan

SANTA ROSA, CA | December 05, 2024

En español »

The Sonoma County Department of Emergency Management has begun the process of updating the 2021 Hazard Mitigation Plan for the County and 23 of its municipalities and special districts. The mitigation projects that are identified in the plan will reduce vulnerability and increase community resiliency to disasters.

The plan will focus on the safety of existing and future buildings, infrastructure and critical facilities that could be impacted by a natural disaster. A risk assessment will be conducted to identify hazards that may impact Sonoma County and its municipalities and special districts, profile the relevant hazards and their potential consequences, identify assets subject to losses or damage, and estimate the potential losses resulting from each type of hazard.

Following the risk assessment, the County and participating jurisdictions will develop a hazard mitigation strategy, including identifying hazard mitigation goals and a prioritized list of actions designed to reduce losses. The update of this plan allows the County and participating jurisdictions to continue to be eligible for future pre- and post-disaster mitigation funding from the Federal Emergency Management Agency, most commonly referred to as FEMA.

Examples of grant-eligible projects include home acquisitions or elevations—to either remove houses located in the floodplain to generate open space and increase flood storage or raise their first floor above the FEMA base flood elevation—and local flood control measures.

The County is asking members of the public to contribute to the planning process by taking a survey. This survey is designed to gather information from around Sonoma County to help us better coordinate activities and reduce the risk of injury or property damage. These questions are for information-gathering only and responses will be shared with municipal, state, federal and county entities for planning purposes only.

Figure 2-6. Sonoma County Facebook Posts

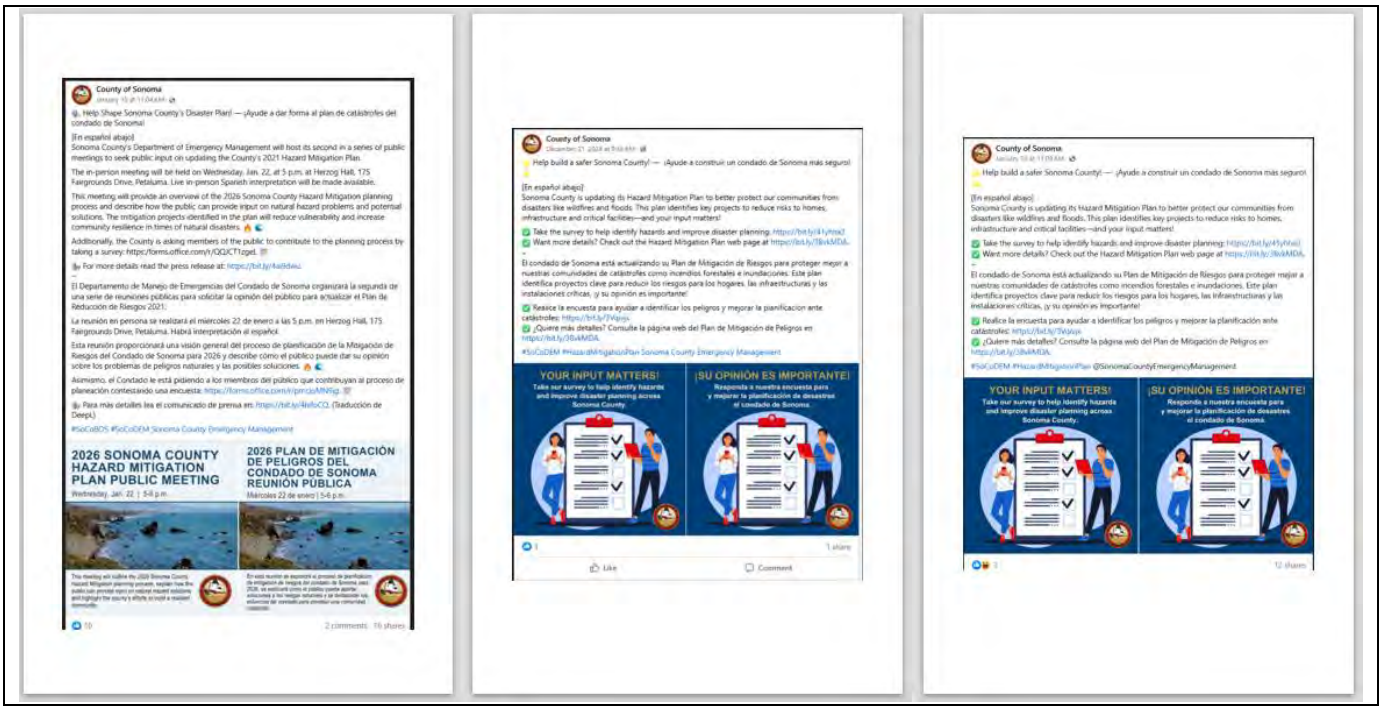


Figure 2-7. Sonoma County Facebook Posts

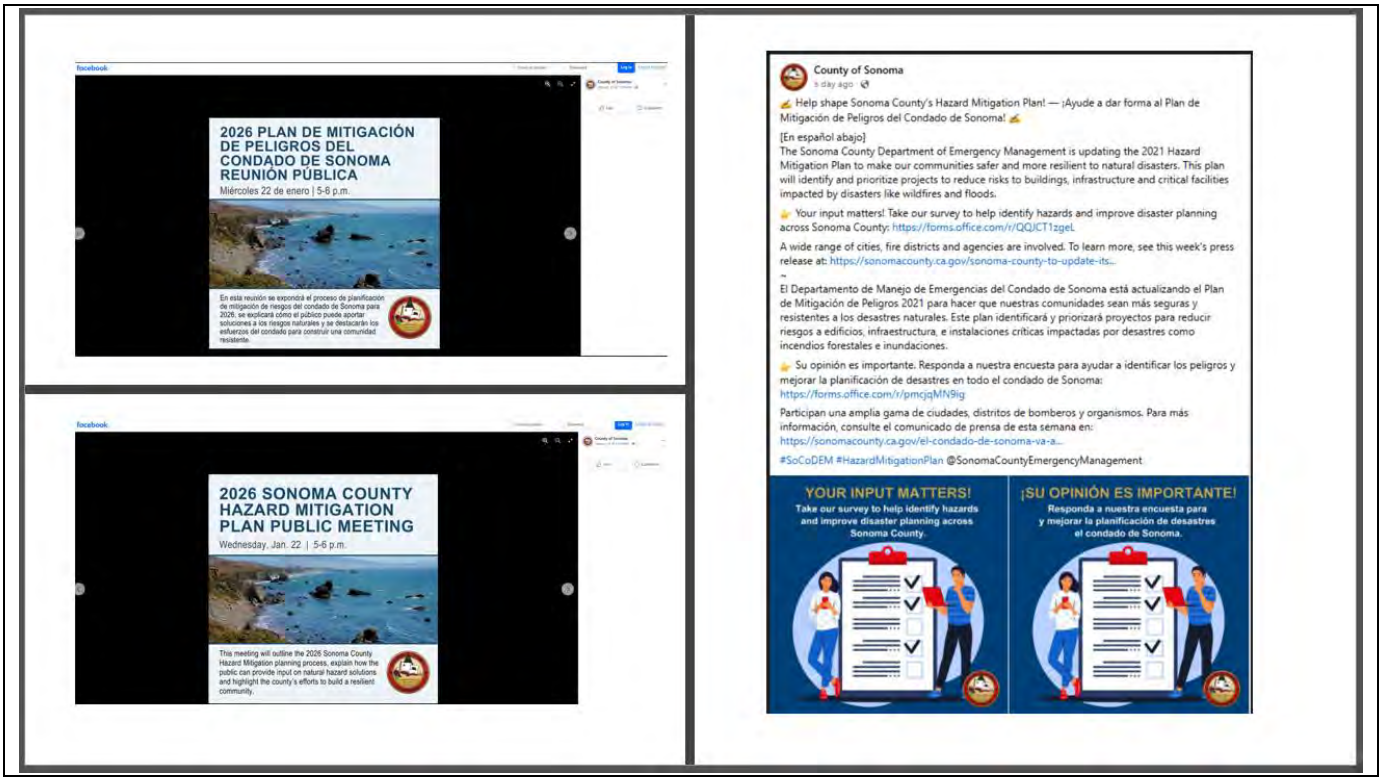
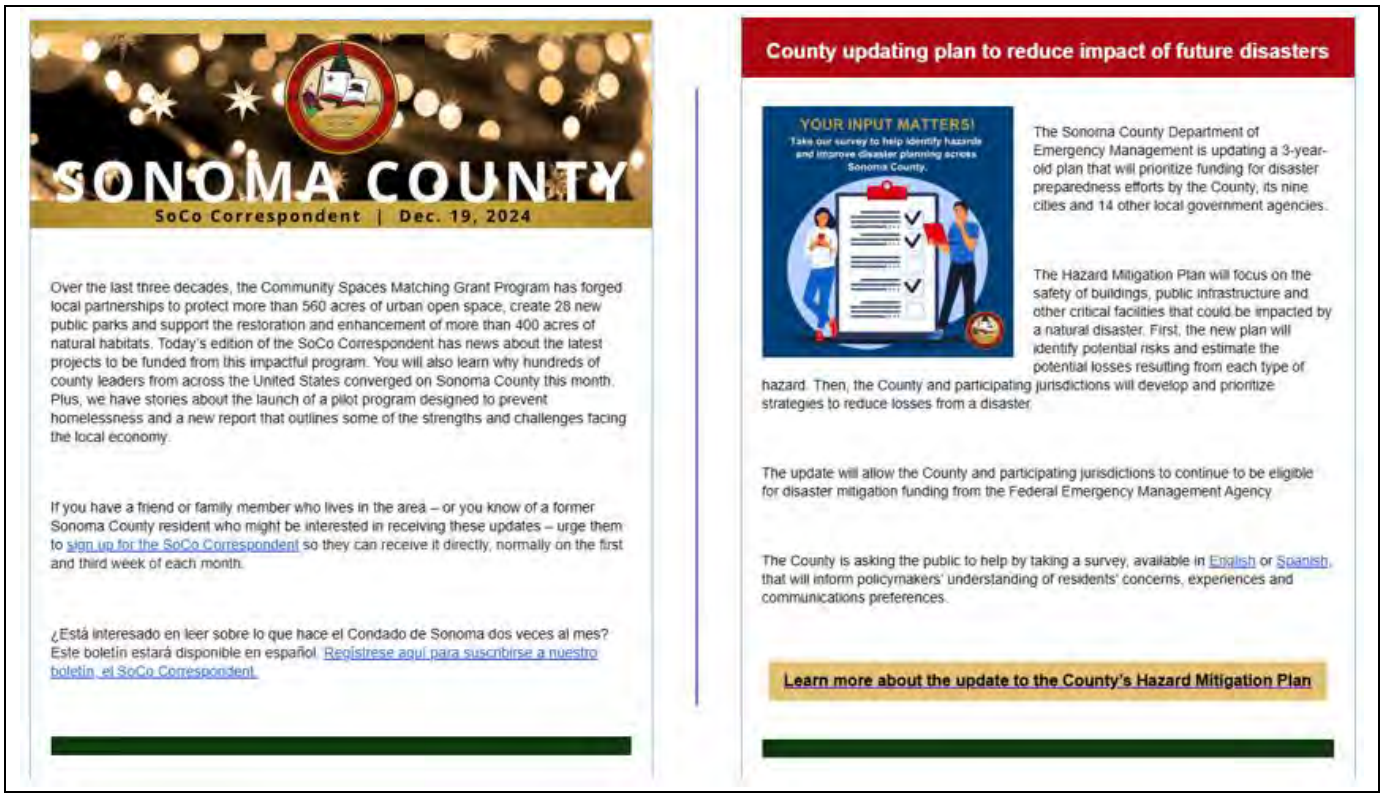


Figure 2-8. Sonoma County Newsletter



SONOMA COUNTY

SoCo Correspondent | Dec. 19, 2024

Over the last three decades, the Community Spaces Matching Grant Program has forged local partnerships to protect more than 560 acres of urban open space, create 28 new public parks and support the restoration and enhancement of more than 400 acres of natural habitats. Today's edition of the SoCo Correspondent has news about the latest projects to be funded from this impactful program. You will also learn why hundreds of county leaders from across the United States converged on Sonoma County this month. Plus, we have stories about the launch of a pilot program designed to prevent homelessness and a new report that outlines some of the strengths and challenges facing the local economy.

If you have a friend or family member who lives in the area – or you know of a former Sonoma County resident who might be interested in receiving these updates – urge them to sign up for the SoCo Correspondent so they can receive it directly, normally on the first and third week of each month.

¿Está interesado en leer sobre lo que hace el Condado de Sonoma dos veces al mes? Este boletín estará disponible en español. Regístrese aquí para suscribirse a nuestro boletín, el SoCo Correspondent.

County updating plan to reduce impact of future disasters

YOUR INPUT MATTERS!

Take our survey to help identify hazards and improve disaster planning across Sonoma County.

The Sonoma County Department of Emergency Management is updating a 3-year-old plan that will prioritize funding for disaster preparedness efforts by the County, its nine cities and 14 other local government agencies.

The Hazard Mitigation Plan will focus on the safety of buildings, public infrastructure and other critical facilities that could be impacted by a natural disaster. First, the new plan will identify potential risks and estimate the potential losses resulting from each type of hazard. Then, the County and participating jurisdictions will develop and prioritize strategies to reduce losses from a disaster.

The update will allow the County and participating jurisdictions to continue to be eligible for disaster mitigation funding from the Federal Emergency Management Agency.

The County is asking the public to help by taking a survey, available in English or Spanish, that will inform policymakers' understanding of residents' concerns, experiences and communications preferences.

Learn more about the update to the County's Hazard Mitigation Plan

2.3.1 Summary of Outreach Efforts for Sonoma County HMP Public Comment Period

To support the public comment period for the Sonoma County HMP, a comprehensive outreach campaign was conducted between October 20 and November 10, 2025. The campaign aimed to inform residents about upcoming hazard mitigation meetings and encourage community feedback on the draft plan. Messaging was provided in both English and Spanish and geotargeted when appropriate. Screenshots and photos from the below public outreach efforts are available in Volume I, Appendix D.

Social Media Outreach

- Facebook: Seven posts were published on October 20, 26, 29, 30 and November 5, 6, and 10.
- Nextdoor: Six posts were shared on October 20, 27, 29 and November 5, 6, and 10.
- Instagram Stories: Seven stories were posted on October 21, 27, 29, 30 and November 5, 6, and 10.
- X (formerly Twitter): One post was published on October 20.

Email and Newsletter Distribution

The Sonoma County Community Development Commission and Housing Authority distributed a newsletter announcing the public comment period and providing links to the draft plan and the

StoryMap website. This message reached 9,269 recipients, including many from vulnerable populations served by the Housing Authority.

Press Release

A bilingual press release was issued to promote public meetings and solicit input on the HMP.

Stakeholder Engagement

Information about the HMP public meetings was shared during weekly Operational Area coordination calls from October 20 through November 3, attended by 40 to 100+ stakeholders. Additionally, presentations were delivered to key committees and groups, including:

- Sonoma County Access and Functional Needs Advisory Committee (10/9/2025)
- COAD General Membership Meeting (10/2/2025)
- Sonoma County Emergency Council (8/19/2025)

Web and Print Materials

The draft plan and the StoryMap website were made available online in English and Spanish, with instructions for submitting feedback. Updates were also featured in the official Sonoma County newsletter, SoCo Correspondent, on November 6, 2025. Physical flyers were distributed at public meetings and events, as well as at eight regional libraries across the county.

Public Meetings and Outreach Events

On October 12, 2025, the team participated in the *Sonoma Ready: Emergency Prep* event in Sebastopol, collaborating with the City of Sebastopol and Gold Ridge Fire District. During the event, staff presented information about the HMP and distributed printed flyers to attendees.

A series of public meetings followed:

- **Santa Rosa Public Meeting (October 27):** Hosted in partnership with the City of Santa Rosa, this meeting included Spanish interpretation services.
- **Virtual Public Meeting (October 29):** Conducted online with Spanish interpretation available.
- **South County Meeting (October 30):** Organized in collaboration with the Cities of Petaluma, Cotati, and Rohnert Park, along with the Rancho Adobe Fire Protection District. Spanish interpretation was provided.
- **North County Meeting (November 5):** Held in partnership with the City of Cloverdale, the Cloverdale Fire Protection District, the City of Healdsburg, and the Northern Sonoma County Fire Protection District. Spanish interpretation was available.
- **East County Meeting (November 6):** Coordinated with the City of Sonoma and the Sonoma Valley Fire District. Spanish interpretation was provided.

These meetings ensured broad geographic coverage and accessibility, offering interpretation services and distributing outreach materials to encourage community participation in the HMP process. Screenshots of these efforts can be found in Appendix D (Outreach Documentation).

2.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the County of Sonoma invited stakeholders relevant to its planning process to participate by attending an HMWG meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the County to participate in the 2026 HMP update.

2.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process involved active participation from local and regional agencies responsible for hazard mitigation. Departments focused on public works, engineering, emergency management, public health, and geographic information systems contributed valuable data and expertise. Transportation and fire protection agencies, along with those overseeing water and infrastructure systems, also played key roles. Their input helped identify risks, improve coordination, and ensure that mitigation strategies aligned with existing emergency and infrastructure plans.

- Sonoma County Department of Emergency Management
- Permit Sonoma
- Sonoma County Public Infrastructure
- Sonoma County Health Services
- Sonoma County Information Systems Department (ISD) - GIS
- Caltrans
- CAL FIRE
- Sonoma County Transportation Authority
- Cal OES

2.4.2 Agencies that Have the Authority to Regulate Development

The planning team worked with agencies responsible for land use and development to help ensure that mitigation strategies could be included in local planning efforts. This involved departments focused on community development, economic growth, and permitting. Their input helped confirm that proposed actions were practical, met regulatory requirements, and aligned with local policies and codes.

- Permit Sonoma
- Community Development Commission

- Economic Development Commission

2.4.3 Neighboring Communities

The planning team invited nearby communities and regional partners to take part in the process to support coordination and address shared challenges. This included neighboring counties, local tribes, and other regional organizations. Their participation helped identify common concerns, such as shared infrastructure and emergency services, and supported the creation of strategies that work across different areas and jurisdictions.

- Marin County
- Lake County
- Napa County
- Solano County
- Mendocino County
- Cloverdale Rancheria of Pomo Indians
- Federated Indians of Graton Rancheria
- Kashia Band of Pomo Indians of Stewarts Point Rancheria
- Lytton Band of Pomo Indians

2.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team collaborated with a variety of local groups from different sectors. These groups shared valuable knowledge based on their areas of expertise and experience in the community. Their input helped shape a well-rounded plan that reflects local priorities and encourages cooperation between public and private partners.

- Sea Ranch Association
- Sonoma County Winegrowers
- Pepperwood Preserve
- Western Builders

2.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan’s focus on inclusive and accessible mitigation strategies.

- American Red Cross

- Sonoma County COAD (Community Organizations Active in Disaster)
- Community Foundation Sonoma County
- Sonoma County Access and Functional Needs Advisory Committee

2.5 CHANGES IN COMMUNITY PRIORITIES

There have been no significant changes to Sonoma County's priorities since the previous plan update.

2.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Sonoma County performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Sonoma County to identify opportunities for integrating mitigation concepts into ongoing County procedures.

2.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The sections below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 2-2 summarizes the codes, ordinances, and regulations available to Sonoma County.

Table 2-2. Sonoma County Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	Sonoma County Code (SCC), Chapter 7, Article II, section 7-13, adopts the suite of CA Building Codes.	Established minimum construction standards that reduce the risk of damage from seismic activity, flooding, and wildfire. These codes are regularly updated to reflect new hazard data and building science and are enforced through plan review and inspections.	County	Permit Sonoma
Zoning/ Land Use Code	SCC, Chapter 26 (Sonoma County Zoning Regulations) SCC, Chapter 26C (Coastal Zoning Code)	The Sonoma County Zoning Code and Coastal Zoning Code implement the Sonoma County General Plan and Local Coastal Plan. The Zoning Codes include provisions that regulate and limit development in known hazard areas, including floodways (F1 – Floodway Combining District), floodplains (F2 – Floodplain Combining District), and earthquake fault zones (G – Geologic Hazards Combining District).	County California Coastal Commission	Permit Sonoma
Subdivision Code	SCC, Chapter 25 (Subdivisions)	The Subdivision Code includes standards to mitigate hazard risk stemming from fire and geologic hazards, including requirements for adequate water supply and access, and limitations on developments in areas of eroding slopes, near drainageways or geological hazards.	County	Permit Sonoma
Stormwater Management Code	SCC, Chapters 11 (Construction Grading and Drainage) and 11A (Stormwater Quality)	Sonoma County Code Chapters 11 and 11A are enacted with the following purposes: • Protect the public health, safety, and welfare of the county; • Minimize hazards to life and property; • Protect against soil loss, and the pollution of watercourses with soil and other pollutants; • Protect the safety, use, and stability of public rights-of-way and watercourses; • Protect watercourses from obstruction, and protect life and property from the deleterious effects of flooding; • Protect aquatic resources and wildlife habitat; and • Promote water conservation and groundwater recharge.	County	Permit Sonoma

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Post-Disaster Recovery/ Reconstruction Code	SCC Chapter 40, Sonoma Complex Fire Disaster Recovery SCC, Chapter 40A, Kincade Fire Disaster Recovery SCC, Chapter 40B, COVID-19 Recovery SCC, Chapter 40C, LNU Lightning Complex Fires Recovery SCC, Chapter 40D—Glass Incident Disaster Recovery	The Disaster Recovery Chapters in Sonoma County Code implement temporary code provisions that waive or reduce requirements to support rebuilding and recovery for specific disaster incidents, while maintaining minimum public health and safety standards.	County	Permit Sonoma
Growth Management	The General Plan, adopted by Resolution No. 08-0808 of the Sonoma County Board of Supervisors, September 23, 2008. Amended by Resolution No. 16-0283 on August 2, 2016	The General Plan is the blueprint for land use in unincorporated Sonoma County. It includes maps that show where agricultural, residential, commercial, and other land uses will be located, and a series of policies that guide decisions about growth, development and conservation of resources. The General Plan provides the basis for development while maintaining the quality of life that Sonoma County residents treasure. The General Plan Safety Element includes policies and programs that regulate development and direct County action that are intended to reduce risks of hazards to people and property.	County	Permit Sonoma and various other County departments/ agencies
Environmental Protection Ordinance	SCC, Chapter 23A (Environmental Quality Act of 1970 Implementation) SCC, Chapter 23 (Rivers And Streams)	Helps reduce hazard risks by regulating activities that could exacerbate flooding, erosion, or wildfire. Chapter 23 protects riparian corridors, reducing downstream flood risk and promoting natural buffers. Chapter 23A requires environmental review for development projects, allowing for hazard exposure and mitigation to be assessed and incorporated before project approval. These tools support sustainable land use and resource conservation in hazard-prone areas.	County	Permit Sonoma and various other County departments/ agencies

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Flood Damage Prevention Ordinance	SCC, Chapter 7B (Flood Damage Prevention)	SCC Chapter 7B implements regulations for development within special flood hazard areas as required by the National Flood Insurance Program and California Building Code.	County	Permit Sonoma
Emergency Management Ordinance	SCC, Chapter 10 (Civil Defense and Disaster)	Establishes the authority for emergency management and disaster response operations. This ordinance enables the activation of emergency powers during disasters and facilitates coordination across agencies. It integrates with the HMP by providing the legal foundation for implementing hazard-specific emergency plans—such as alert and warning, evacuation, and sheltering—and supports mitigation by enabling proactive planning and risk communication.	County	Department of Emergency Management
Climate Change Ordinance	Climate Change Action Resolution No. 18-0166.	On May 8, 2018, the Board of Supervisors of Sonoma County adopted the Climate Change Action Resolution to support a county-wide framework for reducing greenhouse gas emissions and to pursue local actions that support the identified goals therein.	County	Permit Sonoma and various other County departments/ agencies
Other Code, Ordinance, or Regulation	SCC, Chapter 7D3 (Water Efficient Landscape) SCC, Chapter 7D4 (Small Residential Rooftop Solar Energy System Review Process) SCC, Chapter 23 (Rivers And Streams) Chapter 13, 13A and 25 for Fire and CUPA	Chapters 7D3 and 7D4 support hazard mitigation by promoting drought resilience through water-efficient landscaping and improving energy resilience via streamlined rooftop solar permitting. Chapter 23 protects stream corridors, reducing flood and erosion risk through natural resource conservation. Chapters 13, 13A, and 25 support hazard mitigation by enforcing fire prevention standards, regulating hazardous materials through Certified Unified Program Agency (CUPA) programs, and guiding safe land development practices. These codes can be integrated into the HMP to reduce risk, limit development in high-hazard areas, and enhance community resilience through coordinated enforcement and planning	County	Permit Sonoma and various other County departments/ agencies

Planning Documents

Table 2-3 summarizes the planning documents available to Sonoma County.

Table 2-3. Sonoma County Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	Sonoma County General Plan Adopted by Resolution No. 08-0808 of the Sonoma County Board of Supervisors, September 23, 2008.	**Is the plan compliant with Assembly Bill 2140?** Yes The Safety Element of the General Plan incorporates the HMP by reference. Policies primarily in the Land Use Element and Safety Element generally discourage development within natural hazard areas. The County is compliant with Assembly Bill 747, Assembly Bill 1409, and Senate Bill 99, and the results of that works were incorporated into the 2025 Safety Element.	County	Permit Sonoma and various other County departments/ agencies
Capital Improvement Plan	Capital Improvement Plan for 2020-2025	The Capital Improvement Plan (CIP) for Sonoma County integrates with the HMP by allocating funds specifically for hazard mitigation projects identified in the HMP, directly contributing to risk reduction. Although the CIP does not limit spending on developments in hazard-prone areas, it prioritizes enhancing existing infrastructure, thereby indirectly reducing the need to extend services into such areas. This strategic focus on funding FEMA-identified projects helps build a resilient infrastructure that mitigates risks associated with natural disasters. Overall, this approach strengthens community safety and sustainability without expanding into new vulnerable locations.	County	Public Infrastructure
Disaster Debris Management Plan	Disaster Debris Management Plan, February 2022	Reduces risk in Sonoma County by establishing rigorous protocols for safe and environmentally conscious debris removal following wildfires. By requiring property owners to adhere to specific steps, such as submitting a debris removal plan for approval and ensuring all cleanup activities meet county standards, the plan prevents additional environmental hazards and facilitates safer rebuilding. The requirement that properties cannot be rebuilt until a certification of cleanup completion is issued ensures that debris management aligns with broader mitigation strategies to reduce future vulnerabilities. Overall, this structured approach enhances community resilience by meticulously managing the aftermath of disasters, thus supporting the objectives of the HMP.	Local	Public Infrastructure

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Stormwater Management Plan	Southern Sonoma Storm Water Resources Plan, 2019	The purpose of the SWRP is to identify and prioritize storm water capture and dry weather runoff projects as key components to managing a safe, clean and resilient water supply. The collective objective of this plan is twofold: 1) to guide future planning from a watershed-based perspective by addressing major challenges and opportunities for managing storm water and dry weather runoff within the watershed and 2) to prioritize projects for implementation and illuminate multiple benefit projects to position the watershed to garner matching funds.	County	Sonoma Water
Open Space Plan	Sonoma County General Plan Open Space and Resource Conservation Element	The Open Space and Resource Conservation Element of the County General Plan includes policies addressing air quality and soil and slope stability.	County	Permit Sonoma and various other County departments/ agencies
Urban Water Management Plan	Urban Water Management Plan, 2020	Sonoma Water's 2020 Urban Water Management Plan describes the following: • Existing water supplies and transmission system facilities; • Projected water demands in Sonoma Water's service area over the next 25 years; • Projected water supplies available to Sonoma Water over the next 25 years, the reliability of that supply, and general schedules for water supply projects; • Climate change impacts to water supply; • Energy intensity; • Current and planned Sonoma Water water conservation activities; • An updated and separately adopted Water Shortage Contingency Plan (Appendix C); and • A comparison of water supply and water demand over the next 25 years under different hydrological assumptions (normal year, single dry year, multiple dry years).	County	Sonoma Water

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible
Habitat Conservation Plan	Under development	As of 2024, Permit Sonoma, in collaboration with other interested local governments and agencies, has initiated the process of planning and developing a county-wide habitat conservation plan (HCP) under Section 10 of the ESA and a Natural Community Conservation Plan (NCCP) under California Fish and Game Code Section 2835 (NCCP Act). The program to develop the Sonoma County HCP/NCCP is called "Conservation Sonoma." Once developed and implemented, it will streamline regulatory permitting under state and federal endangered species laws while implementing an on-the-ground conservation strategy for some of the County's most sensitive and unique plant and animal species and habitats.	County	Permit Sonoma
Economic Development Strategy	Strategic Sonoma Action Plan, 2018	One of the goals of the Strategic Sonoma Action Plan is to recover from natural disasters like the October 2017 Sonoma Complex Fires. Economic diversification, or resilience, is also a key theme of the plan.	County	Sonoma Economic Development Board
Shoreline Management Plan	Local Coastal Plan	An update to the Local Coastal Plan (LCP) was adopted by the Board of Supervisors in July 2023 and certified by the California Coastal Commission in November 2024. After additional amendments, the final version of the LCP was adopted in February 2025.The updated LCP includes a Safety Element with goals, policies, and programs to increase the resilience of the County coast to sea level rise and other hazards exacerbated by climate change.	County	Permit Sonoma
Community Wildfire Protection Plan	Sonoma County Community Wildfire Protection Plan (Adopted in 2023)	The Community Wildfire Protection Plan (CWPP) is incorporated into the County's HMP. The CWPP identifies wildfire risks and mitigation measures across the County, and lists community-driven risk reduction priorities and specific project recommendations that agencies and community groups can use to develop projects to reduce wildfire risk.	County	Permit Sonoma

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Climate Action/ Resilience/ Sustainability Plan	Climate Resilience Comprehensive Action Plan Adopted by Resolution No. 22-0418	The Climate Resilience Comprehensive Action Plan provides a roadmap to reduce greenhouse gas emissions from the County's internal municipal operations and make those operations more resilient to climate hazards that increasingly threaten Sonoma County. The Climate Plan also presents a strategy to engage with Sonoma County communities more fully to better understand their climate resilience priorities and how the County can most effectively support community climate resilience progress. The measures in the Plan were informed in part by the County's 2021 HMP.	County	Various departments/ agencies
Other: Hazardous Materials Business Plan	Yes, updated every 3 years	The Hazardous Materials Business Plan is linked closely to emergency response as it provides first responders such as the Fire Department with information on the types, quantities, and location of hazardous materials in a facility in the event of an incident. Accurate reporting ensures that responders are aware of hazards they may face going into an emergency situation. Hazardous materials can include chemicals, hazardous waste, compressed gasses, and storage tanks.	State	California Environmental Protection Agency; California Unified Program Agencies

Response and Recovery Planning Documents

Table 2-4 summarizes the response and recovery planning documents for Sonoma County.

Table 2-4. Sonoma County Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	Sonoma County/ Operational Area Emergency Operations Plan, 2022	This is a foundational base plan that acts as a guidebook and coordination mechanism for agencies across the Sonoma County Operational Area during all phases of emergency management. This is a non-tactical plan that outlines processes, frameworks, and approaches that are aligned to reduce risk. The HMP-identified hazards are included in the EOP, and it acts as the base plan in which the functional and hazard-specific annexes are attached, including an alert and warning annex, evacuation annex, and care and shelter annex. These are all created and updated based on the most frequently occurring and high impact hazards. This plan is actively being updated. The EOP is integrated with the HMP.	County	Department of Emergency Management

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible
Continuity of Operations Plan	Sonoma County/COOP Plan Update in progress	This plan is actively being updated and will reduce risk by ensuring that the County and its Departments are designed and prepared to continue operating following an emergency. This will ensure that critical services are interrupted as little as possible during disasters that impact communities in Sonoma County.	County	Department of Emergency Management
Threat & Hazard Identification & Risk Assessment (THIRA)	Part of the Bay Area Urban Areas Security Initiative	The THIRA will be integrated into the HMP by analyzing the regional threats and hazards and their impacts and using that to develop more targeted mitigation strategies that allocate resources more effectively regionally and strengthen community resilience.	Regional	BAUASI
Post-Disaster Recovery Plan	Sonoma County Recovery Operations Plan, In progress	The County is working on a Recovery Operations Plan that will serve as another base plan to outline processes, procedures, and frameworks for recovery after emergencies. The goal of the plan is to strengthen the county's capacity to recover quickly and effectively from emergencies. This will be integrated with the HMP to ensure that recovery efforts are aligned with identified hazards and vulnerabilities, enabling a smoother transition from response to long-term recovery. This could reduce risks by fostering a comprehensive approach to disaster management, minimizing recovery time, and mitigating the cascading impacts of future hazards.	County	Department of Emergency Management
Public Health Plan	County's General Plan Environmental Justice (EJ) Element	While the County does not have a dedicated Public Health Plan, the County's General Plan Environmental Justice (EJ) Element includes goals, policies, and implementation measures to improve health outcomes in disadvantaged communities, known as EJ Communities. Sonoma County's EJ Communities are low income and experience disproportionate exposure to pollution and other environmental burdens and are geographically dispersed throughout the County. The goals, policies, and implementation measures in the EJ Element, in concert with the Safety Element, aim to reduce impacts on vulnerable communities from hazards and other environmental burdens.	County	Various departments/ agencies

2.6.2 Integration

Several of the local planning mechanisms currently in place for the County of Sonoma, such as the General Plan, Building Code, Zoning Code, and Capital Improvement Plan, already incorporate hazard-

related policies, including seismic safety standards, floodplain development restrictions, and growth management strategies.

The HMP builds on these foundations by identifying mitigation actions that align with and support existing policies, ensuring that hazard mitigation is not treated as a standalone effort but as a coordinated component of broader community planning. As these local plans are updated, information from the HMP, such as risk assessments, vulnerability data, and prioritized projects can be incorporated to maintain consistency and reinforce long-term resilience goals.

This integration enhances the County's overall risk management framework and ensures that future HMP updates are informed by comprehensive, data-driven insights. By aligning planning efforts across departments and documents, the County strengthens its ability to mitigate risks and adapt to evolving environmental conditions.

2.6.3 Development and Permitting Capability

Table 2-5 summarizes the capabilities of Sonoma County to oversee and track development.

Table 2-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Permit Sonoma
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	The County has the ability but is not currently doing so, with the exception of development within mapped flood zones.
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	No	-
Describe the level of buildout in your jurisdiction.	N/A	-

2.6.4 Administrative and Technical Capability

Table 2-6 summarizes the administrative bodies and programs available to support mitigation initiatives in the County. To expand and improve these capabilities, the County could explore the creation of an open space board or committee.

Table 2-6. Administrative Capabilities

Resources	Available?	Comment
Planning Board	Yes	Sonoma County Planning Commission
Zoning Board of Adjustment	Yes	Sonoma County Board of Zoning Adjustments
Planning Department	Yes	Permit Sonoma Planning Division
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Environmental Review Committee
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	Sonoma County Economic Development Collaborative
Public Works/Highway Department	Yes	Sonoma County Public Infrastructure
Construction/Building/Code Enforcement Department	Yes	Permit Sonoma Engineering & Construction Division and Code Enforcement Division
Emergency Management/Public Safety Department	Yes	Sonoma County Department of Emergency Management Sonoma County Sheriff's Office
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Hazardous Fuels Reduction Project SoCo Adapts Wildfire Resilient Sonoma County Sonoma County Public Infrastructure
Mutual aid agreements	Yes	Sonoma County Department of Emergency Management Sonoma County Sheriff's Office
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Human Resources Sonoma County Department of Emergency Management Permit Sonoma
Other	-	-

Table 2-7 summarizes potential staff and personnel resources available to the County and their current responsibilities that contribute to hazard mitigation. To expand and improve these capabilities, the County could explore the creation of a Resilience Officer position.

Table 2-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Permit Sonoma, Public Infrastructure
Engineers or professionals trained in building or infrastructure construction practices	Yes	Permit Sonoma, Public Infrastructure

Resources	Available?	Comment
Planners or engineers with an understanding of natural hazards	Yes	Permit Sonoma, Public Infrastructure
Staff with expertise or training in benefit/cost analysis	Yes	Permit Sonoma, Public Infrastructure
Professionals trained in conducting damage assessments	Yes	Permit Sonoma, Public Infrastructure
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Permit Sonoma Department Information Services; County Information Services Department (ISD); Sonoma County Public Infrastructure; other departments/agencies
Staff that work with socially vulnerable populations or underserved communities	Yes	Department of Health Services; Human Services Department; Office of Equity
Environmental scientists familiar with natural hazards	Yes	Permit Sonoma Natural Resources
Surveyors	Yes	Permit Sonoma, Public Infrastructure
Emergency manager	Yes	Department of Emergency Management
Grant writers	Yes	Multiple departments/agencies
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-

2.6.5 Fiscal Capability

Table 2-8 summarizes financial resources available to Sonoma County. To expand and improve these capabilities, the County could explore impact fees for new development, a stormwater utility fee, or withholding public expenditures in hazard-prone areas.

Table 2-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	All of these services are provided by taking entities or service providers within the County.
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Has not occurred in the past

Financial Resources	Accessible or Eligible to Use?
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Hazard Mitigation Assistance Grants, FMA HMGP, Prop 4 and other state funding programs
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Individual property owners participating in the Flood Elevation Program provide the local share for FMA and HMGP grants. Stormwater fees to fund the stormwater program.

2.6.6 Education and Outreach Capability

Table 2-9 summarizes the education and outreach resources available to Sonoma County.

Table 2-9. Education and Outreach Capabilities

Outreach Resources	Available	Comment
Public information officer or communications office	Yes	Multiple department/agencies
Personnel skilled or trained in website development	Yes	Multiple department/agencies
Hazard mitigation information available on your website	Yes	SoCoAdapts.org and Hazard Mitigation Plan Update website and SoCoEmergency.org
Social media for hazard mitigation education and outreach	Yes	Facebook, X (Twitter) and Nextdoor
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Sonoma County Emergency Council Community Action Councils, Citizens Organized to Prepare for Emergency, Community Emergency Response Team (CERT)
Warning systems for hazard events	Yes	SoCo Alert, Integrated Public Alert & Warning System, NOAA Weather Radio, Nixle, Hi-Lo sirens
Natural disaster/safety programs in place for schools	Yes	Sonoma County has 40 public school districts, many with their own designated safety programs.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	The County has many Community Based Organizations (CBOs) that work with socially vulnerable populations and underserved communities, including the Sonoma County Community Organizations Active in Disaster (COAD).

Outreach Resources	Available?	Comment
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Sonoma Ready, Sonoma Listos—Community Preparedness Program for Sonoma County

2.6.7 Community Classifications

Table 2-10 summarizes classifications for community programs available to Sonoma County.

Table 2-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	Yes	10	10/1/1992
Building Code Effectiveness Grading Schedule	Yes	2/2	11/19/2020
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	*	-
National Weather Service StormReady Certification	-	-	-
Firewise Communities classification	-	-	-
Other: TsunamiReady	Yes	-	-

N/A = Not applicable; — = Unavailable;

* *Each fire agency maintains its own ISO rating for its jurisdiction; there is no ISO rating for the entire county.*

2.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 2-11 summarizes the adaptive capacity for each identified hazard of concern and the County’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 2-11. Adaptive Capacity

Hazard	Adaptive Capacity Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

2.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 2.1 is responsible for maintaining this information.

The County has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the County on July 31, 2024. The Floodplain Manager is responsible for implementing the requirements of the NFIP by requiring permits for all development within SFHAs shown on the latest FIRM. The Floodplain Manager reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The County implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The Floodplain Manager uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

The County participates in the NFIP and is a Class 10 community with CRS. Table 2-12 provides a summary of NFIP compliance in Sonoma County.

Table 2-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	Permit Sonoma
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	The floodplain manager has extensive training in floodplain management; however, more can always be learned and additional staff can be trained to provide backup. Training to any degree is always welcome.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review, available mapping resources, inspections, flood zone and base flood elevation determinations, some outreach, Letter of Map Amendment review, Flood Insurance Studies, interpretation of regulations.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	The department identifies projects in flood hazard areas and uses a form (CNI-003) to document the project-specific and 3-year cumulative substantial improvement percentage. In order to complete the form, staff require applicants to submit a line-item cost breakdown of the proposed improvements in the form of either an engineer's estimate or contractor valuation. This valuation of improvements is divided by the structure valuation as taken from the County Assessor records or from a recent appraisal prepared by a qualified appraiser to determine the percentage. These forms are saved to the respective records in the permit database and the percentage is separately documented in the database. Substantial improvements are defined as 40% valuation for residential structures and 50% for commercial/industrial structures.
What are the barriers to running an effective NFIP program in the community, if any?	Limited resources and public opposition to re-mapping efforts.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	Yes There are about 45 potential violations on file with FEMA. These do not have assigned case numbers with the exception of one: case number 23-09-0252A05. This potential violation is near conclusion, waiting on a response from the project surveyor to correct errors on the final elevation certificate.

Question	Comments
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2022
What is the local law number or municipal code of your flood damage prevention ordinance?	Sonoma County Code Chapter 7B
What is the date that your flood damage prevention ordinance was last amended?	2007
Does your floodplain management program meet or exceed minimum requirements? **If exceeds, in what ways?**	Exceeds 1-foot of freeboard, lower substantial improvement thresholds, floodway development prohibition
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	The Sonoma County General Plan Safety Element includes policies that support floodplain management and meeting NFIP requirements.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Yes

2.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the County. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. Table 2-13 summarizes the repetitive loss and severe repetitive loss properties in the County.

Table 2-13. Repetitive Loss Summary

Type of Repetitive Loss	Residential	Non Residential
Repetitive Loss Properties (NFIP definition)	720	146
Repetitive Loss Properties (FMA definition)	54	24
Severe Repetitive Loss Properties (NFIP definition)	201	37
Severe Repetitive Loss Properties (FMA definition)	243	46

Source: (FEMA 2024)
Note: See Appendix C for definitions of repetitive loss types presented in this table.

2.7.2 Flood Vulnerability Summary

Table 2-14 provides a summary of flood vulnerability in Sonoma County.

Table 2-14. Flood Vulnerability Summary

Describe areas prone to flooding in your jurisdiction.	Areas adjacent to the Russian River and tributaries thereto, areas adjacent to Sonoma Creek and tributaries thereto, areas adjacent to Petaluma River and tributaries thereto, areas adjacent to Estero Americano and tributaries thereto as well as coastal flood hazard areas from Bodega Bay to Sea Ranch, lower Petaluma Valley and the Napa-Sonoma Marshes.
Do you maintain a list of properties that have been damaged by flooding?	Permit Sonoma maintains a database that tracks all emergency related damage to all properties but does not maintain a specific list of just flood damaged properties.
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	N/A
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	None are known to be currently in progress.
How do you make Substantial Damage determinations?	Assess the cost of restoration to the before-damage condition and if it exceeds 50% of the value of the before-damage market value of the structure, then it is classified as substantial damage. This analysis is done when permits for repairs are submitted. It takes valuation of the improvements from a line-item engineer's estimate or contractor valuation of the improvements and divides by the value of the structure from the County Assessor's office records or a recent (pre-damage) appraisal by a qualified appraiser. The percentage of substantial damage is recorded on the department CNI-003 form. These forms are saved to the respective records in the permit database and the percentage is separately documented in the database.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	The last major flood event in the community occurred in 2019, and records of substantial damage determinations are incomplete, so it is unknown how many were declared, but the number is estimated to be very low as most at-risk structures have been elevated.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	Approximately 299 structures have been mitigated through the Sonoma County Flood Elevation Program. Funding is provided by a combination of grants from FEMA and local jurisdiction programs.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Some do and some do not. FIRMs that do not adequately address flood risk are known to have mapping errors that do not align with the topography and local drainage infrastructure. Some maps are too conservative and do not encompass all areas of flood risk, while others are too inclusive and show flood hazards where none have been recorded. The County (Sonoma Water) has prepared its own mapping that better reflects current and future conditions along the Russian River. The effective FEMA Flood Insurance Rate Map (FIRM) does not reflect anticipated future conditions.

2.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 2-15 through Table 2-17.

Table 2-15. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi Family	Other (commercial, mixed use, etc.)	Total
2021 New Construction Permits Issued	380	4	154	538
2021 Permits Issued within SFHA	24	0	34	58
2022 New Construction Permits Issued	32	4	159	488
2022 Permits Issued within SFHA	18	0	34	52
2023 New Construction Permits Issued	305	0	188	493
2023 Permits Issued within SFHA	11	0	34	45
2024 New Construction Permits Issued	282	2	131	415
2024 Permits Issued within SFHA	19	0	29	48

SFHA = Special Flood Hazard Area (1% flood event)

Table 2-16. Recent Major Development and Infrastructure from 2021 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Hyatt Hotel	Hotel	165 room hotel, conference facilities, and a restaurant	3750 North Laughlin Road, Santa Rosa APN 059-370-033	Wildfire	Construction permitting
Siesta Senior Housing	Residential	92 dwelling units	18503 Highway 12, Sonoma APN 056-511-029	N/A	Construction completed
Redwood Apartments	Residential	96 dwelling units	3422 Santa Rosa Avenue, Santa Rosa APN 134-132-070	Flooding	Construction completed
Wildwood Retreat Center	Commercial resort	Guest quarters, common space, recreational areas for a maximum of 60 people onsite	20111 Old Cazadero Road APNs 106-230-007, 106-230-008	Wildfire	Entitlement approved
Guernewood Resort	Commercial resort	108-room resort restaurant and bar	17155 Highway 116, Guerneville APN 072-130-009	Flooding, Wildfire	Entitlement approved

** Only location-specific hazard zones or vulnerabilities identified.*

Table 2-17. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Airport Village Mixed-Use Project	Mixed-Use Residential	1,464 dwelling units 10,000 square feet of commercial	3843 Brickway Boulevard, Santa Rosa APNS 059-271-073, 059-271-090, 059-340-031, 059-340-032, 059-430-001, 059-430-002, 059-430-003, 059-430-004, 059-430-005, 059-430-006	Wildfire, Flooding	In entitlement process
Sonoma Developmental Center Redevelopment	Mixed-Use Residential	990 dwelling units 150-room hotel 130,000 square feet of commercial 70 acres of outdoor public space	15000 Arnold Drive, Glen Ellen APN 054-090-001	Wildfire, Flooding	In entitlement process

Since the last HMP, 203 building permits were issued for new construction in SFHAs, which represented 9.5 percent of the total permits issued. In addition, major developments occurred in known wildfire hazard areas. Therefore, the vulnerability of the County has increased since the previous plan was approved.

2.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Sonoma County's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

2.9.1 Hazard Area

Maps of probable hazard areas in the County are shown in Figure 2-9 and Figure 2-10. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Sonoma County has significant exposure.

Figure 2-9. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

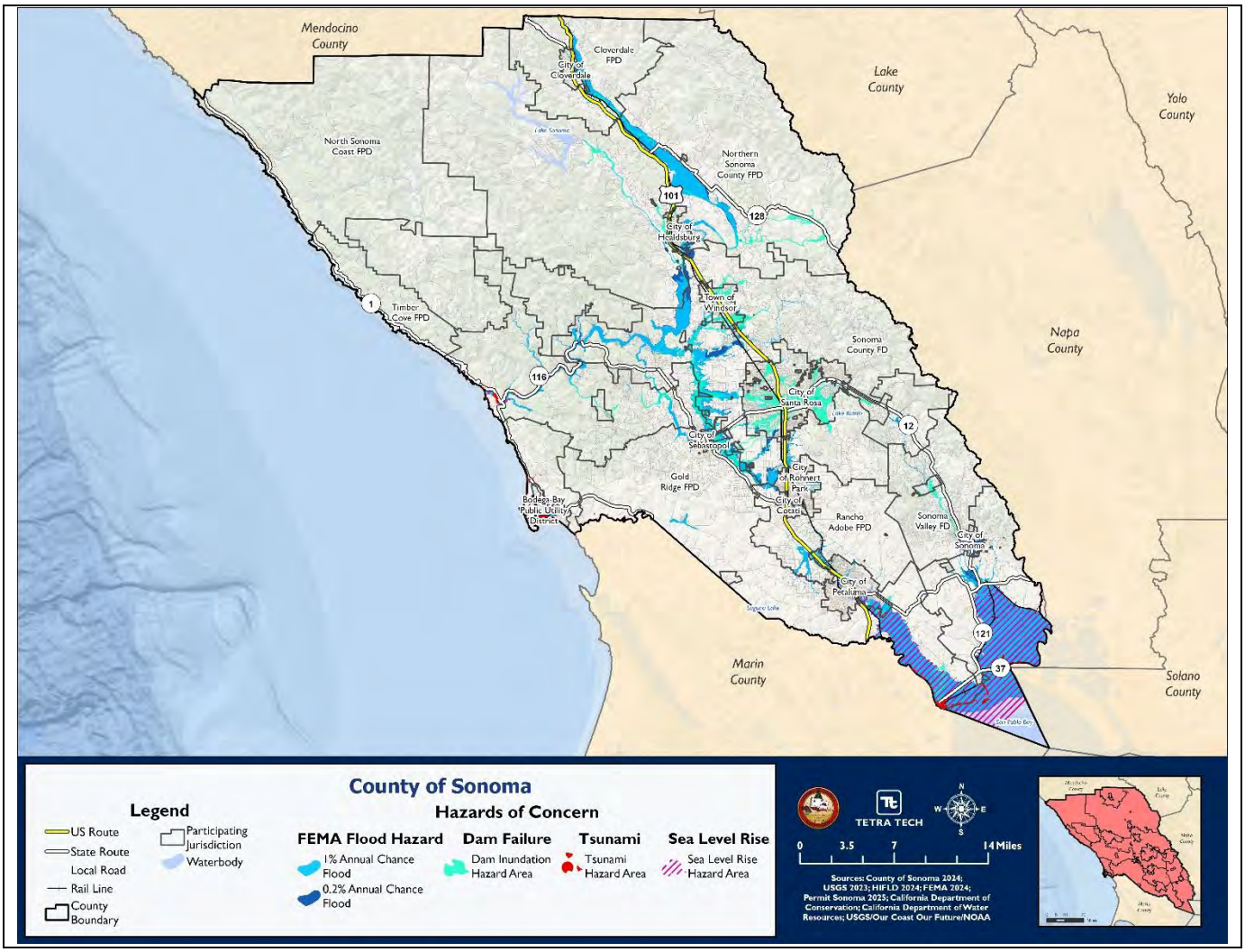
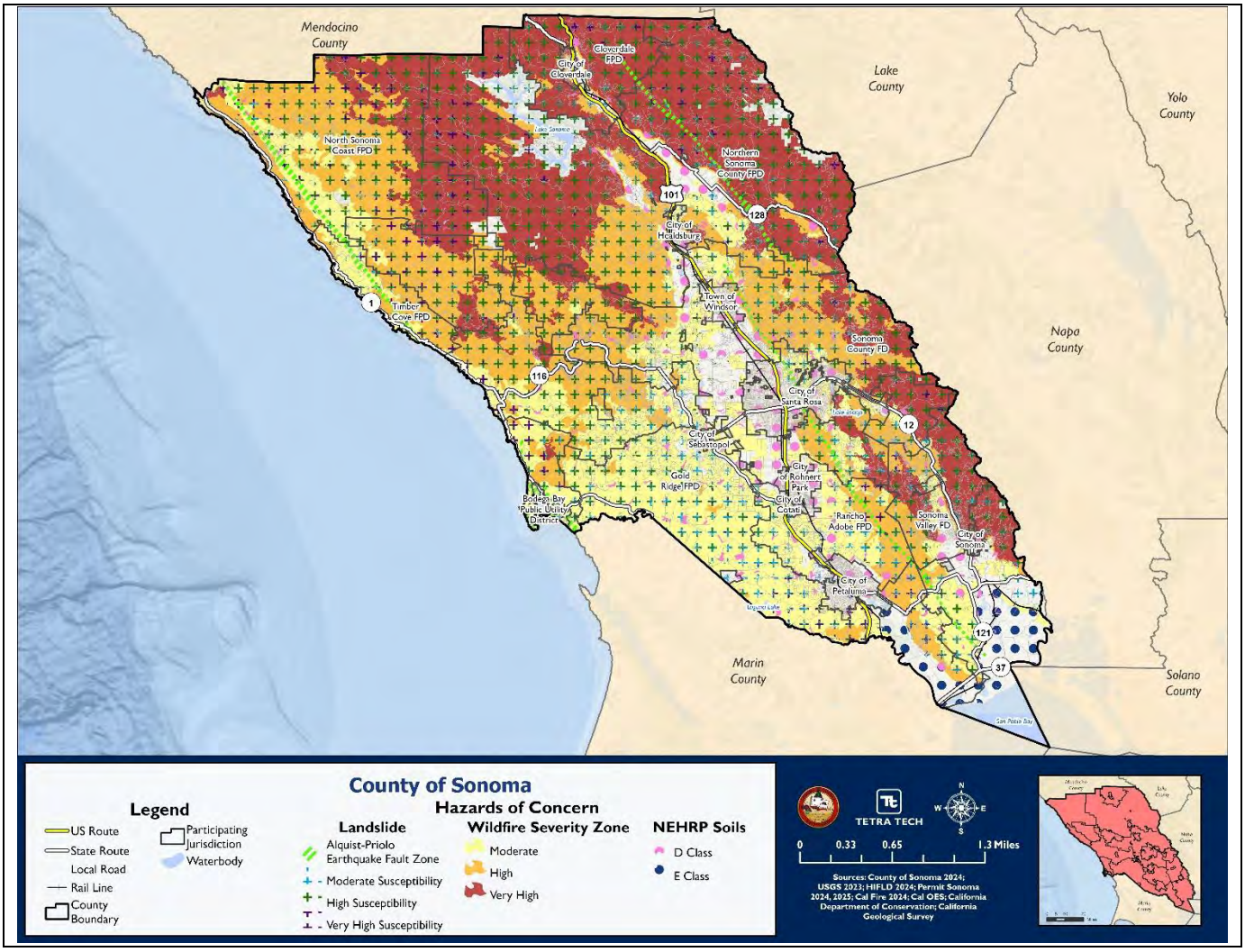


Figure 2-10. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



2.9.2 Hazard Event History

The history of natural and non-natural hazard events in Sonoma County is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 2-18 provides details on loss and damage in Sonoma County during hazard events since the last hazard mitigation plan update.

Table 2-18. Hazard Event History in Sonoma County, 2021-2024

Event			Summary of Event	Losses in Sonoma County
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton.	Storm resulted in EOC/DOC activations, evacuations, sheltering operations, road closures and damage to private and public property. Damaged roads due to retaining walls, culverts, grates, road repairs, rock fall barriers, guardrails, tree removals, sinkholes, slides, slip outs, and tree debris. included: Geysers Road, Moscow Road, Salmon Creek Road, Pine Flat Road, Fort Ross Road, Cazadero Highway, Cherry Creek Road, Westside Road, Old Bohemian Highway, Timber Cove Road, St. Helena Road, Rockpile Road, King Ridge Road, Mark West Springs, Porter Creek Road, River Road, Bohan Dillon, Joy Road, Mill Creek Road. Estimated damage was $11,595,000. Regional Parks estimated $130,000 in loss. Nine homes sustained major damage, 20 minor damage, and 18 affected with a private property loss estimated at $7,772,00. Total public property dollar loss estimated at $13,203,000.

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Sonoma County
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	Emergency response projects costing approximately $2 million, including debris removal and emergency protective measures. Roads and bridges project costs were approximately $2 million including Cazadero Hwy slippage, Hood Mountain Regional Park slippage and bank failure, Wallace Road, Mill Creek Road, Montgomery Road, Pine Flat Road, and Fort Ross Road.
January 21-22, 2024	Flood	N/A	A series of frontal systems with a weak subtropical tap led to widespread rainfall and nuisance and localized flooding across the Bay Area.	Nuisance and localized flooding across the county. Westbound California Route 116 at Travis Road was reported flooded across all lanes. A mudslide was reported on California Highway 1 near Estero Lane. Localized flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park.
January 31, 2024	Flood	N/A	A quick-moving cold front came through California on January 31, bringing widespread rain and high winds. A water rescue occurred on Mark West Station Road at Starr Road.	**We grouped together this incident and the one below (February 4) into one incident (Late Jan/Early Feb Winter Storms). The damage listed below is for both this incident and the next one in the table.* 49,774 — the number of PG&E customers that were without power in Sonoma and Napa counties. 37 — the peak number of road closures in Sonoma County. School closures including Fort Ross Elementary School due to a loss of power. Opening of charging stations to the public due to power outages. Approximate debris removal costs at $1.1 million and $1.9 in category G damage for county regional parks.

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Sonoma County
February 4, 2024	Flood	N/A	A cyclone and atmospheric river combined, creating strong winds, heavy rain, and high surf. The region saw roadway flooding, fallen trees, and power outages. Flood prone areas near rivers and along the coast were evacuated. Notable impacts also included pre-emptive closing of state parks, the cancelation of the San Francisco Half-Marathon, and the PGA canceling the final round of the Pebble Beach Pro-Am golf tournament. Several schools were closed due to damage from the storm.	See above
February 17, 2024	Flood	N/A	Two cold fronts caused minor nuisance flooding gusty winds, and widespread rain. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road near Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. Route 12 was closed due to flooding from Fremont Drive to Watmaugh Road. A creek flowed over Mark West Station Road. Mud, dirt, and rock blocked Los Alamos Road	No major loss indicated.
June 16, 2024	Fire	N/A	Point Fire: The fire began near Lake Sonoma off Stewarts Point-Skaggs Springs Rd. and Marina Rd. in Geyserville. It rapidly expanded over the course of the next couple of hours. The Point Fire grew to over 1,200 acres. A County Proclamation of Emergency was issued. The fire was fully extinguished by the end of the day on June 24.	Evacuation order of Zone SON-2E2 and a Warning for Zone SON- 2E3. Temporary Evacuation Point established. 3 homes and 7 outbuildings destroyed. 1 home sustaining major damage. 1 home and 2 other outbuildings also affected. Private property loss approximately $8.6 million. Approximately $50,000 in public property loss, primarily through emergency protective measures.

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Sonoma County
November 20, 2024	Flood		An atmospheric river brought over 13 inches of rain in six days, at the Charles M. Schulz-Sonoma County Airport. Other areas of the county received over 20 inches of rain. The event resulted in flooding, landslides, downed trees, disrupted utility services, and blocked and damaged roadways including slides. Several creeks and streams were above the action/monitor stage, requiring emergency protective measures. The Director of Emergency Services issued a Proclamation of Existence of Local Emergency in the Sonoma County Operational Area on November 26.	At least three slip-out sites required immediate attention to prevent further deterioration and potential loss of roads. One damage site was on Pine Flat Road and two were on Cavedale Road. These roads serve as primary access points for residents and services and as critical evacuation routes. Initial damage estimates for public infrastructure were $2.1 million dollars ($1.8 million in roads and bridges, $150,000 in debris, and $150,000 in emergency protective measures). Storm and water damage to multiple health services buildings. Damage and debris throughout County Regional Parks including a broken dock at a marina. Required Animal Services to offer animal boarding for large animals. Flooding in low lying areas caused damage to private property at Mirabel RV Park & Campground, and sites in Guerneville near Neeley Road, and in Sycamore Court.
July1-7, 2024	Extreme Heat	N/A	National Weather Service issued an excessive heat watch beginning June 29, followed by a Heat Advisory and Excessive Heat Warning beginning June 30 due to forecasted high temperatures well into the 90s and low 100s across the interior North Bay area. Two Red Flag Warnings were issued on July 1 due to the combination of extreme temperatures, low relative humidity, and extremely dry vegetation creating a potential for fire. DEM Staff conducted Operational Area calls and coordinated the setup of cooling centers across unincorporated areas of Sonoma County while tracking locations within the incorporated cities and towns that were opened to assist area communities.	$37,049 in cooling center related expenses.

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Sonoma County
September 28- October 7, 2024	Extreme Heat	N/A	National Weather Service forecasts over the weekend of September 28 predicted extreme heat conditions in Sonoma County. On September 28 PG&E announced a forecasted PSPS, which had Sonoma County in scope. Cooling centers opened on September 30 and continued through October 3 in Geyserville, and through October 7 in the libraries in Guerneville and Sonoma.	$13,814 in cooling center related expenses.
February 3-7, 2025	Flood	N/A	Atmospheric river resulted in flooding, downed powerlines, road damage and property damage. Multiple landslides occurred. Flood levels reached the moderate flood level at the Guerneville River gauge and the major flood level on the Mark West Creek gauge. One home was destroyed due to a landslide in Forestville which cause the home to fall into the Russian River. Another home sustained heavy damage from landslides. Roadway damage was reported around the county. Evacuation orders were called on February 4 for all properties against to the Russian River at the 36-foot flood level or lower, ranging from Jenner to Healdsburg.	Estimated dollar loss at $6,956,799. Caused damage to the County's transportation infrastructure requiring a substantial commitment of resources to immediately clear disaster debris from County roads, perform emergency repairs and implement protective measures to prevent further losses and make permanent repairs to damaged roads and bridges.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)
N/A = Not applicable

2.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Sonoma County.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Table 2-19 shows the County of Sonoma's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and

mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 2-19. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flood	Medium
Landslide	Medium
Sea Level Rise	Low
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

The County updated the flood hazard risk ranking from low to medium, recognizing it as the most frequently occurring hazard and the one most often associated with local emergency declarations. Similarly, the risk ranking for landslides was elevated from low to medium due to ongoing impacts on homes and roadways across the County.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to Sonoma County.

Table 2-20 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 2-21 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Table 2-20. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	3.9%	4.7%	5.4%
NEHRP D & E Soils	47.6%	52.3%	45.9%
1% Annual Chance Floodplain	2.9%	2.7%	8.2%
0.2% Annual Chance Floodplain	5.3%	5.1%	10.4%
Geologic Hazard Area	1.2%	1.4%	1.5%
Moderate Landslide Susceptibility Area	16.2%	14.9%	15.8%
High Landslide Susceptibility Area	12.0%	11.0%	24.9%
Very High Landslide Susceptibility Area	1.6%	1.5%	1.8%
Sea Level Rise	0.3%	0.5%	1.0%
Tsunami	0.1%	<0.1%	1.0%
Moderate Fire Hazard Severity Zone	28.7%	25.5%	22.4%
High Fire Hazard Severity Zone	12.1%	11.4%	22.0%
Very High Fire Hazard Severity Zone	6.8%	6.2%	15.9%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Table 2-21. Populations Living in Mapped Hazard Areas

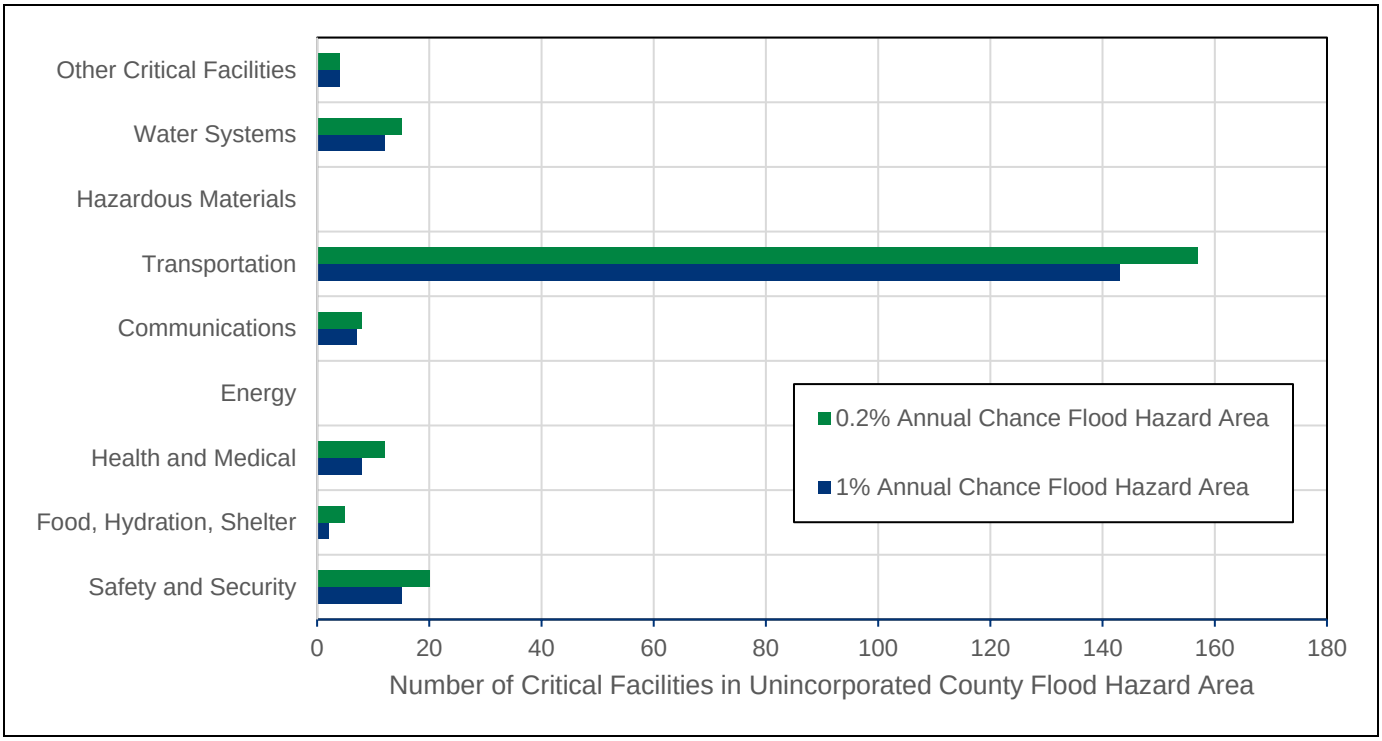
Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	5.0%	5.2%	4.5%	6.4%	5.2%	5.4%	5.8%	6.1%
NEHRP D & E Soils	59.1%	60.7%	55.0%	61.6%	58.4%	59.2%	60.4%	64.4%
1% Annual Chance Floodplain	2.3%	2.1%	2.6%	1.8%	2.3%	2.2%	2.0%	1.6%
0.2% Annual Chance Floodplain	4.6%	4.4%	5.2%	3.7%	4.7%	4.4%	4.4%	3.4%
Geologic Hazard Area	1.4%	1.4%	1.4%	1.6%	1.5%	1.5%	1.5%	1.5%
Moderate Landslide Susceptibility Area	11.4%	11.1%	12.6%	10.9%	11.5%	11.5%	10.5%	10.5%
High Landslide Susceptibility Area	9.8%	9.2%	11.0%	9.4%	9.9%	9.8%	9.0%	8.1%
Very High Landslide Susceptibility Area	1.3%	1.2%	1.5%	1.1%	1.3%	1.2%	1.1%	1.3%
Sea Level Rise	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Tsunami	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Moderate Fire Hazard Severity Zone	19.3%	18.6%	21.1%	18.6%	19.6%	19.8%	18.5%	16.5%
High Fire Hazard Severity Zone	10.3%	9.6%	11.6%	9.8%	10.5%	10.4%	9.5%	7.9%

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non				
Very High Fire Hazard Severity Zone	4.8%	4.1%	5.8%	4.2%	5.0%	4.6%	4.2%	2.7%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Figure 2-11 displays the total number of critical facilities of each community lifeline category in the evaluated flood hazard areas in unincorporated Sonoma County.

Figure 2-11. Critical Facilities in Unincorporated Sonoma County by Community Lifeline



Source: County of Sonoma 2020, 2025; California Energy Commission 2024; Caltrans 2024,2025; HIFLD 2024, 2025; USACE NID n.d.

For the following hazards of local concern, the hazard area encompasses the entire community, so 100 percent of people, buildings, and lifelines are considered to be vulnerable:

- Drought
- Extreme cold
- Extreme heat
- Extreme wind

Potential Impacts from Hazards of Local Concern

Table 2-22 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. For all other hazards of local concern, the potential

impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the County. Table 2-23 summarizes additional risks specific to the County.

Table 2-22. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500 Year Earthquake Probabilistic Event	2,500 Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	27,768 people	10,089 households	35,095 households	8,286 people
Population Requiring Shelter	4,122 people	4,883 people	16,948 people	2,213 people
General Building Damage as % of RCV	0.2%	9.7%	23.6%	0.3%
Total Debris Generated (tons)	18,153	5,392,491	13,907,385	41,366

Table 2-23. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	Sonoma County faces potential localized flooding and property damage from dam failure at several reservoirs, which could threaten communities and infrastructure downstream.
Drought	Drought conditions pose a significant risk to the County by reducing water supply for residents, agriculture, and natural ecosystems, while increasing wildfire potential.
Earthquake	Located within an active seismic region, the County is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards.
Extreme Cold	Extreme cold events are occasional and typically have minimal impact on the County's general population and infrastructure.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources across the County.
Extreme Wind	The County may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding from heavy rainfall and river overflow is a concern throughout Sonoma County, potentially affecting homes, infrastructure, agriculture, and transportation networks.
Landslide	Areas with steep or unstable terrain across the County are susceptible to landslides, particularly following heavy rains or seismic events.
Sea Level Rise	Coastal and shoreline areas and tidally influenced rivers, streams, and sloughs of Sonoma County may be impacted by sea level rise, increasing risks of flooding and erosion in low-lying communities and natural habitats.
Tsunami	Coastal areas of Sonoma County face low but present tsunami risk, which could impact shoreline communities and infrastructure.
Wildfire	Wildfire presents a major threat throughout Sonoma County due to extensive vegetation, climate conditions, and topography, threatening life, safety, property, air quality, and emergency response capabilities.

Other natural and human-caused hazards of concern have occurred within Sonoma County but have a low potential to occur, are addressed by other planning mechanisms, and/or do not result in significant

impacts to the County. Therefore, these hazards are not addressed in this update. If deemed necessary by the County, these hazards may be considered in future plan updates.

2.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Sonoma County identified the risk-related issues for the community:

- Multi-Hazard
  - Communities lack access to safe, climate-resilient facilities during hazard events.
  - Renters in hazard-prone areas often lack awareness or coverage for hazard insurance.
  - Some County facilities lack backup power, reducing operational capacity during emergencies.
  - County communications systems are underpowered and lack interoperability, impeding emergency coordination. Remote communications arrays are vulnerable to power outages.
  - Outdated hazard maps and lack of timely FEMA data hinder ongoing accurate risk assessments and planning.
  - The County could improve its outreach strategies and materials tailored to access and functional needs populations and socially vulnerable groups.
  - Public access to hazard mitigation information is limited due, in part, to the absence of a well-maintained mitigation website.
  - The County lacks a formalized mitigation planning committee to oversee implementation, track progress, and support planning partners.
  - Planning and funding decisions are hindered by the absence of a unified metric for comparing community hazard vulnerability.
  - Mitigation planning is siloed from other County planning efforts, leading to gaps in integration and preparedness.
  - Post-disaster data collection is inconsistent, limiting the ability to improve mitigation strategies and risk mapping.
  - Many properties and facilities were built to outdated construction standards and are vulnerable across multiple hazard types.
  - The County lacks dedicated funding for hazard mitigation at critical transportation sites like airports and road yards.
  - The County lacks participation in emergency management certification programs that could enhance hazard-specific preparedness and response.
  - There is a need to provide ongoing training, exercises, and access to updated data to maintain a current and effective hazard mitigation plan.
  - Many communities lack the resources to implement local, place-based mitigation actions that can reduce risk and build capacity.

  - There is a need to effectively integrate and coordinate climate adaptation strategies across regional and local planning frameworks to ensure a cohesive, resilient approach to addressing climate-related risks and vulnerabilities.
  - The County lacks a method to capture post-hazard event data. This could lead to loss of vital information needed to accurately update hazard mapping and improving mitigation strategies.
- Drought
  - Small water systems and domestic wells often lack the resources, coordination, and infrastructure to withstand long-term drought conditions.
- Earthquake
  - Unreinforced masonry and older buildings are highly vulnerable to earthquake damage, especially in areas of high occupancy or critical use.
  - Mobile homes are not designed to withstand seismic activity.
  - The County lacks pre-approved seismic retrofit plans for residences.
  - Many community members and businesses are unaware of earthquake risks and lack guidance on earthquake mitigation and preparedness.
  - Some County-owned facilities and infrastructure have unknown seismic performance or are built to outdated standards.
- Extreme Heat
  - Communities vulnerable to social inequities lack access to cooling facilities and resources needed to prepare for or respond to extreme heat incidents.
- Flooding
  - Sonoma County experiences frequent and severe flooding, particularly along the Russian River, causing property damage, emergency disruptions, and loss of life.
  - Some areas near the Russian River and within the County unincorporated areas experience repeated flood damage, including NFIP repetitive loss properties.
  - County-owned critical infrastructure is located in flood-prone areas, increasing risk to essential services.
  - Areas lack natural floodwater retention features (floodplains), exacerbating flood impacts.
  - The County lacks a long-term, coordinated flood mitigation strategy for the Russian River basin.
  - Some communities face reoccurring flood threats and lack localized risk reduction efforts.
  - Flood risks are increasing and changing due to more intense precipitation incidents, and the County needs to better integrate updated NFIP guidance and floodplain management best practices.
  - The County should increase the number of river and tributary gauges to increase its ability to monitor flows and estimate when flooding will occur.
  - A Russian River Management Plan should be developed with actions to improve river function, restore historical floodplains and mitigate flooding risks.

- Sea Level Rise
  - Sonoma County Code Chapter 26C (Coastal Zoning Resource Districts) is currently inconsistent with the updated Local Coastal Plan and lacks adequate provisions to address and minimize the risks and impacts associated with sea level rise, necessitating an update to ensure effective coastal hazard mitigation and community resilience.
  - There is a lack of green infrastructure analysis and planning to mitigate coastal erosion, sea level rise, and storm surge risks.
  - The County lacks standardized protocols for assessing vulnerability to sea level rise and incorporating it into planning decisions.
- Tsunami
  - Some coastal areas lack visible tsunami evacuation and hazard signage, reducing public awareness and preparedness.
  - The County lacks consistent methodology for tsunami risk and vulnerability assessments.
- Wildfire
  - Many high-risk properties lack defensible space or home hardening; inspection and enforcement programs are fragmented and under-resourced.
  - Residents and visitors in fire-prone areas may be unaware of current fire danger levels during red flag or critical fire weather days.
  - The existing CWPP may not reflect current wildfire risk due to climate change, development, and completed projects.
  - County assets in wildland fire zones lack site-specific mitigation strategies to reduce wildfire risk.
  - Remote communication infrastructure is vulnerable to wildfire-related power outages and may be inaccessible during active fire events.
  - River Road, Cloverdale and Asti seasonal bridge are vulnerable during wildfire. Late fall wildfires can occur after the seasonal bridge is removed, leaving the area without emergency ingress/egress.

2.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

2.10.1 Past Mitigation Action Status

Table 2-24 and Table 2-25 indicate progress on the County's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 2-24. Status of 2021 Mitigation Actions for Sonoma County

Mitigation Actions	Status
Project Number	SC-1
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Amend General Plan Safety Element Hazard maps to reflect updated mapping of hazard areas identified by this HMP, FEMA, CAL FIRE, or the CA Seismic Hazards Mapping Program.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The General Plan Safety Element will be updated in 2025 and will reflect recent updates to State and Federal hazard mapping.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-2
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Utilize hazard mitigation information presented in the Sonoma County Climate Action Plan 2020 and Local Climate Adaptation Policy Guide for Local Governments (Cal OES) to reduce risks exacerbated by climate change and to adapt to climate change impacts. Integrate climate adaptation actions across regional and local General Plan Public Safety Elements, Coastal Plans, mitigation planning efforts, and infrastructure planning and development. Support Countywide greenhouse gas reduction initiatives outlined in the Community Climate Action Plan and led by the Regional Climate Protection Authority
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Integrate and coordinate climate adaptation actions across regional and local General Plan Public Safety Elements, Coastal Plans, mitigation planning efforts, and infrastructure planning and development. Support Countywide greenhouse gas reduction and climate resilience and adaptation initiatives in adopted County plans.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-3
Hazards Addressed	Flood
Lead Agency	County of Sonoma
Mitigation Action Description	Request a FEMA prepared updated flood insurance study analysis of the Russian River and Laguna de Santa Rosa floodplains. Utilize an in-depth record of USGS flow data and LIDAR-generated topographical base tied to the NAVD88 vertical datum and other sources of information as available. As part of this update, improve flood and topographic mapping along the Russian River. Re-evaluate hydrologic floodways and recurrence levels.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Permit Sonoma is conducting a technical review of the recently updated Flood Insurance Rate Maps for the Russian River watershed to identify possible modeling errors and locations of focus for a potential restudy. The County is also in the final stages of a re-study of the Todd Creek watershed as part of a Letter of Map Revision. The watershed was part of a FEMA flood insurance study released in 2022 for which the county identified errors in the mapping and has pursued a map revision to correct the errors.
Project Number	SC-4
Hazards Addressed	Flood
Lead Agency	County of Sonoma
Mitigation Action Description	Work with stakeholders and the general public to develop and implement a long-term strategy, consistent with Policy PS-2d of the GP2020 Safety Element, to reduce repetitive flood losses in the Russian River basin. This strategy shall be incorporated into future updates of the Local HMP**.**
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Current staff capacity is limited
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-SC-13
If discontinue, explain why	Not Applicable
Project Number	SC-5
Hazards Addressed	Earthquake, Landslide/Mass Movement
Lead Agency	County of Sonoma

Mitigation Actions	
Mitigation Action Description	Expand the “Geologic Hazard” Combining District or develop new Combining District(s) to incorporate all types of geological hazards including areas of high ground-shaking, landslide and liquefaction, and coastal bluff hazards.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Permit Sonoma is reviewing the purpose and scope of the G District with the 2025 update to the Safety Element.
Project Number	SC-6
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Adopt an ordinance requiring strengthening and/or reinforcement of unreinforced masonry buildings, except residential structures, considering the cost of the work and the value, frequency of use, and level of occupancy.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Limited capacity
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action 2026-SC-49
If discontinue, explain why	Not Applicable
Project Number	SC-7
Hazards Addressed	Landslide/ Mass Movement
Lead Agency	County of Sonoma
Mitigation Action Description	Adopt County Code amendments or develop a departmental policy to require residential structures in landslide risk zones to conduct geologic soil investigation, prepared by a California licensed Civil or Geotechnical Engineer, to evaluate the proposed unit’s landslide risks, prior to permit or construction approval.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	California model building codes requires a soils / geotechnical report if the project is in a known landside area. Permit Sonoma has technical bulletin B-28 that requires a geotechnical investigation in areas of known slides.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	

Mitigation Actions	Status
If discontinue, explain why	
Project Number	SC-8
Hazards Addressed	Sea-Level Rise
Lead Agency	County of Sonoma
Mitigation Action Description	Develop a model ordinance which would provide for the orderly regulation of land uses in areas which may be affected by sea level rise.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The Local Coastal Plan (LCP), which guides land use in the coastal zone and includes policy directives to minimize risks of sea level rise, was adopted by the Board of Supervisors in July 2023 and certified by the California Coastal Commission in November 2024. Amendments to the Coastal Zoning Code necessary for consistency with the updated LCP started in 2025
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Update the Sonoma County Code Chapter 26C (Coastal Zoning Resource Districts) for consistency with the updated Local Coastal Plan, including provisions to minimize risks and impacts of sea level rise.
If discontinue, explain why	Not Applicable
Project Number	SC-9
Hazards Addressed	Earthquake, Flood, Severe Weather, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Conduct a natural hazard risk and vulnerability assessment of all County-owned/leased/maintained emergency response and critical facilities to identify site-specific improvements to increase resiliency to hazard events and their post-disaster functionality. Determine facility performance under extreme loads including seismic, wind, wildfire and flood hazards. Identify practical, cost-effective solutions to reduce risk to personnel, equipment, systems and infrastructure, and provide solutions to maintain continued operations.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Very large undertaking with limited staff time to support.
Include in the 2026 HMP or Discontinue?	Include. Recommend having Public Infrastructure as primary agency and DEM as support.
If include, revise/reword as appropriate	
If discontinue, explain why	
Project Number	SC-10
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Assess the vulnerability of critical county infrastructure including roads, bridges, pipelines, water treatment plants, culverts, and other essential facilities.
Status	In progress

Mitigation Actions	Status
Narrative describing progress or obstacles that have prevented implementation	Done on an ad-hoc basis but a larger assessment would require extensive time and funding.
Include in the 2026 HMP or Discontinue?	Include. Revise into a larger study for critical transportation infrastructure and include a GIS-based database.
If include, revise/reword as appropriate	See Action Worksheet 2026-SC-42
If discontinue, explain why	
Project Number	SC-11
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Perform seismic retrofitting or replacement County-owned bridges.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Seismic is performed for any bridge replacements. Common funding sources: FHWA, SB-1, Caltrans, etc. Seismic is ongoing at Big Wohler Bridge.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element.
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	SC-12
Hazards Addressed	Dam Failure, Flood, sea-level rise, Tsunami
Lead Agency	County of Sonoma
Mitigation Action Description	Strengthen/ retrofit critical county infrastructure to increase ability to convey or store flood waters, remain operable during floods, and reduce the potential for flood damage.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Flood mitigation plans are complete for Villa Grande, funded through a Cal OES/FEMA HMGP grant. Grant applications for construction funding have been submitted to Cal OES/FEMA HMGP and FMA programs.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element.
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-13
Hazards Addressed	Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Conduct a systematic fire safety analysis of all County-owned assets that are known to be in wildland fire zones and identify site-specific mitigation actions to improve wildland fire resistance.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Pine Mountain – vault building hardening (internal assessment), brush and vegetation removal, replace wood siding with fire resistant material; Eucalyptus removal on airport facility grounds in progress; completed in county-owned portion of Santa Rosa Rural Cemetery. Fire safety analysis for County facilities is ongoing.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	SC-14
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Implement targeted outreach, education, preparedness, and mitigation initiatives to better prepare the County's residents with Access and Functional Needs, especially in high hazard areas and incorporate equity considerations. Identify, evaluate, validate, and implement communications, warning technologies Radio Disaster Alert Devices for Vulnerable Populations
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	This work is performed in a variety of ways. We facilitate two committees that work on these (Access and Functional Needs Advisory Committee and Alert and Warning Committee) but also work with partners on targeted outreach through a number of programs.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element.
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-15
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Continue and expand structural retrofit mitigation activities carried out by the Community Development Commission under their existing Earthquake Resistant Bracing Systems Program. Structural retrofit activities to vulnerable buildings may be carried out or incentivized by the program.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Lack of staffing and funding are obstacles
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element.
If include, revise/reword as appropriate	See Action 2026-SC-22
If discontinue, explain why	Not Applicable
Project Number	SC-16
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Adopt pre-approved standard plans for seismic retrofits of existing residences to improve the home's chances of surviving an earthquake. The plan will set forth standard prescriptive measures recommended to homeowners and contractors in accordance with building codes. Once approved, the plan will allow for a simple, low cost permitting process.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	The primary obstacle to completing this action is a lack of resources and prioritization. Pre-approved standards are already available through the State of California and/or the Association of Bay Area Governments or other sources. Permit Sonoma / Sonoma County could create similar standards under our letterhead; create a webpage and/or publish these standards; and provide outreach program.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	SC-17
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Provide materials to educate and inform owners of the potentially greater risks associated with the following building types in the highest earthquake hazard zones in the County, as well as voluntary mitigations and retrofit options available to strengthen and reduce the vulnerability of such structures.
Status	No progress

Mitigation Actions	Status
Narrative describing progress or obstacles that have prevented implementation	The primary obstacle to completing this action is a lack of resources and prioritization.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-18
Hazards Addressed	Flood
Lead Agency	County of Sonoma
Mitigation Action Description	Continue the implementation of the flood elevation program to elevate qualifying flood damage prone properties. Consistent with FEMA/NFIP and give priority to the repetitive loss properties both within and outside the mapped flood zones.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The Flood Elevation Program has successfully elevated 299 structures to date using a combination of FEMA Hazard Mitigation Assistance grants and local funding. However, continued implementation faces challenges related to securing matching funds, limited availability of eligible contractors, and property owner capacity to participate.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-19
Hazards Addressed	Dam Failure, Flood
Lead Agency	County of Sonoma
Mitigation Action Description	Coordinate with the City of Petaluma to identify opportunities to preserve and enhance natural flood water retention in the headwaters of the Petaluma River Basin, the confluence of the Willow and Lichau Creeks and the Liberty and Wiggins Creeks, to reduce downstream flooding in Petaluma.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Limited capacity
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-20
Hazards Addressed	Sea-Level Rise, Tsunami
Lead Agency	County of Sonoma
Mitigation Action Description	Prepare Sea Level Rise and Coastal Hazards Risk and Vulnerability Assessments, focused on the highest risk of sea level rise as provided by the best available science, on the Sonoma County Coast.
Status	The County of Sonoma, in collaboration with the City of Petaluma, has applied for approximately $2 million under Senate Bill 1 to fund vulnerability assessment and adaptation planning efforts along the San Francisco Bay and the Pacific Coast. Anticipated project timeline is 3 years.
Narrative describing progress or obstacles that have prevented implementation	A comprehensive county-led risk and vulnerability assessment has not yet been completed due to limited staffing, funding constraints, and the complexity of integrating the latest sea level rise science across jurisdictions.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element and updated LCP.
If include, revise/reword as appropriate	See Action Worksheet 2026-SC-27
If discontinue, explain why	Not Applicable
Project Number	SC-21
Hazards Addressed	Flood, Sea-Level Rise, Tsunami
Lead Agency	County of Sonoma
Mitigation Action Description	Analyze and identify feasible and cost-effective green infrastructure actions which may be taken to increase coastal resiliency to climate change and mitigate future flood and sea-level rise impacts
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	County has incorporated nature-based solutions into the updated Local Coastal Plan and continues to support regional discussions on coastal adaptation, but progress has been limited by a lack of targeted funding, technical capacity, and the need to coordinate across multiple regulatory agencies and landowners. The County of Sonoma, in collaboration with the City of Petaluma, has applied for approximately $2 million under SB 1 to fund vulnerability assessment and adaptation planning efforts along the San Francisco Bay and the Pacific Coast. If approved, adaptation planning efforts will identify and analyze feasibility of green/gray infrastructure that will increase the county's adaptive capacity along both coastlines. Anticipated project timeline for planning documents is 3 years.
Include in the 2026 HMP or Discontinue?	Include. Include County Executive's Office as a responsible party since they lead the Climate Action and Resiliency Division.
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-22
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Evaluate and enhance where necessary existing emergency power systems at county facilities and provide emergency power generation capacity/storage at county-owned/leased/maintained facilities critical for emergency response and recovery to ensure continuity of government services.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Generators added at: Forestville Road Yard, Santa Rosa Road Yard, airport terminal, airport Emergency Operations Center, Cloverdale Vets Bldg., Pine Mountain, Santa Rosa Vets Bldg. microgrid installed (pending PGE approval), Sonoma & Petaluma Vets Bldgs., ISD data center generator, generator upgrade pending at sheriff's building. Funding includes Cal OES/FEMA HMGP and PDM grants.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-23
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Improve county communications capacity, interoperability capabilities, and disaster resilience to help maintain critical post-disaster operability by developing a strategy to relocate critical Information Systems Department equipment and facilities from their current location to reduce their vulnerability to natural hazards.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Installation of new mobile radio system to reach rural areas of Villa Grande, Monte Rio, Hacienda, Rio Nido, Cloverdale, Occidental, and Guerneville. This network now covers 80% of the county. Fortifying existing telecom vaults. Tower inspections every 2-5 years to ensure functionality to fire resilience.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-24
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Develop a strategic plan for damage assessment and recovery of essential public facilities following earthquakes, prioritize areas of high public occupancy.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Removing this action.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	County recommended to remove. SC-25 is a more accurate description of their process.
Project Number	SC-25
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Seek funding to engage an engineering consultant to conduct a seismic evaluation of facilities critical to emergency response or recovery operations and buildings with high occupancy. Incorporate seismic assessment upgrades in major remodel projects at existing buildings. All new construction shall conform to current codes at the time of the permit.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Seismic evaluations are conducted in conjunction with major remodels, new construction, and real estate transactions. This is ongoing.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-26
Hazards Addressed	Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Develop and implement a hazardous fuels reduction program within two miles of homes and communities identified to be at risk to wildfires.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	With funding from FEMA, Permit Sonoma has completed Phase 1 of the Hazardous Fuels and Wildfire Adapted Hazard Mitigation Grants. These grant projects brought together fire departments, CAL FIRE, and community based organizations to identify high-priority locations for house-scale (structure hardening/defensible space) and landscape-scale (vegetation management) activities within the designated project areas specified in the HMGP grants. The first phase, including outreach, coordination, and project planning and environmental review to identify sites treatments, was completed in November 2024 and February 2025. Multiple sites were selected for large-scale vegetation management and thousands of homes assessed for house-scale efforts. Phase 2 implementation funds are expected in early 2026. Additional HMGP funding to do more work in these same project areas is being applied for in September 2025.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-27
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Conduct a Structural Seismic Risk and Vulnerability Assessment. This planning effort will be focused on the development of a Sonoma County-specific brace-and-bolt program. The planning process will identify and develop shovel-ready concepts for structures at high risk of damage from seismic activities, with a specific focus on soft-story buildings.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	The primary obstacle to completing this action is a lack of resources and prioritization.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-28
Hazards Addressed	Flood, Dam Failure
Lead Agency	County of Sonoma
Mitigation Action Description	Conduct a Russian River Flood Risk and Vulnerability Assessment. The objective of this planning related activity is to focus and plan for the way Sonoma County interacts with the Russian River floodplain; including flood risk and planning efforts to move people away from flood-prone areas and the evaluation and adoption of county policy to reduce risk from flood events. The projects would include the identification of ways to maintain flood plain as open space; community flood planning and zoning; discouraging development in high risk flood areas and site-specific project identification.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Staff capacity is limited and scope is large Flood mitigation plan completed for Villa Grande, and in progress for River Rd (Cal OES/FEMA HMGP grant funded).
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-29
Hazards Addressed	Dam failure, flooding, severe weather, tsunami, sea level rise
Lead Agency	County of Sonoma
Mitigation Action Description	Continue to maintain good standing and compliance under the National Flood Insurance Program (NFIP) through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: • Enforce the flood damage prevention ordinance. • Participate in floodplain identification and mapping updates. • Provide public assistance/information on floodplain requirements and impacts.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The County remains in good standing with the NFIP and is exploring ways to enhance program capacity and improve its CRS classification. Staff time is an obstacle.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-30
Hazards Addressed	Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Implement “Nature-based Mitigation to Adapt in an Era of Mega-fires” from Wildfire Resilient Sonoma County. This wildfire mitigation project will reduce or prevent regional property and loss by employing the following techniques and methods: • Defensible space implementation around 100% of homes throughout the State Responsibility Area • Structural hardening • Landscape level fuel breaks, including parks and green spaces around population dense areas of the County. By working at the regional level this project will reduce wildfire risk throughout the County, while at the same time providing other community benefits like recreation and wildlife habitat.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Permit Sonoma received funding under FEMA’s Building Resilient Infrastructure and Communities (BRIC) Program for a $48 million dollar phased project (Phase 1 $8 million, planning and environmental review; Phase 2, $40 million, implementation). Subsequently FEMA has indicated it will not be obligating Phase 2 implementation funds although obligated Phase 1 projects will be allowed to be completed (Permit Sonoma BRIC Phase 1 ends in November 2026). At the direction of Cal OES, Permit Sonoma is applying for two HMGP grants ($15 million each) which, if approved, would replace much of the lost BRIC implementation funding within the three communities addressed in the original grant. The goal of all these grants is to advance the County’s programmatic capabilities to address whole community wildfire resiliency at the landscape scale. Permit Sonoma BRIC grant Phase 1 will fund the Wildfire Resilient Communities (WRC). Phase 1 activities included building community partnerships, evaluating structural vulnerabilities and defensible space, identifying sites for large-scale vegetation management, and offering educational and support to help residents take action. The three community areas selected in the grant are Penngrove-Rancho Adobe, Larkfield-Wikiup-Mark West, and Lower Russian River-Guerneville.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action 2026-SC-12
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-31
Hazards Addressed	Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Retrofitting through structure elevation is an ongoing hazard mitigation activity funded by Flood Mitigation Assistance and Hazard Mitigation Grant Program funding utilized through the Sonoma County Flood Elevation Program and combined with local funding provided by homeowners of eligible properties. Typical cost for a structure elevation project is $367 per square foot of living space. Obstacles are funding availability and eligibility requirements. To date the Sonoma County Flood Elevation Program has elevated 299 single and multifamily (4 units or less) structures.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element
If include, revise/reword as appropriate	See Action Worksheet 2026-SC-10
If discontinue, explain why	Not Applicable
Project Number	SC-32
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Severe Weather, Sea-Level Rise, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the County General Plan, Emergency Operations Plan, Climate Action Plan, Community Wildfire Protection Plan, etc.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	This action is in progress. Hazard mitigation goals and data have been integrated into the County's General Plan Safety Element, Climate Resilience Comprehensive Action Plan, and Community Wildfire Protection Plan. The Emergency Operations Plan and Recovery Plan updates currently underway are also incorporating hazard data and priorities identified in the HMP.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-33
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Severe Weather, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Develop community-based disaster preparedness and response resilience facilities and resources in areas or communities that are disproportionately economically disadvantaged or that face social equity challenges.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Work has been done to develop resources in this area. We are also working with BAUASI's Community Resilience initiative that supports this.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-34
Hazards Addressed	Earthquake, Flood, Severe Weather, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Participate in state and federal hazard-specific mitigation/preparedness and emergency management certification programs that support community awareness/preparedness (ex. NOAA StormReady) and enhancement of response capabilities (ex. Emergency Management Accreditation Program).
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	We are a TsunamiReady community, our staff participate in certification programs and we offer them to our EOC staff. We would like to continue to expand these efforts.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-35
Hazards Addressed	Earthquake
Lead Agency	County of Sonoma
Mitigation Action Description	Provide seismic structural retrofits to mobile homes through the Sonoma County Earthquake Resistant Bracing System Program, which pays to install seismic retrofit bracing systems on mobile homes throughout the unincorporated areas of Sonoma County and participating cities and towns.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Retrofitting is an ongoing hazard mitigation activity. Funding from multiple sources to support this effort is used including federal funding from Hazard Mitigation Grants, Community Development Block Grants, and local Reinvestment and Revitalization funding. A typical installation ranges from $4,000 to $8,000, and to date approximately 1,690 mobile homes have had an ERBS installed through the Sonoma County Earthquake Resistant Bracing System Program. Obstacles to progress are scarcity of funding.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	SC-36
Hazards Addressed	Dam Failure, Flood
Lead Agency	County of Sonoma
Mitigation Action Description	Develop mapping strategy for roads and infrastructure for flood and/or dam failure inundation. Prepare localized maps to support emergency response personnel.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Initial efforts have focused on compiling existing flood and dam inundation data. While some localized mapping exists, a comprehensive, countywide mapping strategy has not yet been completed due to limited GIS staffing capacity and competing priorities.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable

Mitigation Actions	Status
Project Number	SC-37
Hazards Addressed	Flood
Lead Agency	County of Sonoma
Mitigation Action Description	Prepare a plan to protect road infrastructure from flood erosion. Conduct bank repair project on River Road, Geyserville. Scour repair for Jimtown Bridge.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Planning/design in progress for River Rd (Cal OES/FEMA HMGP grant funded). Project is at 95% design. Permits are pending. Applied to Caltrans for Jimtown Bridge scour repair.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-38
Hazards Addressed	Flood
Lead Agency	County of Sonoma
Mitigation Action Description	Coordinate with the Geyserville/Alexander Valley Municipal Advisory Council on the “Alexander Valley Watershed Action Plan” with support from Sonoma Water
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	This plan is complete, but we would like to add a new goal: “Alexander Valley River Management Plan” with Sonoma Water as the lead.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed.
Project Number	SC-39
Hazards Addressed	Flood
Lead Agency	County of Sonoma
Mitigation Action Description	Evaluate unincorporated towns for flood risk and prepare list of prioritized flood mitigation projects. Pursue FEMA grant for Geyserville Drainage project.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Planning grant complete for Villa Grande (HMGP), and applications submitted for construction funds (HMGP and FMA). Geyserville Drainage plan completed with Cal OES/FEMA Advance Assistance Program.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-40
Hazards Addressed	Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Partner with fire districts and others in a roadside hazard abatement program to clear fuels from road rights of way.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	CAL FIRE and HMGP grant funded, roadside fuel reduction projects completed, partnerships with local groups, community chipping program (grant funded). Roadside fuel treatment is ongoing.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Identify key/priority roadways in a comprehensive roadside fuel reduction plan. Partner with fire districts and others in a roadside hazard abatement program to clear fuels from road rights of way.
If discontinue, explain why	Not Applicable
Project Number	SC-41
Hazards Addressed	Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Create a plan for other lands managed by Transportation and Public Works to be maintained for fire resilience. Property such as the Healdsburg Transfer Station to be maintained as a fuel break for the City of Healdsburg. “Debris Management Plan” Grant completed. Property now needs funding to maintain the property as a fuel break.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	A grant application was submitted to support vegetation management at the Healdsburg Transfer Station to establish and maintain a fuel break benefiting the City of Healdsburg. Assessments of other properties still needs to be conducted.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable

Mitigation Actions	Status
Project Number	SC-42
Hazards Addressed	Flood, Wildfire, Landslide/Mass Movement
Lead Agency	County of Sonoma
Mitigation Action Description	Improve transportation routes for ingress/egress by replacing the temporary bridge at Asti.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Environmental, permitting, and design (currently at 30%). Additional funding needed to complete, as well as construction funding. Grant application submitted (DOT BUILD program). Moving forward to form a bridge financing district,
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SC-43
Hazards Addressed	Severe Weather
Lead Agency	County of Sonoma
Mitigation Action Description	Secure funding to purchase infrastructure for resilience at airport, road yards, etc.: generators; ham radio system; evacuation stair systems; light towers
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Generators added at: Forestville Road Yard, Santa Rosa Road Yard, airport terminal, airport Emergency Operations Center, Cloverdale Vets Bldg., Pine Mountain, Santa Rosa Vets Bldg. microgrid installed (pending PGE approval), Sonoma & Petaluma Vets Bldgs., ISD data center generator, generator upgrade pending at sheriff's building.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Change to "radio system" – remove "ham"
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SC-44
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Severe Weather, Sea-Level Rise, Tsunami, Wildfire
Lead Agency	County of Sonoma
Mitigation Action Description	Improve emergency preparedness awareness with an emphasis on outreach to vulnerable and socially disadvantaged populations by increasing coordination with them to ensure hazard risks, preparedness, and evacuation information is available and well understood in multiple languages. Tailored outreach can be conducted to ensure socially vulnerable and disadvantaged populations understand what actions need to occur during hazard events that may require shelter in place or evacuation procedures.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	We do this and will continue to expand on it.
Include in the 2026 HMP or Discontinue?	Include. Permit Sonoma recommends including this action in the updated HMP for consistency with the 2025 update to the Safety Element. Recommend DEM be the primary responsible party. Include as a component of larger outreach efforts and coordination to access and functional needs populations.
If include, revise/reword as appropriate	Develop community-based disaster preparedness and response resilience facilities and resources in areas or communities that are disproportionately economically disadvantaged or that face social equity challenges.
If discontinue, explain why	Not Applicable

Table 2-25. Status of 2021 Countywide Mitigation Actions

Mitigation Actions	Status
Project Number	CW-1
Hazards Addressed	Flood
Lead Agency	Permit Sonoma
Mitigation Action Description	The County will pursue an “Information Sharing Access Agreement” with FEMA allowing the County to readily access FEMA repetitive loss data for the entire county as needed at a level of detail to study and analyze repetitive flood loss problems in the county.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Staff are working on the application form to submit to FEMA. Staff submitted a request to FEMA for the agreement, but delays in FEMA have prevented the agreement from moving forward.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	CW-2
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	Permit Sonoma
Mitigation Action Description	Continue to maintain a county-wide hazard mitigation website and the associated Story-Map that will store the hazard mitigation plan and provide the public an opportunity to monitor plan implementation progress. Each planning partner can support this initiative by including an initiative in its action plan of creating a link to the County hazard mitigation website.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	The StoryMap has not been updated with regular reports on plan implementation progress.
Include in the 2026 HMP or Discontinue?	Include. Responsible party will now be DEM with support of Permit Sonoma as DEM will maintain new website.
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	CW-3
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	Department of Emergency Management
Mitigation Action Description	Leverage public outreach partnering capabilities in the planning area (such as CERT) to promote a uniform and consistent message on the importance of proactive hazard mitigation.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Performing this informally and have newly created CERT team that could help support these efforts.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	CW-4
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	Permit Sonoma
Mitigation Action Description	Continue to update hazard mapping with best available data and science as it evolves, within the capabilities of the planning partnership. Support FEMA's RiskMAP initiative.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The County integrates new hazard data as it becomes available, including updates to FEMA flood maps, CAL FIRE wildfire severity zones, and climate-informed sea level rise projections. While some departments have the capacity to support GIS-based mapping updates, full integration across all hazard types is limited by staff capacity and data availability.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	CW-5
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	Permit Sonoma
Mitigation Action Description	Retain a steering committee as a working body over time to monitor progress of the hazard mitigation plan, provide technical assistance to planning partners, manage data, and oversee the update of the plan according to schedule. This body will continue to operate under the ground rules established at its inception.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Existing staff capacity in Permit Sonoma is limited. Cost is staff time.
Include in the 2026 HMP or Discontinue?	Include. Move responsible party to DEM with support from Permit Sonoma
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	
Project Number	CW-6
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	Department of Emergency Management
Mitigation Action Description	Strive to capture time-sensitive, perishable data—such as high-water marks, extent and location of hazard, and loss information—following hazard events to support future updates to the risk assessment as well as other plans and programs that utilize hazard extent and location data.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	We do this currently in a limited and informal capacity but would like to expand and formalize these efforts.
Include in the 2026 HMP or Discontinue?	Include. This data would allow for more specific and effective mitigation projects and inform response operations and preparedness efforts.
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	CW-7
Hazards Addressed	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Lead Agency	Department of Emergency Management
Mitigation Action Description	Utilize viable and relevant information, data and tools (Hazus models) developed as part of the update to the risk assessment of this plan update to support training and exercise of the County's preparedness, response and recovery programs.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Used previous data to inform exercise i.e., earthquake Hazus data for EOC tabletops. Cost is staff time to develop training and exercises.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

2.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 2-24 and Table 2-25, Sonoma County identified the following mitigation efforts completed since the last HMP:

- Updated the Sonoma County Emergency Operations Plan and completed/updated the following annexes:
  - Mass Care and Shelter
  - Tsunami Response
  - Earthquake Response

  - Russian River Flood
  - Terrorism/Active Shooter
  - Extreme Temperature
- Implemented Phase 1 of the pilot Sonoma County Wildfire Adapted program, which to date has completed over 7,600 defensible space assessments and 2,342 home hardening assessments, along with more than 30 in-person and virtual presentations to educate and engage local stakeholders.
- Updated the Sonoma County General Plan Safety Element with updated hazard maps and new goals, policies, and programs that incorporate insights from recent disaster experiences and best practices for hazard risk reduction.

2.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Sonoma County participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Sonoma County would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in County priorities.

Table 2-26 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D.

Table 2-26. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X	X	X	X	-	X	X	X	X
Drought	X	X	-	X	X	-	X	X	-	X
Earthquake	X	X	-	X	X	X	X	-	-	X
Extreme Cold	X	X	-	X	X	-	X	-	-	X
Extreme Heat	X	X	-	X	X	-	X	-	-	X
Extreme Wind	X	X	-	X	X	-	X	-	-	X
Flood	X	X	X	X	X	X	X	X	X	X
Landslide	X	X	-	X	X	-	X	-	-	X
Sea Level Rise	X	X	X	X	X	-	X	X	X	X
Tsunami	X	X	X	X	X	-	X	X	X	X
Wildfire	X	X	-	X	X	-	X	-	-	X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 2-27 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 2-27. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
NFIP Compliance	Low	High	10	1-5 years	8.77	High
FEMA Repetitive Loss Data	Low	Medium	7	1-5 years	7.539	High
Backup Generator and PV	Medium	High	5	1-5 years	7.385	High
Ordinance – Unreinforced Masonry Buildings	Low	Medium	4	1-5 years	7.308	High
Flood Elevation Program	Medium	High	4	1-5 years	7.308	High
Signage – Tsunami Evacuation Routes	Low	Medium	3	1-5 years	7.231	High
Update County Code Chapters 26 & 26C	Low	Medium	3	1-5 years	7.231	High
Retrofit Mitigation Activities - Earthquake	Medium	High	3	1-5 years	7.231	High
HMP Integration	Low	Low	11	1-5 years	6.847	Medium
Risk Assessment Data, Training & Exercise	Low	Low	8	1-5 years	6.616	Medium
Community Wildfire Protection Plan	Medium	Medium	7	1-5 years	6.539	Medium
General Plan Safety Element Hazard Mapping	Low	Low	6	1-5 years	6.462	Medium

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Integrate Climate Adaptation Actions Across Planning Efforts	Low	Low	6	1-5 years	6.462	Medium
Certification Programs	Low	Low	6	1-5 years	6.462	Medium
Install Flood Detection and Alert Infrastructure	Medium	Medium	5	1-5 years	6.385	Medium
Flood Reduction Strategy	Medium	Medium	5	1-5 years	6.385	Medium
Targeted Outreach – Access & Functional Needs	Low	Low	5	1-5 years	6.385	Medium
Steering Committee	Low	Low	5	1-5 years	6.385	Medium
Capture Time-Sensitive Data	Low	Low	5	1-5 years	6.385	Medium
Fire Weather Signage	Medium	Medium	4	1-5 years	6.308	Medium
Earthquake Education and Outreach	Low	Low	3	1-5 years	6.231	Medium
Protect Road Infrastructure from Flood Erosion	Medium	Medium	3	1-5 years	6.231	Medium
Public Outreach Partnering	Low	Low	3	1-5 years	6.231	Medium
Generators at County Facilities	High	High	2	1-5 years	6.154	Medium
County Hazard Mitigation Website	Low	Low	2	1-5 years	6.154	Medium
Relocation and Property Acquisition Program	High	High	8	1-10 years	5.616	Medium
Countywide Resilience Index	Medium	Low	5	1-5 years	5.385	Medium
Sonoma County Drought Task Force	Low	Low	5	1-10 years	5.385	Medium
Defensible Space and Home Hardening	High	Medium	4	1-5 years	5.308	Medium
Outreach to Renters	Medium	Low	3	1-5 years	5.231	Medium
Retrofit or Replace County-owned Bridges	High	High	3	1-10 years	5.231	Medium
Pre-Approved Standard Plans for Seismic Retrofits	Medium	Low	3	1-5 years	5.231	Medium
Natural Flood Water Retention	Medium	Low	3	1-5 years	5.231	Medium
County Communication Improvement	High	Medium	3	1-5 years	5.231	Medium
Retrofits to Mobile Homes	High	High	3	1-10 years	5.231	Medium
Retrofit Unreinforced Masonry Buildings Program	High	High	2	1-10 years	5.154	Medium
Retrofit County Critical Infrastructure	High	High	2	1-10 years	5.154	Medium
Flood Risk – Unincorporated Towns	Medium	Low	7	1-10 years	4.539	Low
Update Hazard Mapping	Medium	Low	7	1-10 years	4.539	Low
Seismic Evaluation of Facilities	High	Medium	4	1-10 years	4.308	Low
Enhance Disaster Preparedness and Resilience	Medium	Low	3	1-10 years	4.231	Low
Purchase Infrastructure for Resilience	High	Medium	2	1-10 years	4.154	Low
Improve Transportation Routes	High	Medium	1	1-10 years	4.077	Medium

Project Name	Cost	Benefit	Objective	Time	Score	Priority
Grant Program for Mitigation Projects	High	Low	5	1-10 years	3.385	Low
Sea Level Rise and Coastal Hazards Assessments	High	Low	5	1-10 years	3.385	Medium
Green Infrastructure	High	Low	5	1-10 years	3.385	Low
Climate-Resilient Facilities	High	Low	4	1-10 years	3.308	Low
Systematic Fire Safety Analysis	High	Low	3	1-10 years	3.231	Low
Natural Hazard Risk and Vulnerability Assessment	High	Medium	3	1-5 years	5.231	Medium
Vulnerability of Critical County Transportation Infrastructure	High	High	3	1-10 years	6.231	Medium
Mapping Strategy	Medium	Medium	4	1-5 years	6.308	Medium
Comprehensive Roadside Fuel Reduction Plan	Medium	Medium	3	1-5 years	6.231	Medium
Plan for Fire Resilience	Medium	High	2	1-5 years	7.154	High
Seismic Resilience Planning	High	Medium	4	1-5 years	5.378	Medium
Hazardous Fuels Reduction Program Near At-Risk Communities	High	Medium	3	1-5 years	6.231	Medium
Russian River Channel Management	High	High	5	1-5 years	6.385	Medium
Evacuation Assessment and Risk Reduction Program	High	High	6	1-5 years	6.462	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).
**Action priority was adjusted based on County review.*

Action 2026-SC-01. Climate-Resilient Facilities

Lead Agency:	Public Infrastructure (SPI)
Supporting Agencies:	Department of Emergency Management (DEM)
Hazards of Concern:	Extreme Cold, Extreme Heat, Extreme Wind, Wildfire
Description of the Problem:	Communities lack reliable access to safe, climate-resilient facilities during emergencies.
Description of the Solution:	Establish and enhance a network of resilience hubs by equipping schools, libraries, community centers, and other suitable spaces with solar + battery backup systems, air filtration, and backup power. Expand the functionality of these hubs to serve as heating and cooling centers during extreme temperature events, ensuring community access to clean air, reliable energy, and temperature-controlled environments during emergencies.
Estimated Cost:	High
Potential Funding Sources:	HMGP, CDBG-MIT, PG&E Resilience Grants
Implementation Timeline:	Long term
Objectives Met:	4, 6, 12,13
Benefits:	Improves disaster response, supports community resilience, enhances public health.
Impact on Socially Vulnerable Populations:	Directly benefits vulnerable populations by providing essential services in safe, trusted locations.
Impact on Future Development:	These resilience hubs may guide future development standards.
Impact on Critical Facilities/Lifelines:	Provides reliable backup services for critical functions and lifelines.
Impact on Capabilities:	Strengthens long-term emergency response and equity capacity.
Climate Change Considerations:	Supports climate adaptation.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	Low

Action 2026-SC-02. Fire Weather Signage

Lead Agency:	Department of Emergency Management (DEM)
Supporting Agencies:	Public Infrastructure (SPI)
Hazards of Concern:	Wildfire
Description of the Problem:	Residents and visitors in fire-prone areas may be unaware of current fire danger levels during red flag or critical fire weather days.
Description of the Solution:	Partner with local fire districts to implement a variety of fire weather and warning signage at fire stations to alert the community during Red Flag Warnings and other critical fire weather events. Encourage community members to use County and local alert systems.
Estimated Cost:	Medium
Potential Funding Sources:	CAL FIRE, CCI, HMGP, PG&E Wildfire Safety Program
Implementation Timeline:	Short term
Objectives Met:	2, 5, 9, 13
Benefits:	Increases public awareness during high-risk fire weather, supporting prevention and response.
Impact on Socially Vulnerable Populations:	Improves outreach in rural and high-risk areas, especially for individuals with limited access to other outreach and alerts.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Improves situational awareness near evacuation routes and critical services.
Impact on Capabilities:	Enhances public communication capabilities and community readiness.
Climate Change Considerations:	Supports climate adaptation by promoting awareness of increasing fire weather conditions.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SC-03. Signage – Tsunami Evacuation Routes

Lead Agency:	Department of Emergency Management (DEM)
Supporting Agencies:	Public Infrastructure, Caltrans
Hazards of Concern:	Tsunami
Description of the Problem:	Some coastal areas lack visible tsunami evacuation and hazard signage, reducing public awareness.
Description of the Solution:	Expand and maintain clear signage for tsunami evacuation routes and hazard zones in coastal communities. Ensure signs are visible, accessible, and consistent with state and federal guidance.
Estimated Cost:	Low
Potential Funding Sources:	TsunamiReady, HMGP, NOAA/NWS support, Cal OES support
Implementation Timeline:	Short term
Objectives Met:	5, 9, 13
Benefits:	Improves public awareness and supports timely evacuation in a tsunami event.
Impact on Socially Vulnerable Populations:	Improves outreach to high-risk and/or rural coastal populations.
Impact on Future Development:	Supports zoning awareness in coastal development.
Impact on Critical Facilities/Lifelines:	Improves coastal readiness and signage at critical facilities.
Impact on Capabilities:	Strengthens public education and hazard visibility.
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	High

Action 2026-SC-04. Countywide Resilience Index

Lead Agency:	Department of Emergency Management (DEM)
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Planning and funding decisions lack a unified metric to assess and prioritize hazard exposure and vulnerability across communities.
Description of the Solution:	Create a countywide resilience index that scores and maps census tracts based on multi-hazard exposure, emergency access limitations, and socioeconomic vulnerability. Use the index to guide resource allocation, mitigation funding, and equity-centered planning. Update the index regularly with new data and stakeholder input.
Estimated Cost:	Medium
Potential Funding Sources:	CDBG-MIT, FEMA Planning Grants
Implementation Timeline:	Short term
Objectives Met:	8, 9, 10, 12, 13
Benefits:	Improves prioritization of resources and strengthens data-driven mitigation and resilience planning.
Impact on Socially Vulnerable Populations:	Ensures mitigation investments are directed where need is greatest.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Can guide siting and retrofits based on risk and need.
Impact on Capabilities:	Improves local capacity for equity-informed decision-making.
Climate Change Considerations:	Integrates data to adapt to evolving climate and demographic trends. Can be used in conjunction with the Sonoma County Climate Change Vulnerability Assessment and Social Sensitivity Index in the General Plan Safety Element.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SC-05. Grant Program for Mitigation Projects

Lead Agency:	Department of Emergency Management (DEM)
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Many communities lack the resources to implement local, place-based mitigation actions that can reduce risk and build capacity.
Description of the Solution:	Establish a grant program to fund small-scale, locally led mitigation projects—such as defensible space workdays, neighborhood-level evacuation exercises, and hazard awareness events—led by neighborhood associations or community-based organizations (CBOs). Prioritize projects in high-risk or underserved areas and provide technical assistance to applicants.
Estimated Cost:	High
Potential Funding Sources:	HMGP, CDBG-MIT, PG&E Resilience Grants, State grant funding, Foundation funding
Implementation Timeline:	Long term
Objectives Met:	2, 6, 10, 12, 13
Benefits:	Empowers local leadership, increases grassroots mitigation capacity, and supports equity.
Impact on Socially Vulnerable Populations:	Directly targets underserved communities and supports culturally appropriate outreach.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Improves resilience in surrounding communities that depend on these lifelines.
Impact on Capabilities:	Expands local organizational capacity to mitigate hazards and respond to disasters.
Climate Change Considerations:	Supports community resilience to multiple climate-exacerbated hazards.
Mitigation Category	Education and Awareness Programs
CRS Category	Preventative Measures
Priority	Low

Action 2026-SC-06. Sonoma County Drought Task Force

Lead Agency:	Department of Emergency Management (DEM)
Supporting Agencies:	Sonoma Water
Hazards of Concern:	Drought
Description of the Problem:	Small water systems and domestic wells often lack capacity, funding, and coordination to withstand long-term drought.
Description of the Solution:	Maintain and strengthen the Sonoma County Drought Task Force to improve coordination among public agencies, small water systems, and community organizations in accordance with California Water Code Section 10609.70. Formalize standing agenda items that support proactive drought resilience—including drought conditions monitoring, identification of state and federal funding opportunities, and development of resilience strategies for domestic wells and state small water systems. During drought emergencies, the Task Force will coordinate public updates on impacts to critical sectors and guide contingency planning and response efforts.
Estimated Cost:	Low
Potential Funding Sources:	SB 552 Implementation Funds, Cal OES, DWR, HMGP, State funding
Implementation Timeline:	Long term
Objectives Met:	1, 2, 4, 6, 8
Benefits:	Supports long-term drought planning, improves access to resources, and enhances the capacity of small systems to withstand prolonged dry periods.
Impact on Socially Vulnerable Populations:	Supports residents dependent on vulnerable wells or small water systems.
Impact on Future Development:	Guides future development away from unsustainable water supplies.
Impact on Critical Facilities/Lifelines:	Supports water system reliability for communities and essential services.
Impact on Capabilities:	Expands coordination and proactive drought planning capabilities.
Climate Change Considerations:	Addresses increasingly frequent and severe drought conditions.
Mitigation Category	Local Plans and Regulations
CRS Category	Natural Resource Protection
Priority	Medium

Action 2026-SC-07. Outreach to Renters

Lead Agency:	Department of Emergency Management (DEM)
Supporting Agencies:	Community Development Commission
Hazards of Concern:	Earthquake, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Renters in hazard-prone areas often lack insurance coverage and knowledge about its availability or benefits.
Description of the Solution:	Develop and implement an outreach campaign to increase awareness and uptake of insurance among renters living in hazard-prone areas. Partner with community-based organizations, housing providers, and insurance experts to provide targeted education on the availability, affordability, and benefits of renters insurance. Ensure materials are culturally appropriate, translated into multiple languages, and accessible to low-income and vulnerable populations. Support efforts to remove barriers to participation and explore opportunities to connect renters with financial assistance or incentive programs where available.
Estimated Cost:	Medium
Potential Funding Sources:	HMGP, CDBG
Implementation Timeline:	Short term
Objectives Met:	2, 10, 13
Benefits:	Improves financial preparedness and reduces post-disaster recovery barriers for renters.
Impact on Socially Vulnerable Populations:	Tailored outreach to renters, including low-income and non-English-speaking households.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Build capacity for culturally competent disaster outreach and increasing communities' ability to recover.
Climate Change Considerations:	Supports financial preparedness for climate-aggravated hazard impacts.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SC-08. Install Flood Detection and Alert Infrastructure

Lead Agency:	Public Infrastructure (SPI)
Supporting Agencies:	Department of Emergency Management (DEM); Sonoma Water
Hazards of Concern:	Flood, Tsunami
Description of the Problem:	Sonoma County regularly faces dangerous flooding in low-lying areas, leading to loss of life, property damage, and costly emergency responses.
Description of the Solution:	Install low-cost flood sensors, rain and stream gauges, flood cameras, and lighted warning signage at flood-prone tributaries and roadways to support real-time monitoring, early warning, and emergency response.
Estimated Cost:	Medium
Potential Funding Sources:	HMGP, FMA, Cal OES
Implementation Timeline:	Short term
Objectives Met:	2, 5, 6, 8, 10
Benefits:	Improves public safety and reduces risk of flood-related accidents. Enhances early warning and situational awareness for first responders. Supports faster road closures and traffic rerouting. Enables data collection to inform future planning
Impact on Socially Vulnerable Populations:	Reduces risk for residents in frequently flooded areas with limited access to real-time alerts.
Impact on Future Development:	Provides critical data for future planning and infrastructure siting in flood-prone areas.
Impact on Critical Facilities/Lifelines:	Prevents vehicles from going into flooded roads, which pulls resources from medical lifelines. Will provide more accurate information to first responders when navigating flood incidents.
Impact on Capabilities:	Improves flood monitoring, inter-agency coordination, and emergency response decision-making.
Climate Change Considerations:	Supports adaptation to increasing frequency and intensity of extreme precipitation events.
Mitigation Category	Structure and Infrastructure Projects, Education and Awareness Programs
CRS Category	Preventative Measures, Public Information
Priority	Medium

Action 2026-SC-09. Backup Generator and PV

Lead Agency:	Public Infrastructure (SPI)
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Remote communications arrays are vulnerable to power outages, especially PSPS or fire-initiated power outages. Personnel may not have the ability to access the site if an active disaster zone prevents it.
Description of the Solution:	Backup generator and PV (solar) array for remote communications systems sites.
Estimated Cost:	Medium
Potential Funding Sources:	HMGP, CEC Resilience Grants, PG&E Infrastructure Hardening Funds
Implementation Timeline:	Short term
Objectives Met:	3, 5, 6, 12, 13
Benefits:	Ensures continuous communication capabilities during disasters and reduces dependence on site access for system maintenance.
Impact on Socially Vulnerable Populations:	Supports equitable access to emergency communications by ensuring reliability in rural or high-risk areas.
Impact on Future Development:	Promotes resilient infrastructure standards for new communication facility siting.
Impact on Critical Facilities/Lifelines:	Ensures continuous emergency communication County-wide
Impact on Capabilities:	Allows operation to continue during an active disaster/power outage
Climate Change Considerations:	Supports resilience to increasing wildfire and extreme weather-driven outages.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	High

Action 2026-SC-10. Relocation and Property Acquisition Program

Lead Agency:	Public Infrastructure, Community Development Commission (CDC)
Supporting Agencies:	Permit Sonoma, Department of Emergency Management (DEM), Regional Parks, Sonoma County Ag + Open Space
Hazards of Concern:	Flood
Description of the Problem:	Some communities face recurring threats and loss to their properties due to flooding.
Description of the Solution:	Develop a voluntary, community-led relocation and property acquisition program to reduce flood risk in high-hazard areas, with a focus on repetitive loss properties. Prioritize the public purchase of flood-prone properties through willing-seller agreements and convert acquired land to flood-compatible uses such as seasonal wetlands, open space, or community parks. Engage local residents and community-based organizations in program design and implementation to ensure equitable outcomes and local support.
Estimated Cost:	High
Potential Funding Sources:	FMA, CDBG-MIT, HMGP, Equity Resilience Grants
Implementation Timeline:	Long term
Objectives Met:	2, 3, 4, 7, 8, 10, 12, 13
Benefits:	Reduces long-term exposure to high-risk areas while honoring local priorities.
Impact on Socially Vulnerable Populations:	Must prioritize inclusive and community-driven relocation to protect vulnerable residents.
Impact on Future Development:	Positive impact; reduces future risk in high-hazard areas.
Impact on Critical Facilities/Lifelines:	Relieves future risk to lifelines and essential services that touch these areas.
Impact on Capabilities:	Expands adaptive planning and managed retreat capabilities.
Climate Change Considerations:	Addresses long-term climate displacement challenges.
Mitigation Category	Local Plans and Regulations
CRS Category	Property Protection
Priority	Medium

Action 2026-SC-11. Community Wildfire Protection Plan

Lead Agency:	Permit Sonoma
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Wildfire
Description of the Problem:	The existing CWPP may become outdated as wildfire risks shift due to climate change, development, and completed mitigation efforts. Without regular updates, the plan may fail to reflect current needs or priorities.
Description of the Solution:	Regularly review and update the Sonoma County Community Wildfire Protection Plan (CWPP) to reflect evolving wildfire risks, new data, community priorities, and completed mitigation projects. Engage stakeholders, including but not limited to Fire Safe Sonoma and Sonoma County Fire Chiefs, and the public to ensure the plan remains actionable, equitable, and aligned with countywide hazard mitigation goals.
Estimated Cost:	Medium
Potential Funding Sources:	CAL FIRE Fire Prevention Grants, HMGP, State Responsibility Area (SRA) Funds
Implementation Timeline:	Short term
Objectives Met:	1, 2, 4, 8, 9,12, 13
Benefits:	Keeps wildfire planning relevant and actionable; improves coordination and prioritization of mitigation actions; supports FEMA and state funding eligibility.
Impact on Socially Vulnerable Populations:	Ensures that at-risk and underserved communities are considered in wildfire planning and mitigation prioritization.
Impact on Future Development:	May inform land use and development decisions in the wildland-urban interface (WUI).
Impact on Critical Facilities/Lifelines:	Supports identification and protection of vulnerable infrastructure and access routes.
Impact on Capabilities:	Enhances interagency coordination, planning capacity, and public engagement around wildfire mitigation.
Climate Change Considerations:	Addresses increasing frequency and severity of wildfire due to prolonged drought and extreme heat.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SC-12. Defensible Space and Home Hardening

Lead Agency:	Permit Sonoma
Supporting Agencies:	
Hazards of Concern:	Wildfire
Description of the Problem:	Many high-risk properties lack defensible space or home hardening, and residents may not understand wildfire risk or mitigation requirements. Existing inspection programs are fragmented and under-resourced.
Description of the Solution:	Establish a coordinated, countywide program to expand defensible space and home hardening inspections in wildfire-prone and WUI areas through no-cost or low-cost risk assessments, outreach, and educational materials. Utilize CWPP data, including the Wildfire Risk Index (WRI), to support risk-based prioritization while maintaining flexible eligibility beyond SRA/LRA designations, where feasible. Track outcomes and connect property owners to funding and technical assistance for mitigation work.
Estimated Cost:	High
Potential Funding Sources:	CAL FIRE Fire Prevention Grants, HMGP, PG&E Community Resilience Funding
Implementation Timeline:	Short term
Objectives Met:	2, 9, 12, 13
Benefits:	Increases defensible space compliance and reduces structure ignition risk; improves public understanding and participation in mitigation.
Impact on Socially Vulnerable Populations:	Enables outreach to under-resourced homeowners and renters; supports equity through no-cost/low-cost services.
Impact on Future Development:	
Impact on Critical Facilities/Lifelines:	Reduces ignition risk for critical facilities and improves accessibility of emergency routes.
Impact on Capabilities:	Enhances inspection coordination, data collection, and integration of findings into long-term wildfire strategies.
Climate Change Considerations:	Supports adaptation to more frequent and severe wildfire seasons.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SC-13. Flood Reduction Strategy

Lead Agency:	Permit Sonoma
Supporting Agencies:	Sonoma Water; Department of Emergency Management
Hazards of Concern:	Flood
Description of the Problem:	The Russian River basin experiences recurring flood events, yet long-term, basin-wide flood mitigation strategies remain underdeveloped due to complex regulatory frameworks, land use challenges, and gaps in stakeholder coordination.
Description of the Solution:	Initiate a comprehensive planning effort to reduce flood risk and repetitive losses in the Russian River basin. This effort will include a flood risk and vulnerability assessment, evaluation of upstream flood storage opportunities, identification of repetitive loss areas, and analysis of regulatory and permitting barriers to mitigation. The project will engage regional flood management agencies, local jurisdictions, community stakeholders, and the general public to inform strategies that align with the General Plan Safety Element and support future updates of the HMP. Outcomes will include policy recommendations, community flood planning and zoning approaches, identification of site-specific mitigation projects, and strategies to maintain floodplains as open space and discourage development in high-risk areas. Findings will guide the long-term implementation of coordinated, basin-wide flood resilience solutions.
Estimated Cost:	Medium
Potential Funding Sources:	FMA, HMGP, U.S. Army Corps of Engineers, SB 1 Grant Program
Implementation Timeline:	Short term
Objectives Met:	2, 4, 8, 10, 12
Benefits:	Establishes a foundation for coordinated, cost-effective, and equitable long-term flood mitigation strategies; identifies actionable priorities and barriers to implementation.
Impact on Socially Vulnerable Populations:	Helps address repetitive losses and chronic flooding in underserved communities; informs more equitable investment in flood risk reduction.
Impact on Future Development:	Provides data and recommendations that can guide land use decisions and future floodplain development.
Impact on Critical Facilities/Lifelines:	Identifies infrastructure and access routes vulnerable to flooding and opportunities for protection.
Impact on Capabilities:	Enhances regional planning capacity and alignment of efforts across jurisdictions and sectors.
Climate Change Considerations:	Supports adaptive planning for increased frequency and intensity of flood events due to climate change.
Mitigation Category	Local Plans and Regulations, Natural Systems Protection
CRS Category	Property Protection, Natural Resource Protection
Priority	Medium

Action 2026-SC-14. Retrofit Unreinforced Masonry Buildings Program

Lead Agency:	Public Infrastructure; Permit Sonoma
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Earthquake
Description of the Problem:	Unreinforced masonry buildings are among the most seismically vulnerable structures and pose serious life safety risks during an earthquake. Many are located in high-use areas or serve critical community functions, yet retrofits are costly and often unaffordable without support.
Description of the Solution:	Develop a countywide program to strengthen and retrofit unreinforced masonry buildings by combining targeted outreach, regulatory tools, and financial assistance. The program should consider the cost of retrofit work alongside the value, occupancy, and frequency of use of each building to prioritize risk reduction efforts and improve seismic safety across Sonoma County.
Estimated Cost:	High
Potential Funding Sources:	HMGP, Earthquake State Assistance Program, CDBG, California Seismic Safety Commission
Implementation Timeline:	Long term
Objectives Met:	3,11
Benefits:	Reduces risk of injury or death in earthquakes, protects historic and high-use structures, and reduces long-term recovery costs.
Impact on Socially Vulnerable Populations:	Supports safety of occupants in older or subsidized housing and frequently used public buildings; helps remove financial barriers to retrofitting.
Impact on Future Development:	Encourages higher seismic standards and informs land use and historic preservation strategies.
Impact on Critical Facilities/Lifelines:	Helps protect buildings that provide essential community functions.
Impact on Capabilities:	Enhances local seismic mitigation capacity and stakeholder coordination.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	Medium

Action 2026-SC-15. General Plan Safety Element Hazard Mapping

Lead Agency:	Permit Sonoma
Supporting Agencies:	
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Updated hazard maps need to be integrated into the General Plan Safety Element.
Description of the Solution:	Regularly update General Plan Safety Element hazard maps to reflect updated state and federal mapping of hazard areas identified by this HMP, FEMA, CAL FIRE, or the California Seismic Hazards Mapping Program.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Short-Term
Objectives Met:	1, 4, 6, 8, 9, 12
Benefits:	Updating the safety element of the General Plan will continue to protect the community from unreasonable risks from natural hazards.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	This action will ensure the inclusion of guidelines for land use and development that avoid or minimize hazard exposure.
Impact on Critical Facilities/Lifelines:	This action will guide siting critical facilities away from high-risk areas like flood zones, wildfire-prone regions, or unstable ground.
Impact on Capabilities:	This action will enhance coordination with emergency response agencies and improve disaster planning efforts.
Climate Change Considerations:	Climate change may result in an increase in the frequency and severity of weather-related disaster events. As impacts from climate change are increasingly felt, the contents in a General Plan may need to be updated.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	Medium

Action 2026-SC-16. Integrate Climate Adaptation Actions Across Planning Efforts

Lead Agency:	Permit Sonoma
Supporting Agencies:	Various county departments and agencies
Hazards of Concern:	Dam Failure, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Tsunami, Wildfire
Description of the Problem:	There is a need to effectively integrate and coordinate climate adaptation strategies across regional and local planning frameworks to ensure a cohesive, resilient approach to addressing climate-related risks and vulnerabilities.
Description of the Solution:	Integrate and coordinate climate adaptation actions across regional and local General Plan Public Safety Elements, Coastal Plans, mitigation planning efforts, and infrastructure planning and development. Support Countywide greenhouse gas reduction and climate resilience and adaptation initiatives in adopted County plans.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Short-Term
Objectives Met:	1, 4, 6, 8, 9, 12
Benefits:	Strengthens the ability of communities to withstand and recover from climate impacts.
Impact on Socially Vulnerable Populations:	Proactive adaptation reduces the adverse effects of climate change to public health, infrastructure, and the environment.
Impact on Future Development:	Consistent planning frameworks provide clearer guidance for policymakers, developers, and stakeholders, leading to more informed development choices.
Impact on Critical Facilities/Lifelines:	Coordinated planning helps maintain essential services during and after climate events by addressing vulnerabilities and establishing contingency plans.
Impact on Capabilities:	Aligns strategies across jurisdictions helping to address cross-boundary hazards more effectively, reducing overall vulnerability.
Climate Change Considerations:	Climate change may result in an increase in the frequency and severity of weather-related disaster events. As impacts from climate change are increasingly felt, integrating climate adaptation actions into planning efforts will improve resilience within the County.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information, Emergency Services
Priority	Medium

Action 2026-SC-17. Update County Code Chapters 26 and 26C

Lead Agency:	Permit Sonoma
Supporting Agencies:	
Hazards of Concern:	Sea Level Rise
Description of the Problem:	Sonoma County Code Chapter 26C (Coastal Zoning Resource Districts) is currently inconsistent with the updated Local Coastal Plan and lacks adequate provisions to address and minimize the risks and impacts associated with sea level rise, necessitating an update to ensure effective coastal hazard mitigation and community resilience. Chapter 26 (Zoning Regulations), which regulates inland areas, applies to areas of the County near Petaluma and Sonoma Creek where the County will also see impacts from sea level rise.
Description of the Solution:	Update the Sonoma County Code Chapter 26C (Coastal Zoning Resource Districts) for consistency with the updated Local Coastal Plan and consider similar updates to Chapter 26 (Zoning Regulations) to minimize risks and impacts of sea level rise.
Estimated Cost:	Low
Potential Funding Sources:	FEMA HMGP, General Fund
Implementation Timeline:	Short-Term 3-5 years
Objectives Met:	1,2,4,
Benefits:	The updated code will improve management of impacts caused by sea level rise.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	This action will ensure clear and enforceable regulations that guide land use and development in coastal areas.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Safeguards public access to the coast while ensuring the safety of residents and infrastructure from sea level rise.
Climate Change Considerations:	The updated code includes the County’s higher standards that are in place to address heightened sea level rise risk due to climate change.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	High

Action 2026-SC-18. Retrofit or Replace County-owned Bridges

Lead Agency:	Public Infrastructure
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Earthquake
Description of the Problem:	Failure of bridges or causeways during an earthquake could result in loss to life and limitations to emergency access.
Description of the Solution:	Perform seismic retrofitting or replacement of County-owned bridges.
Estimated Cost:	High
Potential Funding Sources:	FHWA (Federal Highway Administration), SB-1, FEMA HMA
Implementation Timeline:	Long-term
Objectives Met:	3,6,11
Benefits:	Infrastructure will be protected from future hazard damages.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Provides a point of access for first responders into communities that may have faced damage from a hazard event on either side of the bridge.
Impact on Capabilities:	Increases community resiliency to earthquake incidents in vulnerable areas.
Climate Change Considerations:	Ensures the bridge structure is impervious to erosion at its base due to rising water levels.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	Medium

Action 2026-SC-19. Retrofit County Critical Infrastructure

Lead Agency:	Public Infrastructure
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Dam Failure, Flood, Sea Level Rise, Tsunami
Description of the Problem:	Some County-owned critical infrastructure is located in floodplains and provides critical services.
Description of the Solution:	Strengthen/ retrofit critical County infrastructure to increase ability to convey or store flood waters, remain operable during floods, and reduce the potential for flood damage.
Estimated Cost:	High
Potential Funding Sources:	Cal OES grant, FEMA HMGP, FEMA FMA, SB 1 Grant Program
Implementation Timeline:	Long-Term
Objectives Met:	3,6
Benefits:	Ensures continuity of operations for these critical facilities.
Impact on Socially Vulnerable Populations:	Protection of critical facilities provides an opportunity for first responders and emergency managers to maintain critical services that socially vulnerable populations rely on.
Impact on Future Development:	The risk of significant damage occurring to the structure will be reduced, which will allow critical operations to be maintained or only briefly interrupted in severe events. This provides continued support to both current and future development in the service area.
Impact on Critical Facilities/Lifelines:	This action protects County-owned critical facilities, maintaining the critical services they provide.
Impact on Capabilities:	This action improves continuity of operations during a flood event and allows for a more rapid return to pre-disaster capabilities after a flood event and faster deployment of post-disaster capabilities.
Climate Change Considerations:	Consideration should be taken for increases in flooding frequency and severity.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Structure Flood Control Project
Priority	Medium

Action 2026-SC-20. Systematic Fire Safety Analysis

Lead Agency:	Public Infrastructure
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Drought, Wildfire
Description of the Problem:	The County has multiple assets located in wildland fire zones and requires identification of site-specific mitigation actions to enhance wildland fire resistance and protect those critical resources.
Description of the Solution:	Conduct a systematic fire safety analysis of all County-owned assets that are known to be in wildland fire zones and identify site-specific mitigation actions to improve wildland fire resistance.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMA, CDBG-DR, DOR, County CIP
Implementation Timeline:	Long-Term
Objectives Met:	6,8,12
Benefits:	Ensures that fire safety is proactively managed through a structured approach, minimizing risks to life, property, and the environment.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Will guide decision-making and planning for implementing fire safety measures into future development.
Impact on Critical Facilities/Lifelines:	Ensures improvements or additional measures are in place to reduce fire risks, enhance safety, and ensure compliance with codes and standards.
Impact on Capabilities:	This action will improve emergency preparedness by strengthening planning for fire response by identifying gaps in detection, suppression, and evacuation systems.
Climate Change Considerations:	Climate change leads to hotter, drier conditions and prolonged droughts, which increase the likelihood, intensity, and spread of wildfires, requiring more rigorous and frequent fire safety analyses.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Low

Action 2026-SC-21. Targeted Outreach – Access and Functional Needs

Lead Agency:	Department of Emergency Management
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	The County could improve its outreach methods to reach residents with access and functional needs and other vulnerable populations in high hazard areas.
Description of the Solution:	Implement targeted outreach, education, preparedness, and mitigation initiatives to better prepare the County's residents with access and functional needs and other vulnerable populations, especially in high hazard areas. Incorporate equity considerations as guided by the General Plan Safety Element and Environmental Justice Element, and other adopted plans. Identify, evaluate, validate, and implement communications and warning technologies for vulnerable populations.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Short-Term
Objectives Met:	2,8,10, 12,13
Benefits:	This action will ensure there is an individual working to identify and work with the socially vulnerable populations in the County. Furthermore, this action will create opportunities to educate and inform populations on hazard risks.
Impact on Socially Vulnerable Populations:	Socially vulnerable populations in the County will become educated on hazards and risks. The County will select an individual to identify and work with these populations to ensure the most up-to-date information is being shared.
Impact on Future Development:	Not Applicable
Impact on Critical Facilities/Lifelines:	Educating populations on hazard risk and how to mitigate the risks can decrease the demand for utilities and emergency services, including health and medical, law enforcement, and search and rescue.
Impact on Capabilities:	This action would build upon the County's existing public education and outreach program.
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate-related disaster events. This action will inform residents and business owners of how to reduce risk from hazards and how climate change may exacerbate those risks.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SC-22. Retrofit Mitigation Activities - Earthquake

Lead Agency:	Community Development Commission
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Earthquake
Description of the Problem:	Older buildings in the County are vulnerable to damage during an earthquake event. Sonoma County is home to multiple seismic fault lines with a few major ones, including the San Andreas fault which runs from central California through the bay area, along the Pacific coast through Bodega Bay, Fort Ross and Sea Ranch. The Rogers Creek Fault which runs from San Pablo Bay northerly through Sonoma County cities and communities of Santa Rosa Larkfield/Wikiup, Windsor, and terminating near Healdsburg and the Mayacama Fault running along the Mayacamas through Jimtown to the east of Geyserville and Asti. These seismic fault lines pose an imminent threat of devastating earth shaking seismic activity (earthquake) to the area known to destroy buildings and infrastructure causing injury and death and coting billions of dollars for the community to respond to the disaster and recover from the damages and injuries sustained during an earthquake.
Description of the Solution:	Continue and expand structural retrofit mitigation activities carried out by the Community Development Commission under their existing Earthquake Resistant Bracing Systems Program. Structural retrofit activities to vulnerable buildings may be carried out or incentivized by the program.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMA, CDBG-DR & MIT, Local Funds
Implementation Timeline:	Short-Term
Objectives Met:	2,3,8
Benefits:	Provides the opportunity to address any vulnerabilities that exist on buildings that lie within areas of high seismic hazard.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Retrofitting vulnerable buildings susceptible to seismic event can help guide future development and prevent building in areas at risk of significant impacts.
Impact on Critical Facilities/Lifelines:	This action ensures that any vulnerable critical facilities are strengthened and able to remain functional after an earthquake event, maintaining critical services.
Impact on Capabilities:	Earthquake bracing helps meet building codes and standards.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	High

Action 2026-SC-23. Pre-Approved Standard Plan for Seismic Retrofits

Lead Agency:	Permit Sonoma
Supporting Agencies:	Community Development Commission
Hazards of Concern:	Earthquake
Description of the Problem:	The County is in need of pre-approved plans for seismic retrofits of existing residences. These plans are necessary to provide a standard approach to strengthening residential structures to better withstand a seismic event.
Description of the Solution:	Adopt pre-approved standard plans for seismic retrofits of existing residences to improve the home's chances of surviving an earthquake. The plan will set forth standard prescriptive measures recommended to homeowners and contractors in accordance with building codes. Once approved, the plan will allow for a simple, low cost permitting process. Develop an outreach program in accordance with the plan.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMA, CDBG-DR & MIT, Local Funds
Implementation Timeline:	Short-Term
Objectives Met:	2,3,8
Benefits:	Protects life, property, and history
Impact on Socially Vulnerable Populations:	By retrofitting residential structures, the safety and well-being of residents in the area are enhanced.
Impact on Future Development:	Enhance planning and decision-making toward land use practices for future developments.
Impact on Critical Facilities/Lifelines:	A retrofitted structure will provide safe and secure locations to the community and critical facilities.
Impact on Capabilities:	This action will enhance local resiliency.
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SC-24. Earthquake Education and Outreach

Lead Agency:	Permit Sonoma
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Earthquake
Description of the Problem:	The County could improve its education and outreach program to address risks associated with earthquakes. There is a need to educate residents and businesses about earthquake mitigation, preparation, response, and recovery.
Description of the Solution:	Provide materials to educate and inform owners of the potentially greater risks associated with different building types in the highest earthquake hazard zones in the County, as well as voluntary mitigation and retrofit options available to strengthen and reduce the vulnerability of such structures.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Short-Term
Objectives Met:	2,3,8
Benefits:	This action will improve the current public education and outreach program in the County by providing discussions on earthquake preparedness and hazard mitigation to owners, which will contribute to the resiliency of the County.
Impact on Socially Vulnerable Populations:	Socially vulnerable populations will learn how to prepare for and mitigate impacts associated with the earthquake hazard.
Impact on Future Development:	Not applicable
Impact on Critical Facilities/Lifelines:	This action contributes to the continuity of operations of County critical facilities.
Impact on Capabilities:	This action will build upon the County's existing public education and outreach programs.
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SC-25. Flood Elevation Program

Lead Agency:	Community Development Commission
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Flood
Description of the Problem:	Frequent flooding events have resulted in damage to properties within the County. These properties have been repetitively flooded as documented by paid NFIP claims.
Description of the Solution:	Continue the implementation of the flood elevation program to elevate and floodproof qualifying flood damage prone properties consistent with FEMA/NFIP and give priority to the repetitive loss properties both within and outside the mapped flood zones.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMA, CDBG-Dr and MIT, Local Funds
Implementation Timeline:	Short-Term
Objectives Met:	2,7,8,10
Benefits:	Eliminates flood damage to homes and residences and increases flood storage.
Impact on Socially Vulnerable Populations:	Elevating homes above the floodplain immediately removes the risk to life and property. Socially vulnerable populations may be able to have houses elevated or acquired when it would otherwise be unaffordable.
Impact on Future Development:	Increased outreach to homeowners within a flood prone area will limit construction in areas that are prone to hazard events. Homes may be acquired, which will remove those structures from the floodplain and prevent future development on those sites.
Impact on Critical Facilities/Lifelines:	Elevating structures above the floodplain decreases the demand on utilities and emergency services, including health and medical, law enforcement, and search and rescue.
Impact on Capabilities:	Removing the risk from the immediate floodplain via elevation of structures will free up resources for search and rescue and other emergency operations as needed.
Climate Change Considerations:	Climate change is likely to increase the frequency and severity of severe rainfall, flash flooding, riverine flooding, and coastal flooding from sea level rise and storm surge events. Elevating structures above the floodplain will reduce the response and recovery costs as a result of these events and decrease the loss of human life as a result of these events. Elevating structures will reduce the recovery costs as a result of these events.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	High

Action 2026-SC-26. Natural Flood Water Retention

Lead Agency:	Sonoma Water, Permit Sonoma
Supporting Agencies:	City of Petaluma
Hazards of Concern:	Dam Failure, Flood
Description of the Problem:	Many areas within the County lack sufficient natural floodwater retention features, increasing vulnerability to flooding and related damages.
Description of the Solution:	Coordinate with the City of Petaluma to identify opportunities to preserve and enhance natural flood water retention in the headwaters of the Petaluma River Basin, the confluence of the Willow and Lichau Creeks and the Liberty and Wiggins Creeks, to reduce downstream flooding in Petaluma.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMA, EPA programs, County CIP
Implementation Timeline:	Short-Term
Objectives Met:	2,8,11
Benefits:	Flood risk will be reduced in hazard prone areas.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Flood insurance costs may decrease.
Impact on Critical Facilities/Lifelines:	Transportation routes will be more likely to remain open if flooding is mitigated along them.
Impact on Capabilities:	This action will identify opportunities for mitigation funding to be spent in the areas in which it is most needed to increase resiliency and decrease damage from flood events.
Climate Change Considerations:	Consideration should be taken to ensure any projects conducted have accounted for increased extreme rainfall events.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Medium

Action 2026-SC-27. Sea Level Rise and Coastal Hazards Risk and Vulnerability Assessments

Lead Agency:	Permit Sonoma
Supporting Agencies:	-
Hazards of Concern:	Sea Level Rise, Tsunami
Description of the Problem:	The County currently lacks a standardized protocol and methodology for conducting risk and vulnerability assessments related to exposure to sea level rise and tsunami events.
Description of the Solution:	Prepare sea level rise and coastal hazard risk and vulnerability assessments for the Pacific Coast and the San Pablo Bay shoreline, focused on the highest risk of sea level rise as provided by the best available science.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMA, NOAA Sea Grants, General Fund, SB-1 Grant Program
Implementation Timeline:	Long-Term
Objectives Met:	4,6,8,9,10
Benefits:	A standard methodology allows the County to compare risk and vulnerability of sea level rise and tsunamis on coastal assets.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will guide the development of protective measures, retrofits, or relocation plans to ensure continuity of operations during and after events.
Impact on Capabilities:	Strengthens overall resilience by identifying vulnerabilities before events occur, allowing proactive measures.
Climate Change Considerations:	Global climate change can contribute to local sea level rise due to changing ocean dynamics, as well as thermal expansion and land ice loss.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SC-28. Green Infrastructure

Lead Agency:	County Executive's Office
Supporting Agencies:	Permit Sonoma, Public Infrastructure, Regional Parks, Sonoma Water
Hazards of Concern:	Flood, Sea Level Rise, Tsunami
Description of the Problem:	There is a need to analyze and identify feasible, cost-effective green infrastructure solutions to enhance coastal resiliency against climate change impacts and to mitigate future flood and sea-level rise risks in the County.
Description of the Solution:	Analyze and identify feasible and cost-effective green infrastructure actions which may be taken to increase coastal resiliency to climate change and mitigate future flood and sea-level rise impacts.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMA, NOAA Sea Grants, General Fund, SB-1 Grant Program
Implementation Timeline:	Long-Term
Objectives Met:	4,6,8,9,10
Benefits:	Enhance flood protection and increase community resilience.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Green infrastructure provides a more affordable and sustainable alternative to traditional infrastructure options.
Climate Change Considerations:	Global climate change can contribute to local sea level rise due to changing ocean dynamics, as well as thermal expansion and land ice loss.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Low

Action 2026-SC-29. Generators at County Facilities

Lead Agency:	Public Infrastructure
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Some county-owned facilities lack robust backup power.
Description of the Solution:	Evaluate and enhance, where necessary, existing emergency power systems at County facilities and provide emergency power generation capacity/storage at County-owned/leased/maintained facilities critical for emergency response and recovery to ensure continuity of government services.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, PDM, General Funds
Implementation Timeline:	Short-Term
Objectives Met:	6,9
Benefits:	This action protects public health and safety and ensures continued operation of a critical facility and its essential functions during a power outage.
Impact on Socially Vulnerable Populations:	Protection of critical facilities provides an opportunity for first responders, utility workers, and emergency managers to stage and deploy resources to vulnerable and hazard prone areas.
Impact on Future Development:	This action results in protection of a critical facility that could support future development.
Impact on Critical Facilities/Lifelines:	This action protects public health and safety and ensures continued operation of a critical facility and its essential functions during a power outage.
Impact on Capabilities:	This action ensures continuity of operations to maintain capabilities.
Climate Change Considerations:	Climate change is likely to increase severe weather events such as flooding, wind, and extreme temperatures that result in power failures. This action accounts for a likely increase in power failure events.
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

Action 2026-SC-30. County Communication Improvement

Lead Agency:	Public Infrastructure
Supporting Agencies:	Information Systems Department
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Existing County communication capabilities lack sufficient capacity and interoperability due to equipment and facility location, hindering coordinated operability post-disaster.
Description of the Solution:	Improve County communications capacity, interoperability capabilities, and disaster resilience to help maintain critical post-disaster operability by developing a strategy to relocate critical Information Systems Department equipment and facilities from their current location to reduce their vulnerability to natural hazards.
Estimated Cost:	High
Potential Funding Sources:	EMPG, HSGP, General Fund
Implementation Timeline:	Short-Term
Objectives Met:	3,5,6
Benefits:	This action will ensure seamless information sharing post-disaster.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will ensure continuity of operations for the Information Systems Department.
Impact on Capabilities:	This will ensure effective communication, enabling faster deployment of resources and minimizing the impacts on people and property.
Climate Change Considerations:	Climate change can increase the frequency, duration, and intensity of natural hazard events.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	Medium

Action 2026-SC-31. Seismic Evaluation of Facilities

Lead Agency:	Public Infrastructure
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Earthquake
Description of the Problem:	While new facilities are designed to modern seismic design standards, old facilities may be vulnerable to damage during earthquake events.
Description of the Solution:	Seek funding to engage an engineering consultant to conduct a seismic evaluation of facilities critical to emergency response or recovery operations and buildings with high occupancy. Incorporate seismic assessment upgrades in major remodel projects at existing buildings. All new construction shall conform to current codes at the time of the permit.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMA, EMPG, HSGP, General Fund
Implementation Timeline:	Long-Term
Objectives Met:	6,8,9,11
Benefits:	Provides the opportunity to address any vulnerabilities that exist on structures that lie within areas of high seismic hazard.
Impact on Socially Vulnerable Populations:	Identification of structures that are vulnerable to damage as a result of a seismic event can help guide future development and prevent building in areas at risk of significant impacts.
Impact on Future Development:	This can guide capital improvement projects within the County, allow development only in areas where it is safe to build, and guide future development policy and permitting.
Impact on Critical Facilities/Lifelines:	Allows for the identification of infrastructure that currently exists which may be vulnerable to impacts so that sufficient planning and preparation can be done.
Impact on Capabilities:	Conducting a seismic analysis will allow for more efficient allocation of resources and grant funds to retrofit structures as needed as issues and risks are identified.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Low

Action 2026-SC-32. NFIP Compliance

Lead Agency:	Permit Sonoma
Supporting Agencies:	Sonoma Water, Public Infrastructure
Hazards of Concern:	Dam Failure, Flood, Tsunami, Sea Level Rise
Description of the Problem:	The County faces increasing flood risks due to more intense precipitation events and needs to consistently incorporate best practices and the most up-to-date NFIP guidance to maintain good standing and effectively protect residents and properties from potential flood damage.
Description of the Solution:	Continue to maintain good standing and compliance under the National Flood Insurance Program (NFIP) through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: • Enforce the flood damage prevention ordinance. • Participate in floodplain identification and mapping updates. • Provide public assistance/information on floodplain requirements and impacts
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-Term
Objectives Met:	1,2,4,6,8,9,10,11,12,13
Benefits:	Fosters comprehensive floodplain management.
Impact on Socially Vulnerable Populations:	The action will result in better regulation of construction standards within the Special Flood Hazard Area where significant risk to socially vulnerable populations exists.
Impact on Future Development:	Critical facilities and lifelines located in the Special Flood Hazard Area will be required to meet the requirements set forth in the ordinance.
Impact on Critical Facilities/Lifelines:	This action will improve floodplain management capabilities through better outlining of responsibilities and administrative procedures.
Impact on Capabilities:	The action would enhance the County's floodplain management capabilities.
Climate Change Considerations:	A warmer atmosphere means storms have the potential to be more intense and occur more often, including increased periods of intense rain events. As sea level rises due to climate change, the area of the flood hazard may expand. These changes are likely to increase flood risks.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SC-33. HMP Integration

Lead Agency:	Permit Sonoma
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Mitigation planning in Sonoma County is often a separate effort from many other types of planning within the County. Disregarding mitigation considerations may cause gaps in the ability to fully prepare for hazard events.
Description of the Solution:	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the County General Plan, Emergency Operations Plan, Community Wildfire Protection Plan, etc.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-Term
Objectives Met:	1,2,4,6,7,8,9,10,11,12,13
Benefits:	Provides an opportunity for coordination among agencies and their planning efforts to improve the overall ability to prepare for, respond to, and recover from events.
Impact on Socially Vulnerable Populations:	Communities that collaborate and coordinate their planning efforts are more likely to have identified ways to best work with vulnerable populations to increase their level of preparedness.
Impact on Future Development:	Coordinated planning efforts provide an opportunity for efficient and safe growth and development.
Impact on Critical Facilities/Lifelines:	Integrating mitigation into building and zoning protects existing infrastructure and guides the safe development of new construction.
Impact on Capabilities:	A consolidated planning process brings together the capabilities of agencies and departments and better identifies what resources are available at any given point in time and where they are needed most.
Climate Change Considerations:	As the climate changes, planning processes will require a more intense focus on plan maintenance and gathering of the best data to remain current and accurate over time.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SC-34. Enhance Disaster Preparedness and Resilience in Economically Disadvantaged and Socially Vulnerable Communities

Lead Agency:	Department of Emergency Management
Supporting Agencies:	Public Infrastructure
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	The County needs to establish or enhance local facilities and resources to support communities vulnerable to social inequities in preparing for and responding to natural hazard events.
Description of the Solution:	Develop community-based disaster preparedness and response resilience facilities and resources in areas or communities that are disproportionately economically disadvantaged or that face social equity challenges.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMA, HMGP, Local funds for match contributions
Implementation Timeline:	Long-Term
Objectives Met:	10,11,13
Benefits:	Enhances the ability of vulnerable communities to withstand, respond to, and recover from natural hazard events.
Impact on Socially Vulnerable Populations:	This action prioritizes those who face the greatest challenges in natural hazard events.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Builds resilience within the community and County.
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate-related disaster events. This action will help vulnerable communities better prepare for and respond to these hazards, aiming to reduce risks and address how climate change may worsen them.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services, Preventative Measures
Priority	Low

Action 2026-SC-35. Certification Programs

Lead Agency:	Department of Emergency Management
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Tsunami, Wildfire
Description of the Problem:	The County does not currently participate in certain emergency management certification programs focused on hazard-specific mitigation, preparedness, and response capability enhancement.
Description of the Solution:	Participate in state and federal hazard-specific mitigation/preparedness and emergency management certification programs that support community awareness/preparedness (ex. NOAA StormReady) and enhancement of response capabilities (ex. Emergency Management Accreditation Program).
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-Term
Objectives Met:	1,4,5,6,11,12
Benefits:	These programs will help communities better protect their residents during natural hazard events. StormReady provides emergency managers with clear-cut guidelines on how to improve their hazardous weather operations. Community Rating System (CRS) points will become available that can reduce flood insurance premiums for home and business owners. EMAP provides an opportunity to be recognized for compliance, demonstrate accountability, and focus attention on areas and issues where resources are needed
Impact on Socially Vulnerable Populations:	To become a participant in these programs (ex. StormReady), a community must have more than one way to receive severe weather warnings and forecasts and to alert the public. Increasing methods of communication to socially vulnerable populations can assist in the safety and security of residents.
Impact on Future Development:	This action will result in increased warning system capabilities for all current and future development.
Impact on Critical Facilities/Lifelines:	This action will ensure improved critical facility readiness.
Impact on Capabilities:	Participating in these programs will increase and improve County emergency management capabilities.
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action will increase emergency response capabilities to increasing storm risks.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Emergency Services, Preventative Measures
Priority	Medium

Action 2026-SC-36. Retrofits to Mobile Homes

Lead Agency:	Community Development Commission
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Earthquake
Description of the Problem:	Mobile homes located in the County are not designed to withstand seismic activity.
Description of the Solution:	Provide seismic structural retrofits to mobile homes through the Sonoma County Earthquake Resistant Bracing System Program, which pays to install seismic retrofit bracing systems on mobile homes throughout the unincorporated areas of Sonoma County and participating cities and towns.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMA, CDBG
Implementation Timeline:	Long-Term
Objectives Met:	3,8,13
Benefits:	Mobile homes will be protected from damage as a result of earthquakes, allowing their continued function throughout a hazard event.
Impact on Socially Vulnerable Populations:	Retrofitted mobile homes will provide a safe and secure location for residents during earthquake events.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Property Protection, Preventative Measures
Priority	Medium

Action 2026-SC-37. Protect Road Infrastructure from Flood Erosion

Lead Agency:	Public Infrastructure
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Flood
Description of the Problem:	River Road areas in the County are subject to frequent flooding and erosion.
Description of the Solution:	Prepare a plan to protect road infrastructure from flood erosion. Conduct bank repair projects along areas of River Road.
Estimated Cost:	Medium
Potential Funding Sources:	Cal OES, FEMA HMGP, General Fund
Implementation Timeline:	Short-Term
Objectives Met:	3,6,10
Benefits:	Reduced damage to roadway and surrounding stormwater infrastructure as a result of heavy rain or flooding.
Impact on Socially Vulnerable Populations:	Vulnerable communities that would typically lose access to transportation options and potable water will be less likely to suffer damage or service interruptions.
Impact on Future Development:	Areas with resilient infrastructure encourage residential and commercial development and improve economic resiliency.
Impact on Critical Facilities/Lifelines:	Transportation routes are more likely to remain functional during heavy rain or flooding events. Potable water services are more likely to continue uninterrupted.
Impact on Capabilities:	Emergency vehicles and first responders will have sufficient access to communities to render aid when needed.
Climate Change Considerations:	Consideration should be taken for an increase in heavy rain and flood events as a result of climate change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SC-38. Flood Risk – Unincorporated Towns

Lead Agency:	Public Infrastructure
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Flood
Description of the Problem:	The County will analyze flooding issues within unincorporated towns. The flooding issues are being analyzed to determine what measures can be taken.
Description of the Solution:	Evaluate unincorporated towns for flood risk and prepare list of prioritized flood mitigation projects. Pursue grants for construction funds (to include Geyserville and Villa Grande Drainage projects).
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMGP, FMA, Cal OES
Implementation Timeline:	Long-Term
Objectives Met:	2,3,4,9,10,11,13
Benefits:	Future mitigation projects may be identified that will further increase overall community resiliency to flooding and other hazard events.
Impact on Socially Vulnerable Populations:	If cost-effective mitigation actions are identified, they may be implemented in flood prone areas that could reduce their overall risk to loss of life and property.
Impact on Future Development:	Flood insurance costs may decrease.
Impact on Critical Facilities/Lifelines:	Transportation routes will be more likely to remain open if flooding is mitigated along them. Water systems may remain potable for community usage if projects are identified to protect the existing infrastructure from flooding.
Impact on Capabilities:	This evaluation will identify opportunities for mitigation funding to be spent in the areas in which it is most needed to increase resiliency and decrease damage from flood events.
Climate Change Considerations:	Consideration should be given to ensure any projects conducted have accounted for increased extreme rainfall events.
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Property Protection, Structural Flood Control Projects
Priority	Low

Action 2026-SC-39. Improve Transportation Routes – Ingress/Egress

Lead Agency:	Public Infrastructure
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Flood, Landslide, Wildfire
Description of the Problem:	The seasonal bridge at Asti needs to be replaced with a permanent structure to ensure reliable ingress and egress, especially during disaster emergencies.
Description of the Solution:	Improve transportation routes for ingress/egress by replacing the seasonal bridge at Asti.
Estimated Cost:	High
Potential Funding Sources:	DOT Build Program
Implementation Timeline:	Long-Term
Objectives Met:	6
Benefits:	Ensures consistent and safe ingress/egress routes for residents, emergency responders, and essential services during natural hazard events.
Impact on Socially Vulnerable Populations:	Facilitates timely evacuation and emergency access during disasters, reducing risks to life and property.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will ensure reliable transportation routes to critical facilities.
Impact on Capabilities:	Supports uninterrupted transportation and connectivity, which is vital for recovery and continuity after emergencies.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

Action 2026-SC-40. Purchase Infrastructure for Resilience

Lead Agency:	Public Infrastructure
Supporting Agencies:	-
Hazards of Concern:	Extreme Cold, Extreme Heat, Extreme Wind
Description of the Problem:	The County lacks dedicated funding to acquire essential infrastructure to enhance resilience at critical transportation locations such as airports and road yards. This funding gap leaves these essential locations vulnerable to operation disruptions and economic loss during natural hazard events.
Description of the Solution:	Secure funding to purchase infrastructure for resilience at airport, road yards, etc.: generators; radio system; evacuation stair systems; light towers
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, FMA, Cal OES
Implementation Timeline:	Long-Term
Objectives Met:	5,6
Benefits:	Ensure continuous, safe, and efficient operations at critical transportation locations.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Resilient infrastructure reduces the downtime caused by hazard events, ensuring continuity of operations.
Impact on Capabilities:	Ensures critical evacuation or that supply routes remain operational during natural hazard events.
Climate Change Considerations:	Climate change will increase the severity of severe weather; resilient infrastructure will ensure long-term functionality of these critical transportation locations.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	Low

Action 2026-SC-41. Natural Hazard Risk and Vulnerability Assessment

Lead Agency:	Public Infrastructure
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Earthquake, Flood, Severe Weather, Wildfire
Description of the Problem:	Many County-owned or maintained emergency response and critical facilities may not be adequately assessed for risk from natural hazards. Without a clear understanding of vulnerabilities, these facilities could face operational disruptions or structural damage during a disaster, compromising emergency response and public safety.
Description of the Solution:	Conduct a natural hazard risk and vulnerability assessment of all County-owned/leased/maintained emergency response and critical facilities to identify site-specific improvements to increase resiliency to hazard events and their post-disaster functionality. Determine facility performance under extreme loads including seismic, wind, wildfire and flood hazards. Identify practical, cost-effective solutions to reduce risk to personnel, equipment, systems and infrastructure, and provide solutions to maintain continued operations.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMA, EMPG, HSGP
Implementation Timeline:	1-5 years
Objectives Met:	3, 6, 8
Benefits:	Enhanced resilience and operational continuity of critical services. Reduced repair and recovery costs after disasters. Improved safety for staff and the public.
Impact on Socially Vulnerable Populations:	Resilient critical facilities ensure uninterrupted access to emergency services, shelters, and care centers that socially vulnerable populations depend on during disasters.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Directly addresses potential risk to emergency response, public safety, and critical service facilities.
Impact on Capabilities:	Strengthens planning, risk assessment, and capital improvement planning capabilities.
Climate Change Considerations:	Includes assessment of vulnerability to more frequent or severe climate-driven hazards.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	Medium

Action 2026-SC-42. Vulnerability of Critical County Transportation Infrastructure

Lead Agency:	Department of Emergency Management
Supporting Agencies:	Public Infrastructure
Hazards of Concern:	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea-Level Rise, Severe Weather, Tsunami, Wildfire
Description of the Problem:	Many County transportation routes that support emergency services and evacuation are located in areas vulnerable to wildfire, flooding, or landslides. Without a clear understanding of which transportation assets are most at risk, the County cannot effectively prioritize improvements to ensure safe access to critical facilities during disasters.
Description of the Solution:	Conduct a comprehensive assessment of County-owned or maintained transportation infrastructure (including roads, bridges, and culverts) with a focus on assets that support emergency services, evacuation, and access to critical facilities. Prioritize infrastructure located within high-risk wildfire, flood, or landslide hazard areas. Integrate findings into a GIS-based database to inform emergency planning, prioritize risk reduction investments, and track upgrades that enhance resilience and ensure continued access during disasters.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMA, EMPH, HSGP
Implementation Timeline:	Long-Term
Objectives Met:	3, 6, 8
Benefits:	Identifies and prioritizes vulnerable transportation routes critical for emergency access and evacuation. Informs future infrastructure investment and hazard mitigation decisions. Supports continuity of response and essential services.
Impact on Socially Vulnerable Populations:	Ensures that evacuation routes and access to critical services remain available for all populations, including those with limited mobility or resources during emergencies.
Impact on Future Development:	Results may inform land use planning and infrastructure siting to avoid high-risk areas and support resilient development patterns.
Impact on Critical Facilities/Lifelines:	Directly supports access to and functionality of critical facilities such as hospitals, fire stations, and shelters during incidents.
Impact on Capabilities:	Strengthens the County’s ability to assess, visualize, and manage transportation infrastructure risk using GIS tools; improves coordination across planning, public works, and emergency management functions.
Climate Change Considerations:	Assesses transportation vulnerability to climate-amplified hazards such as extreme heat, intense storms, flooding, and wildfire.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	Medium

Action 2026-SC-43. Mapping Strategy

Lead Agency:	Public Infrastructure
Supporting Agencies:	Department of Emergency Management
Hazards of Concern:	Dam Failure, Flood
Description of the Problem:	Sonoma County lacks a comprehensive and accessible mapping strategy to identify roads and infrastructure at risk from flooding or dam failure.
Description of the Solution:	Develop a county-wide mapping strategy for roads and infrastructure for flood and/or dam failure inundation. Prepare localized maps to support emergency response personnel.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	4, 6, 8, 10
Benefits:	Enhances situational awareness for emergency responders during flood and dam failure incidents. Supports faster, safer evacuation and emergency access by identifying vulnerable routes. Provides actionable data for infrastructure planning and investment
Impact on Socially Vulnerable Populations:	Improves emergency response and evacuation planning for communities with limited transportation options or mobility challenges,
Impact on Future Development:	Mapping data can guide planning decisions and discourage development in areas with high flood or dam failure risk.
Impact on Critical Facilities/Lifelines:	Supports continued access to critical facilities by identifying vulnerable routes and enabling pre-disaster planning for alternate access or protective measures.
Impact on Capabilities:	Strengthens GIS, emergency response, and hazard planning capabilities across County departments.
Climate Change Considerations:	Addresses flood risk exacerbated by climate-driven extreme weather and increased stormwater runoff.
Mitigation Category	Local Plans and Regulations; Emergency Services
CRS Category	Emergency Services
Priority	Medium

Action 2026-SC-44. Comprehensive Roadside Fuel Reduction Plan

Lead Agency:	Public Infrastructure, Permit Sonoma
Supporting Agencies:	
Hazards of Concern:	Wildfire
Description of the Problem:	Overgrown vegetation along roadways can act as wildfire fuel and obstruct evacuation routes and emergency vehicle access during fire events. Without proactive roadside fuel management, the risk of fire spread and delayed emergency response increases, especially in high-risk areas.
Description of the Solution:	Identify key/priority roadways in a comprehensive roadside fuel reduction plan. Partner with fire districts and others in a roadside hazard abatement program to clear fuels from road rights of way.
Estimated Cost:	Medium
Potential Funding Sources:	CAL FIRE, FEMA HMA, General Funds, state grants
Implementation Timeline:	1-5 years
Objectives Met:	2, 4,12
Benefits:	Reduces fuel load along roadways to limit fire spread. Improves visibility, safety, and access for emergency responders. Enhances evacuation safety for residents.
Impact on Socially Vulnerable Populations:	Improves evacuation safety and access for communities that may have limited mobility or fewer resources to prepare for or respond to wildfires.
Impact on Future Development:	Helps define safe buffer zones for development along transportation corridors in wildfire hazard areas.
Impact on Critical Facilities/Lifelines:	Ensures continued access to critical facilities and evacuation routes during wildfire events.
Impact on Capabilities:	N/A
Climate Change Considerations:	Addresses increasing wildfire frequency and severity due to climate-driven changes in vegetation, drought, and fire behavior.
Mitigation Category	Natural Systems Protection
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SC-45. Plan for Fire Resilience

Lead Agency:	Public Infrastructure
Supporting Agencies:	Department of Emergency Management, Parks
Hazards of Concern:	Wildfire
Description of the Problem:	Some County-owned properties have the potential to serve as strategic fuel breaks or defensible space to help reduce wildfire risk to nearby communities.
Description of the Solution:	Create a fire resilience and vegetation management plan for County-owned lands managed by Public Infrastructure, with a focus on using strategically located properties (such as the Healdsburg Transfer Station) to serve as fuel breaks or defensible space for nearby communities. The plan will identify priority sites, outline maintenance protocols, and support integration with local and regional wildfire mitigation strategies.
Estimated Cost:	Medium
Potential Funding Sources:	EMPG, HSGP, General Fund
Implementation Timeline:	1-5 years
Objectives Met:	3, 6
Benefits:	Potential to reduce wildfire spread by creating defensible space and fuel breaks. Protects nearby communities and infrastructure.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Reduces wildfire risk to essential facilities and nearby lifeline infrastructure.
Impact on Capabilities:	Improves County’s vegetation management and mitigation planning.
Climate Change Considerations:	Addresses increasing wildfire frequency and intensity due to climate change by reducing fuel loads.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection; Natural Resource Protection
Priority	High

Action 2026-SC-46. Seismic Resilience Planning

Lead Agency:	Permit Sonoma, Community Development Commission
Supporting Agencies:	Public Infrastructure, Department of Emergency Management
Hazards of Concern:	Earthquake
Description of the Problem:	Structurally vulnerable residential and commercial buildings are at high risk of collapse or severe damage during an earthquake. Sonoma County lacks localized seismic retrofit planning data and a ready-to-implement program to address these high-risk structures.
Description of the Solution:	Conduct a structural seismic risk and vulnerability assessment focused on identifying high-risk structures across Sonoma County—particularly soft-story buildings. Use the findings to develop a County-specific brace-and-bolt retrofit program. The planning effort will result in a prioritized inventory of vulnerable structures and the development of shovel-ready retrofit project concepts to support future grant applications and implementation.
Estimated Cost:	High
Potential Funding Sources:	HMA, EMPG, Earthquake County Alliance, CA Earthquake Authority
Implementation Timeline:	1-5 years
Objectives Met:	2, 6, 9, 13
Benefits:	Identifies and prioritizes high-risk structures for retrofitting. Builds local capacity to implement targeted mitigation programs.
Impact on Socially Vulnerable Populations:	Helps identify vulnerable housing types, which may be occupied by renters and low-income residents.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	May identify vulnerable facilities.
Impact on Capabilities:	Improves the County’s seismic risk assessment, retrofit planning and mitigation project development capabilities.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	Medium

Action 2026-SC-47. Hazardous Fuels Reduction Program Near At-Risk Communities

Lead Agency:	Permit Sonoma
Supporting Agencies:	
Hazards of Concern:	Wildfire
Description of the Problem:	Communities located in the wildland-urban interface (WUI) are at high risk of wildfire impacts due to dense and unmanaged vegetation near homes and community infrastructure. Without coordinated and sustained hazardous fuels reduction, wildfire can spread rapidly into populated areas, threatening lives, property, and critical infrastructure.
Description of the Solution:	Develop and implement a hazardous fuels reduction program within 2 miles of homes and communities identified as high-risk through Phase 1 of the FEMA-funded Hazardous Fuels and Wildfire Adapted Grants. Building on completed outreach, environmental review, and site identification, Phase 2 implementation will target priority areas for large-scale vegetation management. Treatments will focus on reducing fuel loads in strategic buffer zones to protect structures and evacuation routes. The project will be implemented in partnership with local fire agencies, CAL FIRE, and CBOs, with additional HMGP funding requested to expand treatments in the same project areas.
Estimated Cost:	High
Potential Funding Sources:	HMGP, CAL FIRE Wildfire Prevention Grants, General Fund, PG&E settlement funds, private foundations
Implementation Timeline:	1-5 years
Objectives Met:	2, 4, 12
Benefits:	Reduces wildfire spread and intensity near populated areas. Enhances protection of structures, roads, and critical infrastructure. Supports regional wildfire resilience and ecosystem management. Builds long-term community and interagency mitigation partnerships
Impact on Socially Vulnerable Populations:	Supports community engagement and implementation assistance for lower-income or underserved residents.
Impact on Future Development:	Program helps define fire-resilient buffer zones and may guide defensible space enforcement or planning policies for new development.
Impact on Critical Facilities/Lifelines:	Fuel reduction efforts near evacuation routes, utilities, and essential community infrastructure improve overall operational resilience during wildfire events.
Impact on Capabilities:	N/A
Climate Change Considerations:	Action addresses the increasing frequency and severity of wildfires linked to hotter, drier, and windier conditions driven by climate change.
Mitigation Category	Natural Systems Protection; Structure and Infrastructure Projects
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SC-48. Russian River Channel Management

Lead Agency:	Public Infrastructure
Supporting Agencies:	Permit Sonoma, Sonoma Water
Hazards of Concern:	Flood
Description of the Problem:	Gravel buildup in the main channel of the Russian River, particularly in the flat topography of the Alexander Valley, has led to aggradation and the formation of gravel bars that push river flow into the banks, causing severe erosion and threatening infrastructure, agricultural land, and homes. Current policy and regulatory frameworks, including the Sonoma County ARM Plan, restrict effective channel and floodway management.
Description of the Solution:	Modify the Sonoma County Aggregate Resource Management (ARM) Plan and align related policies and regulations to allow for proactive channel management along the Russian River. This includes removing gravel accumulation and invasive plant species, restoring native riparian vegetation, and implementing setback levees and targeted floodway modifications. The project will also involve infrastructure improvements such as levee repairs, bank stabilization, and bridge reconstruction. Tributary stream restoration will support natural floodplain function. Public education and engagement will help build support for long-term river health and flood risk reduction.
Estimated Cost:	High
Potential Funding Sources:	HMGP, State Flood Corridor Program, CAL FIRE Forest Health and Riparian Restoration funds, USACE programs, California Wildlife Conservation Board, General Funds, Prop 1 or 68 grant programs, PG&E settlement funds
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 3, 10, 12
Benefits:	This project will reduce flood and erosion risk, protect homes, roads, and agricultural land, and improve river flow capacity. It will restore native habitat, support fish and wildlife, and enhance the natural function of the floodplain. Public education efforts will increase awareness of river management and resilience.
Impact on Socially Vulnerable Populations:	Protects rural and low-income agricultural communities from erosion and flood impacts; public education and outreach improve equitable access to risk information.
Impact on Future Development:	May influence land use planning, floodplain development restrictions, and river corridor conservation policies.
Impact on Critical Facilities/Lifelines:	Protects transportation routes, levees, and utility corridors that support critical community and economic functions.
Impact on Capabilities:	Builds technical capacity for long-term mitigation planning and implementation
Climate Change Considerations:	Addresses increased flood risk, sediment loading, and storm intensity tied to climate change; integrates habitat restoration and ecosystem-based adaptation.
Mitigation Category	Local Plans and Regulations
CRS Category	Natural Resource Protection
Priority	Medium

Action 2026-SC-49. Ordinance – Unreinforced Masonry Buildings

Lead Agency:	Permit Sonoma
Supporting Agencies:	
Hazards of Concern:	Earthquake
Description of the Problem:	Age and construction of some buildings in Sonoma County are outside of current best construction practices, increasing their vulnerability to damage caused by earthquakes events.
Description of the Solution:	Adopt an ordinance requiring strengthening and/or reinforcement of unreinforced masonry buildings, except residential structures, considering the cost of the work and the value, frequency of use, and level of occupancy.
Estimated Cost:	Low
Potential Funding Sources:	General Fund, FEMA HMGP
Implementation Timeline:	Short-Term
Objectives Met:	1,3,6,11
Benefits:	Protects life, property, and history
Impact on Socially Vulnerable Populations:	Can pose a safety risk in areas where unreinforced masonry structures are more common.
Impact on Future Development:	Poses challenges regarding planning and decision-making toward land use practices for future development.
Impact on Critical Facilities/Lifelines:	A retrofitted structure will provide safe and secure locations to the community and critical facilities.
Impact on Capabilities:	This action will enhance local resiliency.
Climate Change Considerations:	Climate change can cause more extreme weather events, making unreinforced structure more vulnerable.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	High

Action 2026-CW-01. FEMA Repetitive Loss Data

Lead Agency:	Permit Sonoma
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	The County lacks timely, detailed FEMA data on repetitive loss properties.
Description of the Solution:	The County is pursuing an “Information Sharing Access Agreement” with FEMA allowing the County to readily access FEMA repetitive loss data for the entire county as needed at a level of detail to study and analyze repetitive flood loss problems in the county. Access to this data will support targeted outreach, prioritization of properties for acquisition or elevation, stronger FEMA mitigation grant applications, and coordinated planning to reduce flood risk and limit future development in high risk floodplain areas.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Short-Term
Objectives Met:	1,2,3,6,10,11,13
Benefits:	Eliminates flood damage to homes and residences, creating an open space for the municipality and increasing flood storage.
Impact on Socially Vulnerable Populations:	Removing homes from the floodplain immediately removes the risk to life and property. Socially vulnerable populations may be able to have houses elevated or acquired when it would otherwise be unaffordable.
Impact on Future Development:	Increased outreach to homeowners within a flood prone area will limit construction in areas that are prone to hazard events. Homes may be acquired, which will remove those structures from the floodplain and prevent future development on those sites.
Impact on Critical Facilities/Lifelines:	Removing structures from the floodplain decreases the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.
Impact on Capabilities:	Removing the risk from the immediate floodplain via acquisition of properties will free up resources for search and rescue and other emergency operations as needed.
Climate Change Considerations:	Climate change is likely to increase the frequency and severity of severe rainfall, flash flooding, riverine flooding, and coastal flooding from sea level rise and storm surge events. Removing structures from the floodplain will reduce the response and recovery costs as a result of these events and decrease the loss of human life as a result of these events. Elevating structures will reduce the recovery costs as a result of these events.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	High

Action 2026-CW-02. County Hazard Mitigation Website

Lead Agency:	Department of Emergency Management
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	The County lacks a consistently maintained hazard mitigation website, preventing the public from transparently monitoring the implementation of the County's hazard mitigation plan. This limits public engagement and understanding of local risk reduction efforts.
Description of the Solution:	Continue to maintain a county-wide hazard mitigation website and the associated StoryMap that will store the hazard mitigation plan and provide the public an opportunity to monitor plan implementation progress. Each planning partner can support this initiative by including an initiative in its action plan of creating a link to the County hazard mitigation website.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Short-Term
Objectives Met:	1,12
Benefits:	Provides a clear and accessible platform for the public to see the County's progress on mitigation actions.
Impact on Socially Vulnerable Populations:	This action provides a vital resource for all residents.
Impact on Future Development:	Can assist developers and planners with new construction decision-making by showcasing hazard maps, vulnerability assessments, and mitigation projects.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Strengthens the County's ability to communicate effectively with its residents.
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-CW-03. Public Outreach Partnering

Lead Agency:	Department of Emergency Management
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Inconsistent hazard mitigation messaging persists in the County due to underutilization of public outreach partners.
Description of the Solution:	Leverage public outreach partnering capabilities in the planning area (such as CERT) to promote a uniform and consistent message on the importance of proactive hazard mitigation.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Short-Term
Objectives Met:	2,8,10
Benefits:	This action will improve the current public education and outreach program in the County by providing discussions on disaster preparedness and hazard mitigation to residents and business owners, which will contribute to the resiliency of the County.
Impact on Socially Vulnerable Populations:	Socially vulnerable populations will learn how to prepare for and mitigate the various hazards that may impact them in the County.
Impact on Future Development:	Not Applicable
Impact on Critical Facilities/Lifelines:	Businesses, which may be considered critical facilities or lifelines, would be more informed on how to prepare for emergency events and mitigate the risks of potential hazards. With these businesses becoming more resilient, this action would contribute to their continuity of operations.
Impact on Capabilities:	This action would build upon the County's existing public education and outreach program, while building partnerships.
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate-related disaster events. This action will inform residents and business owners of how to reduce risk from hazards and how climate change may exacerbate those risks.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-CW-04. Update Hazard Mapping

Lead Agency:	Permit Sonoma
Supporting Agencies:	All Planning Partners, FEMA Region 9
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	The County hazard maps are becoming outdated as new data and science emerges. This could lead to inaccurate risk assessments.
Description of the Solution:	Continue to update hazard mapping with best available data and science as it evolves, within the capabilities of the planning partnership. Support FEMA's RiskMAP initiative.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA's Cooperating Technical Partners Program, County Capital Improvement Program Funding
Implementation Timeline:	Long-Term
Objectives Met:	1,2,4,8,9,11,12
Benefits:	Ensures the County's overall capacity to prepare for, respond to, and recover from natural hazard events.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Provides information to conduct accurate, up-to-date risk assessments, allowing better-informed development decisions.
Impact on Critical Facilities/Lifelines:	Updated or new data can assist the County in identifying alternative access routes to critical facilities during or after a natural hazard event.
Impact on Capabilities:	This action will strengthen the County's ability to effectively communicate risks to the public and its partnering agencies.
Climate Change Considerations:	Climate change can alter hazard boundaries, highlighting the importance of updated mapping that incorporates new climate science and localized impacts.
Mitigation Category	Education and Awareness
CRS Category	Public Information
Priority	Medium

Action 2026-CW-05. Steering Committee

Lead Agency:	Department of Emergency Management
Supporting Agencies:	Permit Sonoma
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	The County lacks a formalized, continuously engaged steering committee to monitor progress, provide technical assistance to planning partners, manage data, and oversee the update of the plan according to schedule. This could lead to uncoordinated efforts and outdated mitigation strategies.
Description of the Solution:	Retain a steering committee as a working body over time to monitor progress of the hazard mitigation plan, provide technical assistance to planning partners, manage data, and oversee the update of the plan according to schedule. This body will continue to operate under the ground rules established at its inception.
Estimated Cost:	Low
Potential Funding Sources:	General Fund, State grants
Implementation Timeline:	Short-Term
Objectives Met:	1,2,8,11,12
Benefits:	Ensures continuous oversight and sustained support for the hazard mitigation plan’s implementation.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Ensures the plan remains a living document.
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-CW-06. Capture Time-Sensitive Data

Lead Agency:	Department of Emergency Management
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	The County lacks a method to capture post-hazard event data. This could lead to loss of vital information needed to accurately update hazard mapping and improve mitigation strategies.
Description of the Solution:	Strive to capture time-sensitive, perishable data—such as high-water marks, extent and location of hazard, and loss information—following hazard events to support future updates to the risk assessment as well as other plans and programs that utilize hazard extent and location data.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Short-Term
Objectives Met:	1,2,8,11,12
Benefits:	Capturing time-sensitive data after a hazard event provides precise real-world impacts.
Impact on Socially Vulnerable Populations:	This action will allow for more accurate identification of vulnerable populations and affected areas.
Impact on Future Development:	Can assist with directing new development away from high-risk hazard areas.
Impact on Critical Facilities/Lifelines:	This action could assist with targeted retrofitting and hardening projects, ensuring continuity of operations for critical facilities.
Impact on Capabilities:	Enhances the County’s ability to make decisions in long-term mitigation planning.
Climate Change Considerations:	Climate change is leading to more intense and frequent severe weather events. Post-hazard event data collection can help validate or refine future hazard models.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-CW-07. Risk Assessment Data, Training and Exercise

Lead Agency:	Department of Emergency Management
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	To ensure the risk assessment in the hazard mitigation plan remains current, the County will need to utilize reliable information, data, and tools to keep the plan updated. Additionally, the County will need to provide training and exercises through its preparedness, response, and recovery programs to support these efforts.
Description of the Solution:	Utilize viable and relevant information, data and tools (Hazus models) developed as part of the risk assessment of this plan update to support training and exercise of the County's preparedness, response and recovery programs.
Estimated Cost:	Low
Potential Funding Sources:	General Fund, Emergency Management Program Development, Homeland Security Grant Program
Implementation Timeline:	Short-Term
Objectives Met:	1,2,4,6,8,9,11,12
Benefits:	Provides accurate understanding of current and projected hazards and informs all phases of emergency management.
Impact on Socially Vulnerable Populations:	This action ensures targeted preparedness, response, and recovery strategies are addressed.
Impact on Future Development:	Updated risk assessments help inform decision-making on land-use planning and future development.
Impact on Critical Facilities/Lifelines:	This action can assist in developing mitigation strategies to ensure essential services remain operational during a natural hazard event.
Impact on Capabilities:	Strengthens County capabilities across all phases of emergency management.
Climate Change Considerations:	This action ensures that the risk assessment accounts for potential increases in hazard events, changes in hazard intensity, and new or emerging hazards due to climate change.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information, Emergency Services
Priority	Medium

Action 2026-CW-08. Evacuation Assessment and Risk Reduction Program

Lead Agency:	Department of Emergency Management
Supporting Agencies:	Permit Sonoma, Public Infrastructure, Sheriff's Office
Hazards of Concern:	Dam Failure, Earthquake, Flood, Landslide, Tsunami, Wildfire
Description of the Problem:	Evacuation planning in unincorporated areas of Sonoma County must account for roadway networks, access and egress patterns, hazard exposure, and evolving conditions during emergency events. Multiple hazards may influence evacuation routes under different scenarios. While evacuation considerations are addressed through existing plans, incident response, and partner coordination, there is an opportunity to establish a coordinated, County-led framework to systematically compile and analyze relevant data and to support consistent prioritization of evacuation-related planning, analysis, and future risk-reduction investments across unincorporated communities.
Description of the Solution:	Develop and implement a coordinated, County-led program to assess evacuation constraints, enhance evacuation decision-support capabilities, and prioritize evacuation risk reduction measures in unincorporated Sonoma County. This program will evaluate evacuation route capacity, safety, and viability under a range of hazard scenarios; integrate County roadway, traffic, and hazard datasets; and establish a prioritization framework to guide future evacuation planning, operational improvements, infrastructure investments, and grant funding applications. Program implementation may include data development and GIS analysis, modeling and decision-support tools, feasibility studies, community-scale evacuation planning, signage and traffic control enhancements, vegetation management along evacuation corridors, and other context-appropriate risk-reduction measures in the highest-risk unincorporated communities.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Assistance, State Transportation Grants, Climate Resilience Grants
Implementation Timeline:	1-5 years
Objectives Met:	2; 4; 5; 6; 8; 9
Benefits:	Improved evacuation safety, efficiency, and reliability.
Impact on Socially Vulnerable Populations:	This action would prioritize communities with limited evacuation options or evacuation barriers.
Impact on Future Development:	Findings may inform future land-use, infrastructure, and capital planning decisions by identifying evacuation constraints and capacity limitations. The action supports informed decision-making without imposing new development restrictions and may help guide long-term planning efforts to reduce evacuation-related risk.
Impact on Critical Facilities/Lifelines:	Could improve evacuation access to and from critical facilities such as fire stations, medical facilities, shelters, and emergency operations sites. Enhances the resilience of transportation lifelines needed for emergency response, evacuation, and post-disaster recovery.

Impact on Capabilities:	Strengthens County capabilities related to evacuation planning, GIS and data analysis, interdepartmental coordination, emergency operations decision-making, and grant readiness. Supports long-term institutional knowledge and planning capacity.
Climate Change Considerations:	Climate change is expected to increase the frequency and severity of hazards that affect evacuation conditions, including wildfire, flooding, landslides, and extreme weather. This action supports adaptive planning by evaluating evacuation risks under changing hazard conditions and prioritizing flexible, forward-looking risk-reduction strategies.
Mitigation Category	Local Plans and Regulations
CRS Category	Emergency Services
Priority	Medium

3. CITY OF CLOVERDALE

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Cloverdale with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the City. The annex presents a general overview of Cloverdale, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

3.1 HAZARD MITIGATION PLANNING TEAM

The City of Cloverdale identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The City Manager's Office represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The City officials who participated in the development of the annex are listed below and shown in Table 3-1. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Kevin Thompson, City Manager

Address: 124 N Cloverdale Boulevard, Cloverdale, CA 95425

Phone Number: 707-894-1723

Email: kthompson@ci.cloverdale.ca.us

Alternate Point of Contact and NFIP Administrator: Derrick Montanye, Director, Department of Public Works

Address: 124 N. Cloverdale Boulevard, Cloverdale, CA 95425

Phone Number: 707-894-1722

Email: dmontanye@ci.cloverdale.ca.us

Table 3-1. Additional Contributors

Name	Department	Position	HMP Contribution
Derrick Montanye	Engineering/Public Works	Public Works Director	Provided infrastructure vulnerability data and coordinated flood mitigation input.
Kevin Thompson	Administration	City Manager	Oversight and approval authority for planning documents.
Michael Maloney	Administration	City Clerk	Facilitated interdepartmental communication and records.
Susie Holmes	Finance	Finance Director	Contributed fiscal data and CIP alignment with hazard priorities.
Rafael Miranda	Planning	Associate Planner	Supported zoning, site plan, and overlay evaluations for risk reduction.
Bobby Spagnola	Engineering/Public Works	Engineering Technician	Provided GIS data, mapping updates, and technical analysis.
Leticia Barajas	Finance	Accounting Technician	Assisted with documentation and tracking mitigation funding.

3.2 COMMUNITY PROFILE

Cloverdale is located in the picturesque Alexander Valley wine region of Sonoma County, just off Northern California Highway 101 about 15 miles north of Healdsburg. With good proximity to urban centers (30 miles north of Santa Rosa and within easy driving distance to Marin County/San Francisco and north to Arcata/Eureka), Cloverdale is evolving as a smart growth city with small-town charm. The city proper covers 2.7 square miles with a population of approximately 11,032 (5-mile radius) and is surrounded by oak-studded rolling hills, outstanding recreational opportunities, wineries, vineyards, and small farms (City of Cloverdale 2025).

According to the U.S. Census, the 2020 population for Cloverdale was 8,996, a 4.4 percent increase from the 2010 Census. The 2023 American Community Survey (ACS) estimated that the 2023 population of Cloverdale was 8,933; this estimate is used throughout the HMP.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the U.S. Census 2023 American Community Survey (ACS) indicates that 2.4 percent of the population is 5 years of age or younger, 21.8 percent is 65 years of age or older, 5.3 percent is non-English speaking, 4.4 percent is below the poverty threshold, 10.6 percent is considered disabled, 1.6 percent are a single parent household, and 0.7 percent have no vehicle access.

In 2024, the total homeless population in the City of Cloverdale was reported as nine individuals, including three sheltered and six unsheltered persons (Sonoma County 2024).

3.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Cloverdale completed specific activities to collect input on hazards and vulnerability from the people the City serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

3.3.1 Underserved Communities

Cloverdale's underserved communities include residents with limited English proficiency (primarily Spanish-speaking households), low-income renters, seniors in mobile home parks, and individuals residing in informal or substandard housing. These groups often face barriers to receiving emergency alerts or accessing resources.

During this planning cycle, outreach was conducted through the Resilient Cloverdale program, social media, and flyers at high-traffic community hubs including the Citrus Fairgrounds and La Familia Sana's outreach events. Information was provided in English and Spanish. Surveys and public meetings included multilingual materials and interpretation to improve engagement.

3.3.2 Vulnerable Populations

Vulnerable populations include the elderly, individuals with disabilities, children and youth, and medically dependent residents. The City collaborated with organizations such as Listos Sonoma, La Familia Sana, and Cloverdale Unified School District to promote participation and gather feedback. The Emergency Operations Plan and HMP planning processes also included input from senior housing managers and representatives from health clinics serving high-risk populations.

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities in the City was contributed through community engagement activities.

3.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Cloverdale invited stakeholders relevant to their planning process to participate by attending an HMWG meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

3.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. These partners offered expertise in wildfire management, emergency planning, and utility services. These contributions helped shape the mitigation strategies and ensured alignment with existing emergency and infrastructure plans.

- Sonoma County Department of Emergency Management
- CAL FIRE - Sonoma-Lake-Napa Unit
- Sonoma Water
- Cloverdale Fire Protection District
- Northern Sonoma County CERT

3.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. This included building department and planning commissions. Their involvement ensured that proposed actions were both feasible and aligned with local codes, ordinances, and environmental standards.

- Permit Sonoma
- Cloverdale Planning Commission
- Cloverdale Building Department

3.4.3 Neighboring Communities

Neighboring jurisdictions and institutions were invited to participate in the planning process to promote regional coordination and address shared risks. This included adjacent cities, flood control districts, and school districts. Their involvement helped identify interdependencies, such as shared infrastructure and emergency services, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- City of Healdsburg
- Russian River Flood Control District
- Cloverdale Unified School District

3.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community, education sector, healthcare, and utilities to ensure the plan reflected a broad range of community needs.

- Cloverdale Chamber of Commerce
- PG&E (Pacific Gas & Electric)
- Alexander Valley Healthcare
- Sonoma State University (Regional resilience coordinator)

3.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- Resilient Cloverdale Steering Committee
- COPE (Citizens Organized to Prepare for Emergencies)
- Sonoma County COAD
- Listos Sonoma

3.4.6 Other Stakeholders

Local stakeholders can support the hazard mitigation planning process by sharing local knowledge, promoting public engagement, and helping identify vulnerable assets.

- Citrus Fairgrounds (emergency shelter & staging)
- Sonoma County Animal Services
- SMART (Sonoma-Marin Area Rail Transit)

3.5 CHANGES IN COMMUNITY PRIORITIES

The City of Cloverdale did not participate in the 2021 HMP update, however, their priorities have evolved in response to recent hazard experiences and community engagement. Key changes include:

- **Increased focus on social vulnerability**:
  There is now a stronger emphasis on ensuring equitable access to mitigation resources, particularly for non-English speakers and medically fragile residents.
- **Wildfire risk elevated**:
  After several red flag events and PSPS activations, vegetation management and evacuation planning have become higher priorities.
- **Climate adaptation alignment**:
  The City is aligning hazard mitigation with climate resilience goals, including heat risk, drought, and backup energy systems for critical facilities.

- **Downtown localized flooding**:
  Recurrent issues due to the "captured creek" system have prompted a shift toward prioritizing green infrastructure and funding sources for long-term drainage solutions.

3.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Cloverdale performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Cloverdale to identify opportunities for integrating mitigation concepts into ongoing City procedures.

3.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The sections below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 3-2 summarizes the codes, ordinances, and regulations available to the City of Cloverdale

Table 3-2. City of Cloverdale Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	The City of Cloverdale adheres to the California Building Standards Code (CBC), updated every 3 years (latest 2022 edition).	The CBC includes seismic, flood-resistant, and wildfire-resilient construction provisions. Local amendments by Cloverdale further strengthen resilience in WUI zones.	State-mandated, enforced locally	Building Department
Zoning/Land Use Code	Municipal Code Title 18 (Zoning) with updates as recently as 2021.	Zoning discourages development in known floodplains and steep slope areas. Special overlays are used for wildfire interface and flood hazards.	Local	Planning Department
Subdivision Code	Municipal Code Title 17	Conservation and clustered subdivisions are encouraged. Density transfers and open space requirements help reduce development pressure on hazard-prone lands.	Local	Planning and Engineering
Site Plan Code	Design Review procedures under Title 18	Used to condition approvals for development in high-risk areas (e.g., slopes, flood zones).	Local	Planning Department
Stormwater Management Code	Cloverdale Municipal Code Chapter 16.10	Addresses runoff control and supports stormwater best practices; referenced in the Stormwater Master Plan.	Local	Public Works
Post-Disaster Recovery/ Reconstruction Code	Currently in development; Guided by the Emergency Operations Plan (EOP)	Drafting underway; will aim to discourage rebuilding in vulnerable areas and speed recovery.	Local	City Manager/Public Works
Real Estate Disclosure	California Civil Code §1102	Ensures buyers are informed of hazard risks (flood, fire, earthquake) during transactions.	State	Real Estate Professionals
Growth Management	Urban Growth Boundary Ordinance (2024)	Restricts urban expansion into rural/hazard-prone areas; discourages extension of services beyond boundary.	Local	Planning
Environmental Protection Ordinance	General Plan Conservation, Design & Open Space Element	Regulates hillside development, riparian buffers, and sensitive habitat conservation.	Local	Planning/Engineering
Flood Damage Prevention Ordinance	Cloverdale Code Chapter 15.20; FEMA FIRM; Zoning 18.07	Enforces floodplain development limits; aligns with NFIP standards.	Local	Public Works/Planning
Emergency Management Ordinance	Emergency Operations Plan (2021)	Guides response, sheltering, communications, and recovery. Integrates with HMP goals.	Local	Planning

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Climate Change Ordinance	None; this is covered under the General Plan	No standalone ordinance; addressed through Climate Action integration in Safety Element.	Local	Multiple Departments

Planning Documents

Table 3-3 summarizes the planning documents available to the City of Cloverdale.

Table 3-3. City of Cloverdale Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	General Plan adopted in 2009; Safety Element updated in 2019.	Incorporates FEMA maps, wildfire zones, and future growth zones that avoid high-risk areas.	Local	Local All
Capital Improvement Plan	5-Year CIP updated biennially	Project prioritization considers hazard risk. Funding for stormwater upgrades and wildfire mitigation is embedded.	Local	Local All
Stormwater Pollution Prevention Plan	Yes (project-based); Required for construction	Required under NPDES; controls runoff and erosion during construction.	State/Local	Planning
Open Space	None; this is embedded in the General Plan	Greenbelt policies reduce impervious coverage; UGB supports open space retention	Local	Planning
Urban Water Management Plan	2020 Urban Water Management Plan	Supports long-term drought resilience; coordinated with fire suppression needs.	State-mandated	Public Works
Economic Development Plan/CEDS	None; partial via General Plan	No standalone plan; resilience is addressed in project-level CEQA/environmental review.	Local	Economic Dev / Planning
Community Wildfire Protection Plan	None; currently in development	Under development in coordination with CAL FIRE. Will define WUI protection actions.	Local	Fire/Planning
Transportation Plan	Yes, SCTA Comprehensive Plan	Supports evacuation, alternative modes, access to safe areas.	County	Public Works/Planning

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Climate Action/Resilience/ Sustainability Plan	None; in General Plan	Safety Element and HMP address risk to vulnerable populations and climate impacts.	Local	Multiple
Business/Downtown Development Plan	Downtown Specific Plan, 2010	Encourages infill, compact design; avoids high-risk fringe areas.	Local	Planning

Response and Recovery Planning Documents

Table 3-4 summarizes the response and recovery planning documents for the City of Cloverdale.

Table 3-4. City of Cloverdale Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	Emergency Operations Plan, 2021	Includes evacuation, communications, sheltering, housing recovery; aligned with HMP priorities.	Local	Planning
Other: Resilient Cloverdale Initiative	Resilient Cloverdale Initiative, 2019	Resilient Cloverdale drafted a comprehensive strategy to guide the town's investments in mitigation and preparedness, and to create a vision for its recovery moving forward.	Local	City, Chamber of Commerce and community

3.6.2 Integration

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for the City of Cloverdale to identify opportunities for integrating mitigation concepts into ongoing City procedures.

Table 3-2 through Table 3-4 list the local planning mechanisms currently in place for the City of Cloverdale. This review revealed that the City has made significant progress in aligning its hazard mitigation goals with broader municipal functions. Key planning mechanisms, such as the General Plan, Capital Improvement Plan, and Resilient Cloverdale Initiative, already incorporate hazard-related policies and strategies. These documents address land use, infrastructure resilience, emergency response, and environmental protection, all of which are critical to reducing long-term risk.

The City of Cloverdale is committed to institutionalizing hazard mitigation across all departments. Moving forward, the City will continue to incorporate HMP findings, such as risk assessments, vulnerability data, and prioritized mitigation actions, into updates of local plans and policies. This approach ensures that hazard mitigation is not treated as a standalone effort, but as a coordinated, ongoing component of governance, planning, and community development.

3.6.3 Development and Permitting Capability

Table 3-5 summarizes the capabilities of Cloverdale to oversee and track development.

Table 3-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes -	Building Department in coordination with Planning and Public Works
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Development in special hazard areas (floodplain, wildfire zones) is reviewed and permitted accordingly through GIS review and overlay zone enforcement
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	Yes	The General Plan and Housing Element identify vacant and underutilized parcels across land use designations.
Describe the level of buildout in your jurisdiction.	N/A	Cloverdale is approximately 70% built out within the city limits. Large future development areas include the Alexander Valley Specific Plan and infill sites.

3.6.4 Administrative and Technical Capability

Table 3-6 and Table 3-7 summarizes potential staff and personnel resources available to Cloverdale and their current responsibilities that contribute to hazard mitigation. To expand and improve these capabilities, the City could explore the creation of a zoning board, environmental commission, open space committee, or an economic development commission or they could explore the creation of new city positions skilled or trained in benefit/cost analysis, damage assessment, socially vulnerable populations, environmental science, emergency management, surveying, grant writing, or resilience.

Table 3-6. Administrative Capabilities

Resources	Available?	Comment
Planning Board	Yes	Serves as Planning Commission; reviews development proposals, ensures alignment with General Plan and zoning in hazard areas.
Zoning Board of Adjustment	No	Functions are managed by the Planning Commission.
Planning Department	Yes	Responsible for land use, zoning, site plan reviews, environmental review, and integrating hazard resilience.
Mitigation Planning Committee	Yes	Established during the HMP process; includes cross-departmental and external partners (CAL FIRE, PG&E, schools, transit).
Environmental Board/Commission	No	Environmental review is managed within Planning under CEQA.
Open Space Board/Committee	No	Managed by Planning and Public Works through land use policies and parks plans.
Economic Development Commission/Committee	No	Economic development addressed through ad hoc and council policy.
Public Works/Highway Department	Yes	Manages infrastructure, stormwater, capital projects; leads many mitigation efforts.
Construction/Building/Code Enforcement Department	Yes	Reviews permits for structural safety; ensures compliance with CBC and hazard zone requirements.
Emergency Management/Public Safety Department	Yes	Police Department functions as emergency services; maintains Emergency Operations Plan.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Routine activities to prevent flooding and reduce wildfire fuel (e.g., creek clearing, tree management).
Mutual aid agreements	Yes	In place with CAL FIRE, Sonoma County Sheriff, utility providers, and regional agencies.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Includes emergency roles and responsibilities in job descriptions; staff assigned to EOC duties.
Other	Yes	Inter-agency coordination through Resilient Cloverdale and Hazard Mitigation Planning Committee.

Table 3-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	The Planning Department assists the public, provides information on land use, zoning and site development standards and processes applications for land use permits and subdivisions. The Department reviews a variety of land use applications for new development, including subdivisions, use permits, design review, variances, sign permits, and short-term rentals.

Resources	Available?	Comment
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building Division, Code Enforcement
Planners or engineers with an understanding of natural hazards	Yes	Planning Department
Staff with expertise or training in benefit/cost analysis	-	-
Professionals trained in conducting damage assessments	-	-
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Planning Department
Staff that work with socially vulnerable populations or underserved communities	-	-
Environmental scientists familiar with natural hazards	-	-
Surveyors	-	-
Emergency manager	-	-
Grant writers	-	-
Resilience Officer	-	-
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	-

Note: - no response provided by jurisdiction.

3.6.5 Fiscal Capability

Table 3-8 summarizes financial resources available to Cloverdale. To expand and improve these capabilities, the City could explore incurring debt through private activity bonds.

Table 3-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No

Financial Resources	Accessible or Eligible to Use?
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes

3.6.6 Education and Outreach Capability

Table 3-9 summarizes the education and outreach resources available to Cloverdale.

Table 3-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	The City Manager's office and Police Department handle public communications, including emergency updates.
Personnel skilled or trained in website development	Yes	City staff maintain the City's website with updates on mitigation, hazards, and emergency preparedness.
Hazard mitigation information available on your website	Yes	The City's Local Hazard Mitigation Plan (LHMP) and emergency planning information are posted at https://www.cloverdale.net.
Social media for hazard mitigation education and outreach	Yes	Facebook is used to share emergency alerts, safety tips, and hazard info (e.g., PSPS events, wildfire, evacuation).
Citizen boards or commissions that address issues related to hazard mitigation	Yes	The Planning Commission reviews projects in hazard areas and applies mitigation requirements.
Warning systems for hazard events	Yes	Nixle, SoCo Alert, and emergency sirens used for wildfire, flood, and other hazard notifications.
Natural disaster/safety programs in place for schools	Yes	Cloverdale Unified School District has emergency plans and participates in drills with City Police and Fire.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	La Familia Sana and community groups involved through Resilient Cloverdale and Citrus Fair disaster planning.
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Community forums, LHMP survey, Resilient Cloverdale program, and seasonal campaigns on defensible space, flood safety, and emergency kits.

3.6.7 Community Classifications

Table 3-10 summarizes classifications for community programs available to Cloverdale.

Table 3-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	N/A
Building Code Effectiveness Grading Schedule	Yes	Class 3 (assumed based on state compliance)	Unknown – likely tied to California Building Code cycle
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Class 3	Most recent rating by Cloverdale Fire Protection District
National Weather Service StormReady Certification	No	-	N/A
Firewise Communities classification	No	-	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	No	N/A	N/A

N/A = Not applicable;
— = Unavailable

3.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 3-11 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 3-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flooding	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

3.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 3.1 is responsible for maintaining this information.

The City has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the City on December 2, 2008. The Public Works Director is responsible for implementing the commitments and requirements of the NFIP by requiring permits for all development within SFHAs shown on the latest FIRM. The Public Works Director reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The City implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The Public Works Director uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

Table 3-12 provides a summary of NFIP compliance in Cloverdale.

Table 3-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	Public Works Department in coordination with Planning.
Are any certified floodplain managers on staff in your jurisdiction?	No currently certified staff, though training is encouraged
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes. FEMA maps are supplemented by LHMP modeling and local knowledge of future flood potential due to rainfall pattern changes
Does your floodplain management staff need any assistance or training to support its floodplain management program? **If so, what type of assistance/training is needed?**	Yes. FEMA maps are supplemented by LHMP modeling and local knowledge of future flood potential due to rainfall pattern changes Training in Substantial Damage Estimation (SDE), Floodplain Development Permitting, and CRS best practices would benefit the City
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review for development in floodplain overlay zones. Public education via website and Resilient Cloverdale. Field inspections of construction projects. GIS hazard mapping with Planning Department. Input on FEMA mapping and LHMP updates.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Racked through building permit valuation. If renovation/improvement cost exceeds 50% of market value, the project is considered a substantial improvement.
What are the barriers to running an effective NFIP program in the community, if any?	Staff capacity and turnover. Limited funding for proactive mitigation projects. Lack of internal certified floodplain manager.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? **If so, state the violations.**	None currently known
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	No recent Community Assistance Visit; last informal contact with FEMA Region 9 during LHMP development (2021).
What is the local law number or municipal code of your flood damage prevention ordinance?	Cloverdale Municipal Code Chapter 15.20
What is the date that your flood damage prevention ordinance was last amended?	2021, to reflect updated FEMA FIRM and NFIP requirements
Does your floodplain management program meet or exceed minimum requirements? **If exceeds, in what ways?**	Meets minimum NFIP standards. Could exceed with improved mapping, CRS participation, and enhanced community outreach.

Question	Comments
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Site Plan Review considers FEMA zones and floodplain overlays. Zoning Board applies flood hazard overlays (Zoning Code 18.07). Stormwater and Capital Improvement Plans prioritize drainage improvements in flood-prone areas.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Not currently in CRS. City is interested in evaluating benefits of CRS entry and potentially applying to reduce flood insurance premiums and improve floodplain management.

3.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. According to the dataset, there are no repetitive loss or severe repetitive loss properties in the City of Cloverdale.

3.7.2 Flood Vulnerability Summary

Table 3-13 provides a summary of flood vulnerability in Cloverdale.

Table 3-13. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	Cloverdale Creek: Especially near Triplett Drive, Third Street, and areas approaching the Russian River. Russian River: Floods low-lying areas near the Water Treatment Plant and River Park. Cherry & Porterfield Creeks: Along drainage channels entering the city from the west. Downtown: Suffers from localized flooding due to aging, undersized storm pipes and a partially buried “captured creek”
Do you maintain a list of properties that have been damaged by flooding?	Yes
Do you maintain a list of property owners interested in flood mitigation?	Yes
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Informally maintained through public works and planning inquiries related to past flood events and mitigation grants. Estimated 10–15 property owners expressed interest during the last LHMP planning process.

NFIP Topic	Comments
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	Not currently underway in Cloverdale, but city would welcome participation in any regional FEMA-led map updates.
How do you make Substantial Damage determinations?	Substantial damage is evaluated by the Building Official post-event using percent damage to structure. This includes site inspections and insurance data.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	No declarations since the 2019 flood event.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None have been fully mitigated via elevation/acquisition, though drainage improvements in the Downtown Flood Study area are designed to protect up to 119 vulnerable parcels.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	The FEMA maps adequately identify primary flood zones (A zones). However, localized flooding in downtown and from "captured creek" is not well depicted and is addressed through supplemental mapping from the 2017 Downtown Flood Reduction Study

3.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 3-14 through Table 3-16.

Table 3-14. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2021 New Construction Permits Issued	0	1	0	1
2021 Permits Issued within SFHA	0	0	0	0
2022 New Construction Permits Issued	11	13	0	24
2022 Permits Issued within SFHA	0	0	0	0
2023 New Construction Permits Issued	1	0	0	1
2023 Permits Issued within SFHA	28	0	0	28
2024 New Construction Permits Issued	0	8	0	8
2024 Permits Issued within SFHA	25	0	0	25
2025 New Construction Permits Issued	0	3	0	3
2025 Permits Issued within SFHA	0	0	0	0

SFHA = Special Flood Hazard Area

Table 3-15. Recent Major Development and Infrastructure from 2021 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Cherry Creek Village Apartments	Multi-Family	23	520 S Cloverdale Blvd. Cloverdale, CA 95425		Completed 2022
Baumgardner Village & Terrace	Multi-Family/SFD	59 Homes/101 Apartments	1398 S Foothill Blvd. Cloverdale, CA 95425		In Progress
Bi Du Khaale	SFD	25 Homes	235 Kelly Rd. Cloverdale, CA 95425		In Progress/Final Stages
Taylor Lynn Apartments Phase 2	MFD	22 Apartments	669 S Cloverdale Blvd. Cloverdale, CA 95425		In Progress
Alexander Valley Apartments	MFD	75 Apartments	100 Asti Rd. Cloverdale, CA 95425		In Progress

a. Only location-specific hazard zones or vulnerabilities identified.

Table 3-16. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
N/A – none planned					

As noted above, 53 building permits were issued for single-family homes in SFHAs over the past five years. Considering that those buildings represented 58.9 percent of all building permits issued during that time, the vulnerability of the City has increased since the previous plan was approved.

3.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Cloverdale's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

3.9.1 Hazard Area

Maps of probable hazard areas within the City are shown in Figure 3-1 through Figure 3-2. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Cloverdale has significant exposure.

Figure 3-1. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

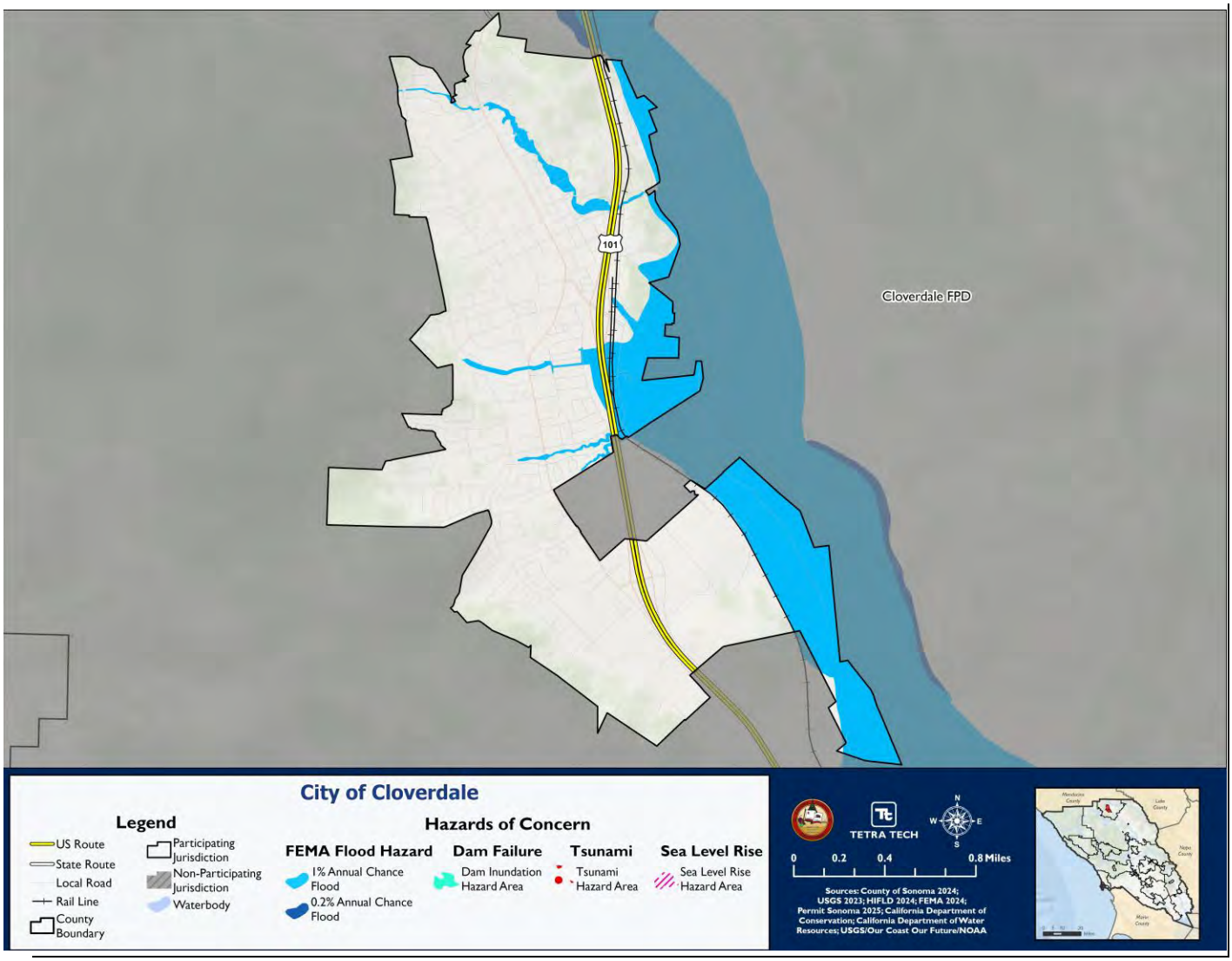
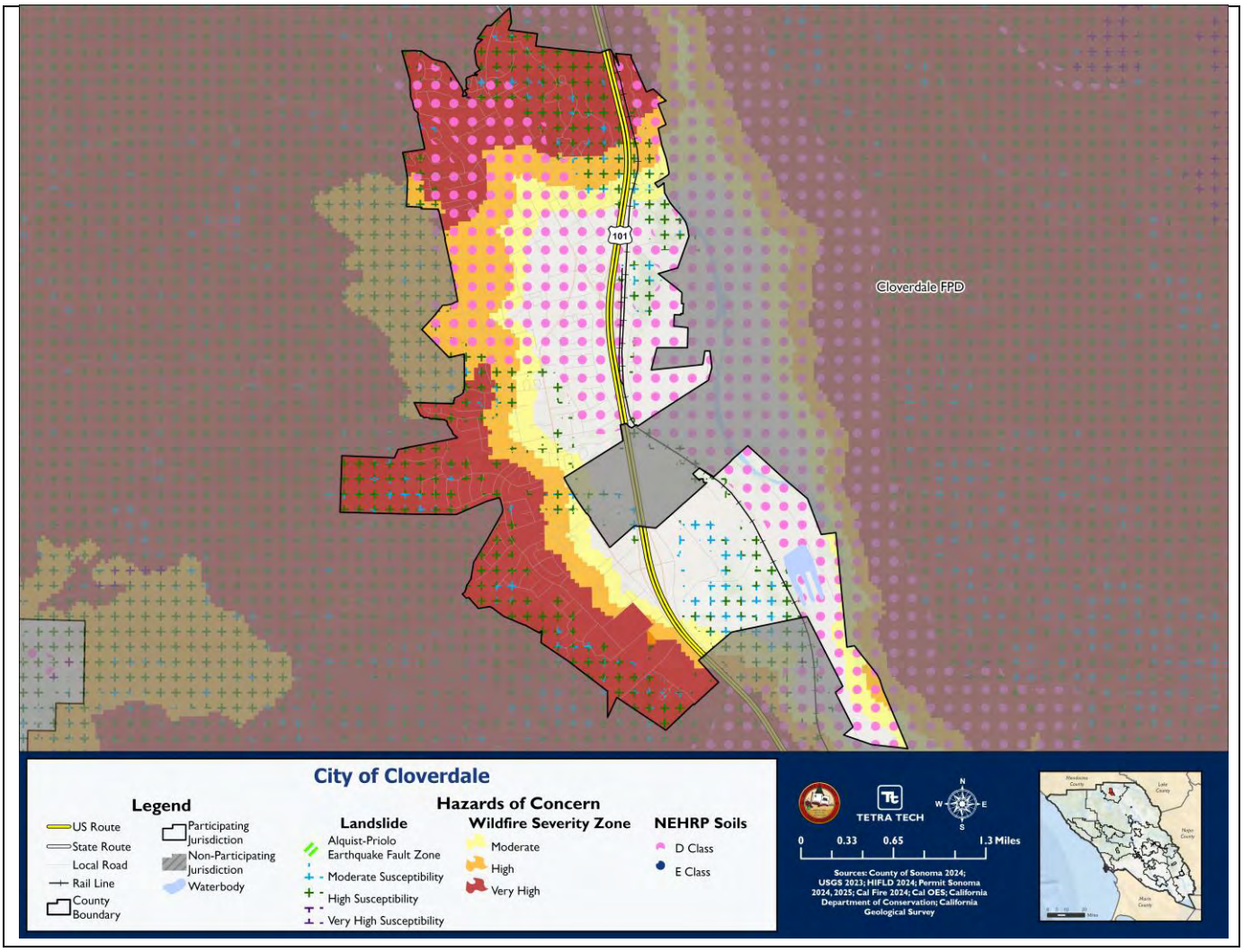


Figure 3-2. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



3.9.2 Hazard Event History

The history of natural and non-natural hazard events in Cloverdale is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 3-17 provides details on loss and damage in Cloverdale during hazard events since the last hazard mitigation plan update.

Table 3-17. Hazard Event History in Cloverdale, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Cloverdale
January 26-29, 2021	Flood and Debris Flow	N/A	A plume of moisture from the tropical Pacific brought an Atmospheric River to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	No impact or losses indicated
March 10, 2021	Hail	N/A	A cold upper low moved through the region in early March bringing widespread showers and isolated thunderstorms to the Greater Bay Area. The Santa Rosa Fire Department reports multiple vehicle accidents on US-101 due to accumulating small hail.	No impact or losses indicated
November 8, 2021	Flood	N/A	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	No impact or losses indicated
December 13, 2021	Flood	N/A	A low pressure system descended from the Gulf of Alaska southward along the entire Pacific Coast and tapped into sub-tropical moisture originating from the Central Pacific to drop heavy rain throughout the state. Heavy rain caused flooding on Labath Ave and the closure of SR 12 between Route 116 and 8th St.	No impact or losses indicated
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton. A 43-year old woman from Ukiah was recovered on the 10th after her car got stuck in floodwaters.	Water Main Leak $12,200 City Wide Debris Removal $17,100 Emergency Protective Measures $4,700 Damage to building (Scouts Cabin) $17,200 Well Protection (rip rap in river) $48,300
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical jet stream aided in adverting sub-tropical moisture plume from over the Central Pacific into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	No impact or losses indicated

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Cloverdale
January 21-22, 2024	Flood	N/A	A series of frontal systems with a weak subtropical tap led to widespread rainfall and nuisance flooding across the Bay Area. Westbound California Route 116 at Travis Road was reported flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road offramp from UIS Highway 101 Northbound was closed due to standing water on the roadway. The Arata Lane offramp from US Highway 101 Northbound was closed due to standing water on the roadway. Localized flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; three inches of water flooded a trailer in less than 20 minutes.	No impact or losses indicated
January 31, 2024	Flood	N/A	A quick-moving cold front came through California on January 31, bringing widespread rain and high winds. A water rescue occurred on Mark West Station Road at Starr Road.	No impact or losses indicated
February 4, 2024	Flood	N/A	A quickly-moving cold front came through the region on the 17th, causing minor nuisance flooding and gusty winds. A second, deeper but slower moving, system followed the next day with widespread rain and gusty winds. A warm front associated with this low came through the region late on Sunday the 18th, followed by the associated cold front and associated thunderstorms on Monday the 19th. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two different spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road before and after Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound California Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. California Route 12 was closed until 8 AM due to flooding from Fremont Drive to Watmaugh Road. Creek flowing over Mark West Station Road after heavy rainfall. Mud, dirt, and rock blocking Los Alamos Road.	No impact or losses indicated

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

3.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Cloverdale.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

The City of Cloverdale reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. The revised rankings account for the changes in community priorities described in Section 3.5 of this annex and in Volume I of this HMP.

Table 3-18 shows the City of Cloverdale's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 3-18. Hazard Ranking

Hazard	Rank
Dam Failure	No exposure to this hazard
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	Low
Landslide	Low
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

The dam failure inundation area for high and very high hazard dams does not occur within the City's boundaries; therefore, there is no exposure to the Dam Failure hazard. Because the city is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities in the city.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to the City of Cloverdale.

Table 3-19 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 3-20 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Table 3-19. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%
NEHRP D & E Soils	58.2%	21.5%	83.7%
1% Annual Chance Floodplain	3.3%	3.5%	4.7%
0.2% Annual Chance Floodplain	3.3%	3.5%	4.7%
Geologic Hazard Area	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	3.4%	5.5%	2.3%
High Landslide Susceptibility Area	18.8%	19.8%	7.0%
Very High Landslide Susceptibility Area	0.1%	0.1%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	14.2%	12.6%	9.3%
High Fire Hazard Severity Zone	21.5%	22.6%	20.9%
Very High Fire Hazard Severity Zone	36.7%	36.7%	25.6%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Table 3-20. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NEHRP D & E Soils	53.2%	52.8%	53.2%	53.2%	53.2%	53.2%	53.1%	46.2%
1% Annual Chance Floodplain	1.8%	1.4%	1.7%	1.7%	1.8%	1.8%	1.4%	0.0%
0.2% Annual Chance Floodplain	1.8%	1.4%	1.7%	1.7%	1.8%	1.8%	1.4%	0.0%
Geologic Hazard Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	3.4%	3.2%	3.3%	3.2%	3.3%	3.3%	2.7%	0.0%

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
High Landslide Susceptibility Area	20.6%	20.4%	20.6%	20.6%	20.5%	20.5%	20.4%	15.4%
Very High Landslide Susceptibility Area	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	12.7%	12.5%	12.7%	12.6%	12.6%	12.7%	12.2%	7.7%
High Fire Hazard Severity Zone	22.4%	22.2%	22.4%	22.3%	22.4%	22.3%	22.4%	15.4%
Very High Fire Hazard Severity Zone	40.7%	40.3%	40.7%	40.6%	40.7%	40.5%	40.1%	38.5%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain Community Lifelines are susceptible to impact if water is unavailable, such as water systems. Three city water tanks are identified as critical facilities vulnerable to drought. In addition, the total population of the City (8,933 people) could be impacted by a drought if water rationing is implemented. In particular, the 1,944 adults over age 65 are vulnerable to dehydration in drought conditions.

Buildings located on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an earthquake. More than 50 percent of the buildings in Cloverdale (58.2 percent) are located on NEHRP Class D and E soils. In addition, 36 Community Lifeline facilities are located on Class D and E soils. This includes the Municipal airport, banks, daycares, Fire Station 65, Cloverdale Regional Library, Cloverdale Creek Bridge, Alexander Valley Regional Medical Center, municipal buildings, police stations, post office, rail station, schools, shelters, state bridges, and a water tank. 53.2 percent of the city's population live on Class D and E soils, including 1,034 adults over age 65.

Extreme heat is unlikely to cause physical damage to buildings, facilities, or infrastructure. The city has three municipal water tanks that are community lifelines. During an extreme heat event, the evaporation of water inside the tanks could increase. Individuals who do not have access to air conditioning are vulnerable to health complications during extreme heat episodes. In particular, the 1,944 adults above age 65 and 395 individuals living below the poverty line could be at risk for heat stroke, especially for those who fall into both categories.

Extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gasses. Extreme cold also presents a risk to populations that do not have access to heating, such as the nine persons experiencing homelessness.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 949 people with disabilities or the 1,944 adults over age 65 may experience difficulty walking through strong gusts of wind.

The City has low exposure to flooding, with 144 buildings in the one-percent annual chance floodplain. There are two critical facilities in the one-percent annual chance floodplain – the municipal airport and the Cloverdale Rail Station. 160 people live in the one-percent annual chance floodplain, including 17 people living with a disability.

The City has low exposure to landslide hazards, with 148 buildings located in the moderate landslide susceptibility hazard area, 824 buildings located in the high landslide susceptibility hazard area, and four buildings located in the very high landslide susceptibility hazard area. There is one critical facility located in the moderate landslide susceptibility hazard area (Cloverdale Health Care Center) and three critical facilities in the high landslide susceptibility hazard area (the Cloverdale Creek Bridge and two water tanks). There are 300 people living in the moderate landslide susceptibility hazard area, 1,844 people living in the high landslide susceptibility hazard area, and six people living in the very high landslide susceptibility hazard area.

The City has moderate exposure to wildfires, with 623 buildings located in the moderate fire hazard severity zone, 946 buildings located in the high fire hazard severity zone, and 1,610 buildings located in the very high fire hazard severity zone. There are four critical facilities located in the moderate fire hazard severity zone (daycares, the police station and a shelter), nine critical facilities located in the high fire hazard severity zone (daycare, CAL FIRE Station, Cloverdale Regional Library, schools, the Cloverdale Senior Center, and the Cloverdale Health Care Center) and there are 11 critical facilities located in the high fire hazard severity zone (daycares, Cloverdale Creek Bridge, schools, shelters, and water tanks). Finally, there are 1,134 people living in the moderate fire hazard severity zone, 2,005 people living in the high fire hazard severity zone, and 3,635 people living in the very high fire hazard severity zone.

Potential Impacts from Hazards of Local Concern

Table 3-21 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. For all other hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City. Table 3-22 summarizes additional risks specific to the City. In the event of a 500-year earthquake, as many as 125 households could be displaced, 68 people may require shelter, 6.9 percent of the buildings in the City could be damaged, and 45,924 tons of debris could be generated. In the event of a 2,500-year earthquake, as many as 435 households could be displaced, 230 people may require shelter, 17.4 percent of the buildings in the City could be damaged, and 128,775 tons of debris could be generated. In the event of a one-percent annual chance flood, as many as 210 people could be displaced, 98 people may require shelter, 0.4 percent of the buildings in the City could be damaged, and 1,300 tons of debris could be generated.

Table 3-21. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	0 people	125 households	435 households	210 people
Population Requiring Shelter	0 people	68 people	230 people	98 people
General Building Damage as % of RCV	0.0%	6.9%	17.4%	0.4%
Total Debris Generated (tons)	0	45,924	128,775	1,300

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 3-22 summarizes additional risks specific to the City. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City.

Table 3-22. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Drought	The City is susceptible to drought conditions that can significantly impact local water supply and agricultural activities.
Earthquake	Located within an active seismic region, Cloverdale is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to buildings constructed prior to current building standards.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the City's population and infrastructure.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources.
Extreme Wind	Cloverdale may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity.
Wildfire	The City faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety.

Critical Facilities

Table 3-23 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 3-23. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
Cloverdale Municipal Airport	Airport	X	X

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
Cloverdale Station	Rail Station	X	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

3.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, the City of Cloverdale identified the following risk-related issues for the community:

- Aging drainage and erosion-prone hillsides lead to frequent localized flooding and slope failure in Cloverdale neighborhoods.
- High wildfire risk and frequent power shutoffs impact vulnerable WUI neighborhoods and critical services.
- Water supply shortages threaten health, fire suppression, and economic growth.
- Warning systems are outdated and fail to reach all residents, especially LEP and seniors.
- Existing 200,000-gallon tank is seismically non-compliant, threatening post-disaster water supply.

3.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

3.10.1 Past Mitigation Action Status

Table 3-24 indicates progress on the City's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 3-24. Status of 2021 Mitigation Actions for City of Cloverdale

Mitigation Actions	Status
Project Number	ma-DR-2
Hazards Addressed	Drought
Lead Agency	Engineering
Mitigation Action Description	Diversify water supply storage options (e.g., aquifer storage and recovery projects, emergency wells) to ensure community water reliability.

Mitigation Actions	Status
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-EQ-3
Hazards Addressed	Earthquake
Lead Agency	Building Department
Mitigation Action Description	Conduct seismic evaluations of essential facilities, including the police station, that might be vulnerable to seismic shaking based on age or construction type.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	This is an ongoing action.
Project Number	ma-EQ-4
Hazards Addressed	Earthquake
Lead Agency	Engineering
Mitigation Action Description	Upgrade and improve vulnerable essential facilities, including the police station and City Hall, to better withstand seismic shaking.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-EQ-5
Hazards Addressed	Earthquake
Lead Agency	Engineering
Mitigation Action Description	Create GIS-based inventory of sewer and water pipelines, tanks, and reservoirs that are vulnerable to seismic shaking, earthquake-induced ground failure, and surface fault rupture. Determine a replacement schedule for these facilities that specifies importance, age, type of construction material, size, condition, and maintenance or repair history.

Mitigation Actions	Status
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-FL-6
Hazards Addressed	Flood
Lead Agency	Engineering
Mitigation Action Description	Construct a storm drain system to convey upstream runoff through the city safely. The new system of pipes will replace an outdated drainage system made up of open channels and aging, under-sized pipes, including a partially-piped “captured creek” that runs underneath both public and private properties in Downtown Cloverdale. The new system will connect the existing channels upstream of the city and the Caltrans channel downstream of the City at Highway 101. Runoff will be conveyed to the Russian River at the same location as is current.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-FL-7
Hazards Addressed	Flood
Lead Agency	Engineering
Mitigation Action Description	To avoid erosion and reduce flood risk, fortify the levees adjacent to the Cloverdale Airport, the Water Treatment Plant, and the Wastewater Treatment Plant. Enroll these levees in the US Army Corps of Engineers Flood Control and Coastal Emergency Act program (PL-84-99).
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Levee rehabilitation project is completed
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Levee rehabilitation project is completed
Project Number	ma-FL-15
Hazards Addressed	Flood
Lead Agency	Engineering

Mitigation Actions	Status
Mitigation Action Description	Develop new intake structures to intercept stormwater runoff from the hills to the west of the city and convey to a new detention and infiltration basin adjacent to the 2nd Street City Park with the capacity to hold a 100-year flood.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-GL-8
Hazards Addressed	Geological
Lead Agency	Engineering
Mitigation Action Description	Based on the landslide vulnerability assessment and local knowledge of problem areas, identify priorities for earth/slope stabilization. Collaborate with property owners in these areas to design and implement stabilization projects.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Slide locations have been mitigated
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Slide locations have been mitigated
Project Number	ma-MH-9
Hazards Addressed	Multi-Hazard
Lead Agency	Engineering
Mitigation Action Description	Acquire, install, upgrade, or replace back-up generators at essential City facilities, including the Shahan Drive wastewater lift station and the Wastewater Treatment Plant. Obtain towable generators to support emergency operations throughout the city (e.g., Citrus Fair, Senior Center). Require pre-wiring of private construction projects to accommodate generators and encourage owners to retrofit existing buildings.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Combine with ma-WF-16
If discontinue, explain why	Not Applicable
Project Number	ma-MH-10
Hazards Addressed	Multi-Hazard

Mitigation Actions	Status
Lead Agency	Engineering
Mitigation Action Description	Enhance City's emergency alert and warning system by expanding social media communications.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-MH-11
Hazards Addressed	Multi-Hazard
Lead Agency	Administration
Mitigation Action Description	Provide ample space and/or care for vulnerable populations at emergency shelters and evacuation centers. This includes partnering with the Citrus Fair and the Northern Sonoma County Community Emergency Response Team (CERT) in their efforts to secure backup power, stockpile essential materials, and ensure reliable broadband communications access.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Location and space have been provided but we continue to expand the area as needed
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-MH-12
Hazards Addressed	Multi-Hazard
Lead Agency	Police
Mitigation Action Description	Update the City's Emergency Operations Plan (EOP), with emphasis on continuity of operations.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-MH-13
Hazards Addressed	Multi-Hazard
Lead Agency	Administration

Mitigation Actions	Status
Mitigation Action Description	Publicize availability of the Sonoma County Energy Independence Program (SCEIP) to provide financing for improvements to reduce vulnerability to wildfire and the effects of seismic shaking.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	Program not applicable to City of Cloverdale
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Program not applicable to City of Cloverdale
Project Number	ma-MH-14
Hazards Addressed	Multi-Hazard
Lead Agency	Administration
Mitigation Action Description	Develop and distribute information on hazards and hazard mitigation for the public.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-WF-15
Hazards Addressed	Wildfire
Lead Agency	Building Department
Mitigation Action Description	Evaluate the WUI Zone in the city limits, including GIS mapping showing properties at risk, both publicly- and privately-owned.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	ma-WF-16
Hazards Addressed	Wildfire
Lead Agency	Building Department
Mitigation Action Description	Increase fuel management and fuel reduction in open space, creeks, around critical facilities, and wildland/urban interface areas. Encourage private property owners to create, improve, and maintain their own defensible space (potentially with funding support or financial incentives).
Status	Not Complete

Mitigation Actions	Status
Narrative describing progress or obstacles that have prevented implementation	Combine with ma-MH-9
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Combine with ma-MH-9
If discontinue, explain why	Not Applicable

3.10.2 Additional Mitigation Efforts

Over the past five years, Cloverdale has pursued the following non-FEMA funded mitigation efforts:

1. **Downtown Storm Drain Study Implementation**:
   Upgraded aging and undersized drainage infrastructure in areas prone to localized flooding, particularly along Cloverdale Blvd. and W. Second Street.
2. **Fuel Reduction and Vegetation Management**:
   Coordinated annual vegetation clearing and defensible space inspections through CAL FIRE and Public Works in wildfire interface zones like Skyview Drive, Foothill Blvd., and Porterfield Creek.
3. **Resilient Cloverdale Community Outreach**:
   Partnered with Listos and Sonoma COAD to deliver multi-lingual emergency preparedness kits and workshops focused on evacuation and communication during wildfires and power shutoffs.
4. **Backup Generator Installation at City Hall and Police Department**:
   Funded with local CIP dollars to ensure continuity of operations during PSPS and extreme heat events.

3.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Cloverdale participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Cloverdale would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 3-25 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected. These categories are described in **Error! Reference source not found.**.

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria.

Table 3-26 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 3-25. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure										
Drought		X						X	X	
Earthquake	X	X		X	X	X	X	X	X	X
Extreme Cold	X			X	X		X			X
Extreme Heat	X	X	X	X	X	X	X	X	X	X
Extreme Wind	X		X		X			X	X	
Flood	X		X		X			X	X	
Landslide	X		X		X			X	X	
Sea Level Rise										
Tsunami										
Wildfire		X	X			X			X	

*Note: Mitigation category codes as follows (see **Error! Reference source not found.** for descriptions):*
LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Table 3-26. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Vegetation Removal and Defensible Space	High	Medium	7	1-5 years	5.539	Medium
Upgrade Drainage Systems Citywide	High	Medium	6	1-5 years	5.462	Medium
Water Supply Shortages	High	Medium	6	1-5 years	5.462	Medium
Update Warning Systems	High	Medium	6	1-5 years	5.462	Medium
Tank Replacement	High	Medium	4	1-5 years	5.308	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-CloverdaleCity-01. Upgrade Drainage Systems Citywide

Lead Agency:	Public Works Department
Supporting Agencies:	Planning, Engineering, Sonoma Water, CAL FIRE
Hazards of Concern:	Extreme Wind, Flood, Landslide
Description of the Problem:	Aging drainage and erosion-prone hillsides lead to frequent localized flooding and slope failure in Cloverdale neighborhoods.
Description of the Solution:	Upgrade drainage systems citywide and stabilize vulnerable slopes through improved grading, stormwater infrastructure, and green infrastructure techniques.
Estimated Cost:	High
Potential Funding Sources:	HMGP, City Capital Improvement Funds
Implementation Timeline:	2025–2030
Objectives Met:	1,3,4,6,10,13
Benefits:	Prevents property damage, road closures, and landslide events during heavy storms.
Impact on Socially Vulnerable Populations:	Improves safety for residents in low-lying and hillside mobile home communities.
Impact on Future Development:	Supports infill development while preventing increased runoff burden.
Impact on Critical Facilities/Lifelines:	Protects roads, utilities, and public facilities along vulnerable corridors.
Impact on Capabilities:	Improves engineering, permitting, and interagency response capacity.
Climate Change Considerations:	Addresses increasing rainfall severity and seasonal storm surges.
Mitigation Category	Local Plans and Regulations, Natural Systems Protection
CRS Category	Preventative Measures, Natural Resource Protection, Structural and Flood Control Projects
Priority	Medium

Action 2026-CloverdaleCity-02. Vegetation Removal and Defensible Space Enforcement

Lead Agency:	Public Works
Supporting Agencies:	CAL FIRE, Resilient Cloverdale, City Planning, Cloverdale Fire District
Hazards of Concern:	Extreme Heat, Wildfire, Drought
Description of the Problem:	High wildfire risk and frequent power shutoffs impact vulnerable WUI neighborhoods and critical services.
Description of the Solution:	Expand vegetation removal and defensible space enforcement in WUI zones and install backup generators for shelters and City Hall.
Estimated Cost:	High
Potential Funding Sources:	CAL FIRE, City Resilience Fund, HMGP
Implementation Timeline:	2025–2028
Objectives Met:	1,3,4,6,7,8,13
Benefits:	Protects human life, property, and shelter operations during outages.
Impact on Socially Vulnerable Populations:	Protects mobile home parks and seniors in WUI areas.
Impact on Future Development:	Guides future safe development in hillsides.
Impact on Critical Facilities/Lifelines:	Keeps City Hall and shelters operational during outages.
Impact on Capabilities:	Improves vegetation enforcement and generator readiness.
Climate Change Considerations:	Addresses heat and fire season extension.
Mitigation Category	Structure and Infrastructure Project, Natural Systems Protection
CRS Category	Property Protection, Structural Flood Control Projects
Priority	Medium

Action 2026-CloverdaleCity-03. Water Supply Shortages

Lead Agency:	Public Works Department
Supporting Agencies:	Sonoma Water, Finance
Hazards of Concern:	Drought, Extreme Heat
Description of the Problem:	Water supply shortages threaten health, fire suppression, and economic growth.
Description of the Solution:	Expand water reuse and storage, promote conservation and tiered pricing.
Estimated Cost:	High
Potential Funding Sources:	Prop 1, DWR, CIP
Implementation Timeline:	2025–2031
Objectives Met:	1,3,4,6,10,13
Benefits:	Reduces water demand and boosts system reliability.
Impact on Socially Vulnerable Populations:	Supports access to affordable water for low-income areas.
Impact on Future Development:	Supports infill and drought-ready development.
Impact on Critical Facilities/Lifelines:	Protects firefighting and health services.
Impact on Capabilities:	Builds conservation enforcement and reuse planning.
Climate Change Considerations:	Essential for climate adaptation.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Natural Resource Protection, Structural Flood Control Projects
Priority	Medium

Action 2026-CloverdaleCity-04. Update Warning Systems

Lead Agency:	Police Department / City Manager’s Office
Supporting Agencies:	Schools, Community Orgs, Resilient Cloverdale
Hazards of Concern:	Earthquake, Extreme Heat, Extreme Cold, Public Safety Power Shutdown (PSPS), Wildfire, Flooding
Description of the Problem:	Warning systems are outdated and fail to reach all residents, especially LEP and seniors.
Description of the Solution:	Modernize alert platforms (Nixle/SoCo), install sirens, and expand multilingual outreach.
Estimated Cost:	High
Potential Funding Sources:	EMPG, UASI, General Fund
Implementation Timeline:	2025–2027
Objectives Met:	1,3,4,5,6,13
Benefits:	Reduces casualties, speeds evacuation, builds trust.
Impact on Socially Vulnerable Populations:	Improves outreach to Spanish-speaking and elderly populations.
Impact on Future Development:	Enhances community resilience broadly.
Impact on Critical Facilities/Lifelines:	Ensures responders and public receive accurate info.
Impact on Capabilities:	Boosts emergency communications.
Climate Change Considerations:	Helps prepare for increasing hazard frequency.
Mitigation Category	Local Plans and Regulation, Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Emergency Services
Priority	Medium

Action 2026-CloverdaleCity-05. Tank Replacement

Lead Agency:	Public Works Department
Supporting Agencies:	West Yost, Planning, Cal OES
Hazards of Concern:	Earthquake, Drought
Description of the Problem:	Existing 200,000-gallon tank is seismically non-compliant, threatening post-disaster water supply.
Description of the Solution:	Replace with two seismically-engineered 250,000-gallon tanks with cathodic protection and slope stabilization wall.
Estimated Cost:	High
Potential Funding Sources:	HMGP, City Capital Funds
Implementation Timeline:	2025–2028
Objectives Met:	1,3,4,6
Benefits:	Eliminates seismic vulnerability and expands capacity by 300,000 gallons.
Impact on Socially Vulnerable Populations:	Ensures fire protection and water access for vulnerable zones.
Impact on Future Development:	Improves Zone 1 reliability for current and future growth.
Impact on Critical Facilities/Lifelines:	Preserves essential water pressure and flow.
Impact on Capabilities:	Builds seismic infrastructure and engineering capacity.
Climate Change Considerations:	Supports fire and drought resilience.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection, Natural Resource Protection, Structural Flood Control Projects
Priority	Medium

4. CITY OF COTATI

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Cotati with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the City. The annex presents a general overview of Cotati, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

4.1 HAZARD MITIGATION PLANNING TEAM

The City of Cotati identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The City Manager's Office represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The City officials who participated in the development of the annex are listed below and shown in Table 4-1. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Katie Duran, Senior Management Analyst

Address: 201 W. Sierra Ave, Cotati, CA 94931

Phone Number: 707-665-3624

Email: kduran@cotaticity.gov

Alternate Point of Contact: Damien O'Bid, City Manager

Address: 201 W. Sierra Ave, Cotati, CA 94931

Phone Number: 707-665-3622

Email: dobid@cotaticity.gov

NFIP Administrator: Craig Scott, Director – Public Works/Engineering

Address: 201 W. Sierra Ave, Cotati, CA 94931

Phone Number: 707-665-3620

Email: cscott@cotaticity.gov

Table 4-1. Additional Contributors

Name	Department	Position	HMP Contribution
Katie Duran	City Manager's Office	Senior Management Analyst	Planning Team, Working Group
Damien O'Bid	City Manager's Office	City Manager	Worksheets, review and approve
Craig Scott	Public Works/Engineering	Director	Worksheets, review and approve
Noah Housh	Community Development	Director	Worksheets, review and approve

4.2 COMMUNITY PROFILE

The City of Cotati, an incorporated city in Sonoma County, is 45 miles north of San Francisco along the U.S. 101 corridor, between the cities of Rohnert Park and Petaluma. Cotati was incorporated on July 2, 1963, after the land to the north was incorporated to form Rohnert Park. Voters approved Cotati's incorporation as a separate city by a margin of 284 to 41.

The City covers 1.89 square miles, with 0.53 percent of this area consisting of water. Cotati is about 17 miles from the Pacific Ocean and lies entirely within the drainage basin of the Laguna de Santa Rosa. The Petaluma River watershed begins just south of the city, and the Stemple Creek watershed is to the west. The sources of all three watercourses are in the hilly area between Stony Point Road and U.S. 101, just west of Cotati.

A gap in the coastal ridges near Petaluma often allows coastal fog to reach Cotati during the summer, resulting in a marine climate that is noticeably cooler and less sunny than the coastal climates of nearby Santa Rosa and Sebastopol. Cotati averages fewer than 800 hours per growing season in the 70 to 90 °F range.

The City of Cotati is governed by a five-member city council and comprises five departments: Administrative Services, Community Development, Public Works/Engineering, Police, and the City Manager's Office. The City Council is responsible for adopting this plan, and the City Manager will oversee its implementation.

According to the U.S. Census, the 2020 population for Cotati was 7,584, a 4.0 percent increase from the 2010 Census. The 2023 American Community Survey (ACS) estimated that the 2023 population of Cotati was 7,533; this estimate is used throughout the HMP.

Populations with decreased resources or physical abilities can be more susceptible to hazard events based factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the ACS indicates that 5.3 percent of residents are 5 years of age or younger, 14.9 percent are 65 years of age or older, 1.7 percent are non-English speaking, 8.0 percent live below the poverty threshold, 10.9 percent have disabilities, and 3.0 percent live in a single parent household.

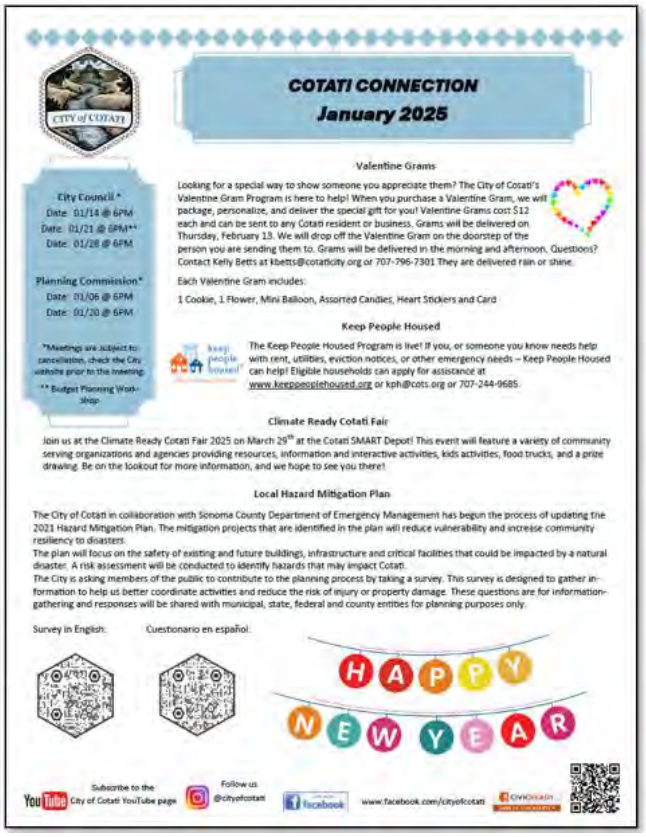
In 2024, the total homeless population in Cotati was reported as 31 individuals: 10 sheltered and 21 unsheltered persons (Sonoma County 2024).

4.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Cotati completed specific activities to collect input on hazards and vulnerability from the people the City serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

Figure 4-1 and Figure 4-2 highlight various public outreach initiatives undertaken by the City. In January 2025, the City published an article about its participation in the HMP update and distributed a newsletter to residents. The newsletter was also posted on the City website. In April 2025, the City designed a flyer to promote its participation in the HMP update and to advertise the Public Survey. The flyer was posted on bulletin boards at three locations around the City, where Council and Planning Commission agendas are regularly displayed.

Figure 4-1. City of Cotati Newsletter and Flyer



COTATI CONNECTION
January 2025

Valentine Grams

Looking for a special way to show someone you appreciate them? The City of Cotati's Valentine Gram Program is here to help! When you purchase a Valentine Gram, we will package, personalize, and deliver the special gift for you! Valentine Grams cost $12 each and can be sent to any Cotati resident or business. Grams will be delivered on Thursday, February 13. We will drop off the Valentine Gram on the doorstep of the person you are sending them to. Grams will be delivered in the morning and afternoon. Questions? Contact Kelly Betts at kbetts@cotaticity.org or 707-796-7301 They are delivered rain or shine.

Each Valentine Gram includes:

1 Cookie, 1 Flower, Mini Balloon, Assorted Candies, Heart Stickers and Card

City Council *
Date: 01/14 @ 6PM
Date: 01/21 @ 6PM**
Date: 01/28 @ 6PM

Planning Commission*
Date: 01/06 @ 6PM
Date: 01/20 @ 6PM

*Meetings are subject to cancellation, check the City website prior to the meeting.
** Budget Planning Work-shop

Keep People Housed

The Keep People Housed Program is live! If you, or someone you know needs help with rent, utilities, eviction notices, or other emergency needs – Keep People Housed can help! Eligible households can apply for assistance at www.keppeoplehoused.org or kph@cots.org or 707-244-9685.

Climate Ready Cotati Fair

Join us at the Climate Ready Cotati Fair 2025 on March 29th at the Cotati SMART Depot! This event will feature a variety of community serving organizations and agencies providing resources, information and interactive activities, kids activities, food trucks, and a prize drawing. Be on the lookout for more information, and we hope to see you there!

Local Hazard Mitigation Plan

The City of Cotati in collaboration with Sonoma County Department of Emergency Management has begun the process of updating the 2021 Hazard Mitigation Plan. The mitigation projects that are identified in the plan will reduce vulnerability and increase community resiliency to disasters.
The plan will focus on the safety of existing and future buildings, infrastructure and critical facilities that could be impacted by a natural disaster. A risk assessment will be conducted to identify hazards that may impact Cotati.
The City is asking members of the public to contribute to the planning process by taking a survey. This survey is designed to gather information to help us better coordinate activities and reduce the risk of injury or property damage. These questions are for information-gathering and responses will be shared with municipal, state, federal and county entities for planning purposes only.

Survey in English:

Cuestionario en español:

HAPPY NEW YEAR

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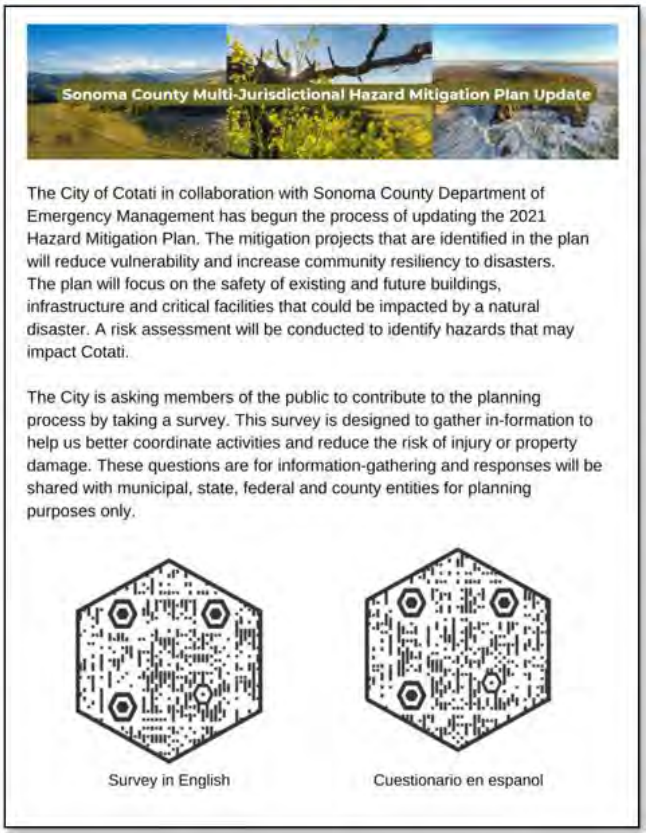
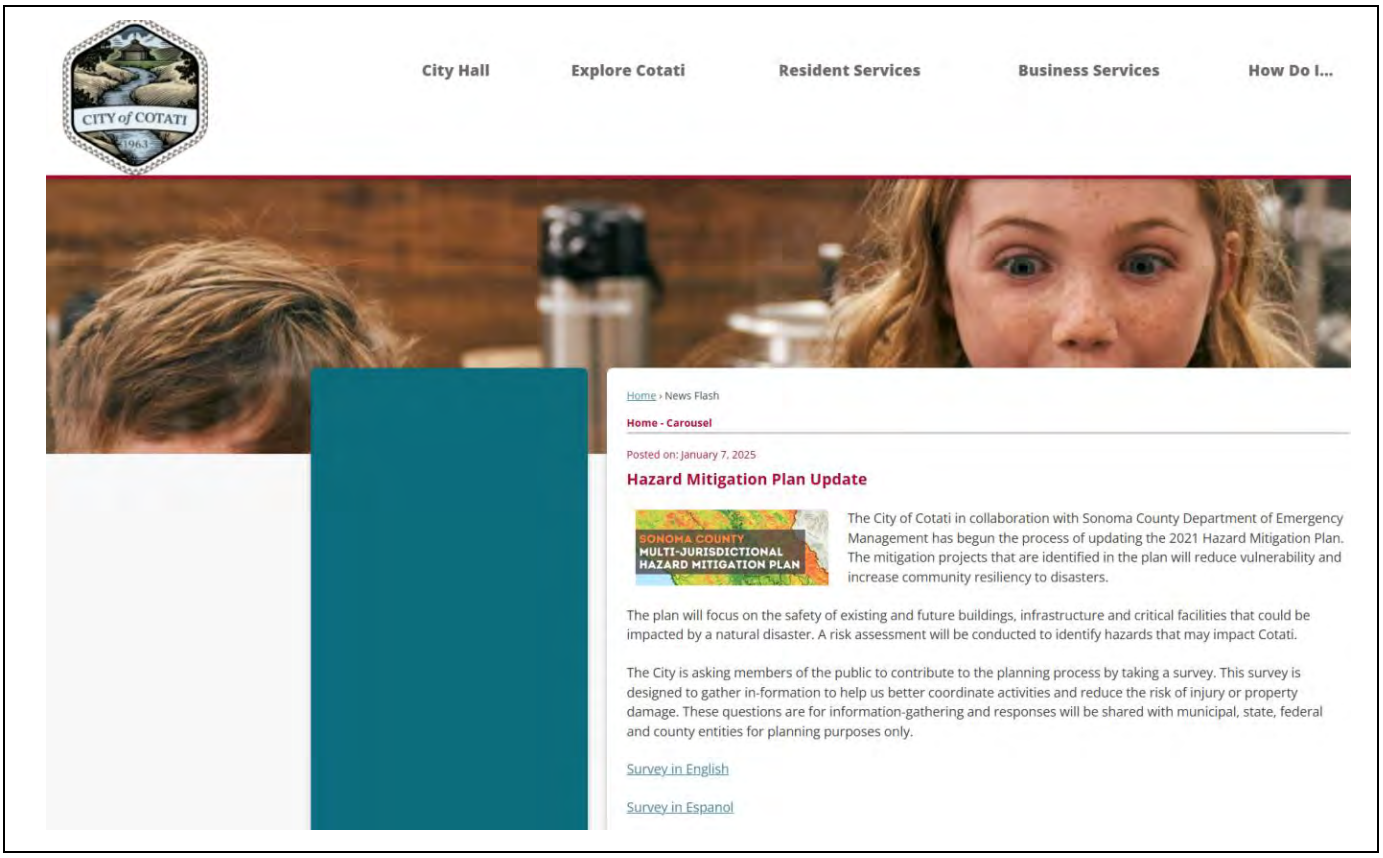


Figure 4-2. Cotati Website



The flyer was posted at the following locations:

- **City of Cotati City Hall** – 201 West Sierra Ave, Cotati
- **Veteran's Memorial Building** – 8505 Park Ave, Cotati
- **Smart Station** – 970 E Cotati Ave, Cotati

The following targeted outreach was made to underserved communities and vulnerable populations:

- Publication and surveys both in English and Spanish were posted on website and social media, in a hard copy newsletter to all residents, and on public bulletin boards. Informational flyers were handed out at the Wednesday evening Farmer's Market from June through October.

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities in the City was contributed through community engagement activities.

4.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Cotati invited

stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

4.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. Public works and engineering departments contributed infrastructure data and identified vulnerabilities. Emergency management officials provided guidance on preparedness and response capabilities. Fire protection services and regional water agencies offered insights into wildfire risk, water infrastructure, and emergency response coordination. These agencies played a key role in shaping mitigation strategies and ensuring alignment with existing emergency plans.

- Public Works/Engineering
- Sonoma County Emergency Management
- Rancho Adobe Fire District
- Sonoma Water

4.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. This included community development and building departments, planning commissions, and city councils. Environmental health officials also participated, offering expertise on regulatory requirements related to public health and safety. Their involvement ensured that proposed actions were feasible and aligned with local codes and ordinances.

- Community Development
- Building Department
- Planning Commission
- City Council
- Sonoma County Environmental Health

4.4.3 Neighboring Communities

Neighboring jurisdictions and institutions were invited to participate in the planning process to promote regional coordination and address shared risks. This included adjacent cities, local fire protection districts, and academic institutions. Their involvement helped identify interdependencies, such as shared infrastructure and emergency services, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- City of Rohnert Park
- Sonoma State University
- Rancho Adobe Fire District
- City of Petaluma

4.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community, academic institutions, and private sector organizations. Local businesses and utility providers contributed perspectives on economic resilience and infrastructure continuity. Academic institutions provided technical expertise and helped assess long-term risks. This diverse input helped ensure that the plan addressed the needs of the broader community and supported public-private collaboration in mitigation efforts.

- Sonoma State University
- Cotati Rohnert Park School District
- Cotati Chamber of Commerce
- PG&E
- Graton Casino
- Lowes
- Olivers Market

4.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- SAFE Team (Specialized Assistance for Everyone)
- Red Cross

4.5 CHANGES IN COMMUNITY PRIORITIES

There have been no changes in priorities for the City of Cotati since the 2021 HMP update.

4.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Cotati performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Cotati to identify opportunities for integrating mitigation concepts into ongoing City procedures.

4.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The sections below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 4-2 summarizes the codes, ordinances, and regulations available to the City of Cotati.

Table 4-2. City of Cotati Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	Cotati Municipal Code (CMC), Title 14, Chapter 14.04, Section 14.04.030 adopts the California Building Code; Ordinance 887 §2 (part), 2019: Ordinance 864 § 2 (part), 2016: Ordinance 843 § 1 (part), 2013: Ordinance 829 § 1 (part), 2011: Ordinance 815 § 1(part), 2008	The City of Cotati has adopted the 2022 California Building Code by reference, which includes provisions on earthquake safety, wind damage, and general safety and welfare of building inhabitants.	Municipal	Community Development Department and City of Cotati
Zoning/ Land Use Code	Cotati Municipal Code, Title 17, Chapters 17.20 – 17.28; Ord. 766 § 2 Exhibit A (part), 2004	The CMC includes multiple development standards that further implement criteria to help mitigate impacts from natural disasters and hazards. These include land use limitations; road width requirements; building set-backs, slope protections and limitations; and parking and loading standards. The HMP can count on these criteria being enforced and in place as new development occurs within the City and can therefore base disaster responses and evacuation plans on such standards. Further, most actions regulated by the CMC are discretionary in nature, requiring analysis under the California Environmental Quality Act (CEQA). CEQA includes protections and mitigation requirements for any new development occurring within natural hazard areas; seeks to prohibit development within wetlands, floodways and floodplains; and ensures adequate emergency responses are available to serve any new development or proposed use. The new state LRA fire maps indicate that the City of Cotati is not in high or very high hazard severity zones.	Municipal	Community Development Department and City of Cotati
Subdivision Code	Cotati Municipal Code, Title 17, Chapter 17.70, Sections 010-120; Ordinance 766 § 2 Exhibit A (part), 2004	The Subdivision section of the municipal code ensures adequate stormwater management is in place for any newly subdivided properties; includes provisions to allow clustering of units to preserve natural resources to allow minimization of hazards and/or impacts on natural resources.	Municipal	Community Development Department, Public Works Department, and City of Cotati
Site Plan Code	Cotati Municipal Code, Title 17, Chapter 17.42, Sections 010-210; Ordinance 766 § 2 Exhibit. A (part), 2004	The Site Plan section of the municipal code ensures site planning for specified land uses and calls for mitigation for any adverse impacts.	Municipal	Community Development Department, Public Works Department, and City of Cotati

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Stormwater Management Code	Cotati Municipal Code, Title 13, Chapter 13.68, Sections 010-230; Ordinance 870 § 2(part), 2017: Ordinance 795 § 1(part), 2007: Ordinance 759 § 1(part), 2004	The City of Cotati utilizes and implements the City of Santa Rosa Stormwater Design Manual to ensure all stormwater management criteria required by the City's MS-4 permit from the Water Quality Control Board are satisfied and implemented, both on public and private property.	Municipal	Public Works Department and City of Cotati
Post-Disaster Recovery/ Reconstruction Code	Sonoma County Recovery and Resiliency Framework, December 2018	This framework recognizes the danger of natural disasters, especially after the Sonoma Complex Fires, and aims to develop a coordinated, County-wide approach to disaster preparedness.	County	City-Wide
Real Estate Disclosure	California State Civil Code 1102 requires disclosure for all sales of real property.	Sellers must disclose certain information about a property to prospective buyers, including information on environmental hazards.	State	State of California
Growth Management	Cotati Municipal Code, Title 17, Chapter 17.52, Sections 010-050; Ordinance 766 § 2 Exhibit A (part), 2004; growth management is also covered within the city's General Plan.	According to CMC Chapter 17.52.010 Purpose, "This chapter provides growth management procedures to phase the construction of new dwellings within the city so that new development does not exceed the resource, infrastructure, and public service capacities of the city." However, growth management ordinances have been (temporarily) prohibited from implementation by recent changes in state law (SB 330, Housing Crisis Act) and the Department of Housing and Community Development (HCD) has been pushing local jurisdictions to repeal any growth management ordinances. Based on this, growth management should not be counted on to assist with HMP implementation or risk reduction.	Municipal	Community Development Department and City of Cotati
Environmental Protection Ordinance	Cotati Municipal Code, Title 17, Chapters 17.54, Sections 010-080 (tree preservation and protection) & 17.56, Sections (wetland protection and restoration); Ordinance 766 § 2 Exhibit A (part), 2004 covers both chapters.	CMC Chapter 17.54 requires tree removal permits for tree removals, which must be approved by city staff, who determine whether the tree is considered a hazard and shall be removed. 17.56.040 General wetland preservation and enhancement standards protects existing wetlands and aims for "no net loss" of these areas. The associated protections and mitigation can help to reduce hazard risk.	Municipal	Community Development Department and City of Cotati

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Flood Damage Prevention Ordinance	Cotati Municipal Code, Title 15, Chapter 15.04, section 040—methods of reducing flood losses; Ordinance 819 § 2(part), 2008: Ordinance 667 § 2(part), 1997	CMC 15.04.040 Methods of reducing flood losses. Outlines regulations to: A. Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities B. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction C. Control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters D. Control filling, grading, dredging, and other development which may increase flood damage E. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas. (Ord. 819 § 2(part), 2008: Ord. 667 § 2(part), 1997) Wetland protection is managed through the CEQA process, with any new development or infrastructure project being required to avoid or mitigate for impacts to identified wetlands. It is unclear how this would be integrated into the HMP but flooding risks are reduced when wetlands are preserved and/or thoughtfully mitigated to ensure the loss of their function does not allow flood impacts to occur.	Municipal	Public Works Department and City of Cotati
Wellhead Protection	Cotati Municipal Code Title 13, Chapters 13.02-13.30 City Water Systems, etc.	Regulations governing public water supply and augmentation of this supply through the pumping of well water into the system.	Municipal and State	Public Works Department and City of Cotati
Emergency Management Ordinance	Cotati Municipal Code, Title 2, Chapter 2.24 Emergency Organization and Functions, Sections 010-080—discusses the Cotati Disaster Council's roles and duties; 2.24.080 Emergency Plan—The Cotati Disaster Council shall be responsible for the development of the city emergency plan.	Integrating an emergency management ordinance with a hazard mitigation plan reduces risk by legally supporting proactive actions, aligning planning with response, and ensuring resources and policies are in place to prevent or lessen disaster impacts.	Municipal	City Manager's Office

Planning Documents

Table 4-3 summarizes the planning documents available to the City of Cotati.

Table 4-3. City of Cotati Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	Cotati General Plan, Adopted 03/24/2015—safety element discusses seismic, geologic, and flooding hazards in addition to flood protection measures.	The City general plan identifies natural resource areas and prioritizes development outside of these resource areas. Adequate additional land is available outside the City boundary but within the sphere of influence to accommodate all projected growth and avoid sensitive natural resources and hazard areas.	Municipal	Community Development Department and City of Cotati
Capital Improvement Plan	City of Cotati Capital Improvement Program (CIP) FYs 2020/21 – 2024/25 – the plan is updated every 5 years.	The CIP annual adoption process allows Planning Commission and Community Development Department review of the proposed project list to ensure compliance with the Cotati General Plan. This review ensures adequate limitations on spending that would encourage development in areas vulnerable to natural hazards. Further, the General Plan includes policies that limit extension of infrastructure that would encourage growth in vulnerable areas. Lastly, the CIP process considers the FEMA Mitigation Plan when projects are being considered and prioritized.	Municipal	Public Works Department and City of Cotati
Floodplain Management or Watershed Plan	Cotati Municipal Code Chapter 15.04 Floodplain Management	This ordinance supports the HMP by regulating development in flood-prone areas, reducing flood risk and property damage.	Municipal	Public Works Department, and City of Cotati
Stormwater Management Plan	Phase II National Pollutant Discharge Elimination System (NPDES) Storm Water Management Plan, March 2005	This plan aligns with the HMP by managing runoff and reducing localized flooding and water pollution during storm events.	Municipal	Public Works Department, and City of Cotati
Stormwater Pollution Prevention Plan	Cotati Municipal Code Chapter 13.68 Stormwater Ordinance	This ordinance helps the HMP by preventing pollutants from entering waterways, protecting water quality and reducing environmental hazards.	Municipal	Public Works Department and City of Cotati
Open Space Plan	General Plan Conservation Element Chapter 5 and Cotati Municipal Code Chapter 17 Land Use	The City General Plan Conservation Chapter identifies natural resource areas, including open space and prioritizes development outside of these resource areas. Further, zoning standards require specific amounts of open space for residential development and limit the amount of impervious lot coverage allowed as a component of individual developments. Zoning standards for parking lot development also require a specified amount of shade coverage.	Municipal	Community Development Department and City of Cotati
Urban Water Management Plan	Sonoma Water 2015 Urban Water Management Plan—City of Cotati is referenced as having participated in the development of the plan	This plan supports the HMP by promoting long-term water supply reliability and conservation, helping to reduce drought-related risks and ensure emergency water availability.	County	Sonoma Water and County of Sonoma

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Habitat Conservation Plan	In Process	In 2024, the County of Sonoma initiated a process to draft a Habitat Conservation Plan to address the resource management and protection requirements for identified sensitive and endangered species, with the goal of taking an ecosystem management approach. This effort is in the initial phases but is anticipated to identify and map environmental systems with the goal of protection and preservation, restore habitat and ecosystem ranges and draft environmental policies and procedures to ensure successful management of these species and resources.	County	Community Development Department and City of Cotati
Economic Development Strategy	In Process in 2025-Economic Development Strategy and Implementation Program; also economic vitality chapter within the general plan.	This strategy supports the HMP by promoting resilient economic growth, encouraging hazard-aware development, and helping businesses recover more quickly after disasters.	Municipal	City Manager and Community Development Department and City of Cotati
Community Wildfire Protection Plan	Sonoma County Community Wildfire Protection Plan	In June 2023, the Sonoma County Community Wildfire Protection Plan (CWPP) was formally integrated into the Sonoma County Annex of the Multi-Jurisdictional Hazard Mitigation Plan (HMP) by reference. This integration ensures that wildfire-specific strategies from the CWPP are aligned with the broader, multi-hazard framework of the HMP. By linking the two plans, Sonoma County strengthens its ability to reduce risk through coordinated planning, resource sharing, and project implementation. The HMP addresses a wide range of hazards—including floods, earthquakes, landslides, and severe weather—while the CWPP provides a focused approach to wildfire mitigation. Together, these plans support comprehensive risk assessment, prioritize mitigation actions, and enhance eligibility for state and federal funding, ultimately reducing the County's overall vulnerability to disasters.	County	Permit Sonoma Fire Prevention Division
Transportation Plan	2015 General Plan Circulation Element Chapter 2; 2024 Active Transportation Plan	These transportation planning documents limit access to hazard areas and are used to guide and prioritize growth in safe directions. Further, these documents identify future circulation infrastructure to ensure orderly transportation options are available to public safety staff as growth occurs. These plans prioritize growth near transportation and transit hubs, with a focus on promoting compact mixed-use development away from hazard areas.	Municipal	Community Development Department and Public Works Department and City of Cotati

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Climate Action/ Resilience/ Sustainability Plan	Sonoma County Regional Climate Action Plan, July 2016—City of Cotati website links to this plan, contents list actions taken within general plan and through code & ordinance adoption. City of Cotati has a focus on Climate and Sustainability. https://ca-cotati.civicplus.com/1485/Climate-and-Sustainability	The Sonoma County Climate Plan is integrated with the Multi-Jurisdictional Hazard Mitigation Plan (HMP) through shared goals, aligned strategies, and cross-referenced planning documents. Several of the Climate Plan's 54 measures—particularly those related to wildfire, water, and natural lands—were informed by and support the risk reduction strategies outlined in the HMP. By aligning with key regional plans, including the HMP, the Climate Plan enhances the County's ability to address climate-related hazards such as wildfires, drought, and extreme weather. This integration strengthens long-term resilience by coordinating mitigation actions across sectors, reducing emissions, increasing carbon storage, and protecting vulnerable infrastructure and populations from future climate impacts.	County and Local (regional partnership)	County of Sonoma, City of Cotati
Business/ Downtown Development/ Redevelopment Plan	Downtown Specific Plan	The City of Cotati Downtown Specific Plan governs and regulates development within the downtown boundaries of the City. This Plan, combined with the zoning standards and building code, regulates the development pattern, construction methods and occupancy of buildings within the downtown. This plan prioritizes growth near transportation and transit hubs, with a focus on promoting compact mixed-use development away from hazard areas.	Municipal	Community Development Department and City of Cotati
Other Plan	Santero Way Specific Plan, Adopted February 2025	This plan includes a goal to increase residential development and commercial activities around the SMART Station. This effort was funded by a grant from the Metropolitan Transportation Commission and the Association of Bay Area Governments and incorporates their Transit Oriented Communities policies, focused on the core elements of land use density, affordable housing, parking management and multimodal access.	Municipal	Community Development Department

Response and Recovery Planning Documents

Table 4-4 summarizes the response and recovery planning documents for the City of Cotati.

Table 4-4. City of Cotati Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	City of Cotati Emergency Operations Plan—updated 2019	This plan complements the HMP by outlining coordinated response procedures for disasters, helping to reduce impacts and speed up recovery efforts.	Municipal	City Manager's Office and City of Cotati
Public Health Plan	Cotati General Plan Community Health & Wellness Element, Chapter 3	The Community Health and Wellness Element primarily relies on the Land Use and Safety Element for policies related to the HMP and risk reduction.	Municipal	Community Development Department and City of Cotati

4.6.2 Integration

Table 4-2 through Table 4-4 list the local planning mechanisms currently in place for the City of Cotati. Several of these mechanisms, such as the General Plan, Building Code, Zoning Code, and Capital Improvement Plan, already incorporate hazard-related policies, including seismic safety standards, floodplain development restrictions, and growth management strategies.

The HMP builds on these foundations by identifying mitigation actions that align with and support existing policies, ensuring that hazard mitigation is not treated as a standalone effort but as a coordinated component of broader community planning. As these local plans are updated, information from the HMP, such as risk assessments, vulnerability data, and prioritized projects, can be incorporated to maintain consistency and reinforce long-term resilience goals.

This integration enhances the City's overall risk management framework and ensures that future HMP updates are informed by comprehensive, data-driven insights. By aligning planning efforts across departments and documents, the City strengthens its ability to mitigate risks and adapt to evolving environmental conditions.

4.6.3 Development and Permitting Capability

Table 4-5 summarizes the capabilities of Cotati to oversee and track development.

Table 4-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Community Development Department
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	–
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	Yes	-
Describe the level of buildout in your jurisdiction.	N/A	A majority of the available parcels are developed, but many (approximately 25%) are underdeveloped. There are some undeveloped parcels, many of which are owned by developers.

4.6.4 Administrative and Technical Capability

Table 4-6 through Table 4-7 summarizes potential staff and personnel resources available to Cotati and their current responsibilities that contribute to hazard mitigation. To expand and improve these

capabilities, the City could explore the creation of a mitigation planning committee, open space board, or economic development committee.

Table 4-6. Administrative Capabilities

Resources	Available?	Comment
Planning Board	Yes	Planning Commission serves this role
Zoning Board of Adjustment	Yes	Planning Commission serves this role
Planning Department	Yes	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Planning Commission serves this role.
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Public Works Department
Construction/Building/Code Enforcement Department	Yes	Community Development Department
Emergency Management/Public Safety Department	Yes	City Manager's Office leads Emergency Management, supported by the Police Department
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works Department
Mutual aid agreements	Yes	With multiple jurisdictions throughout the County
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	City Manager's Office and available on the City website
Other	-	-

Table 4-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works/Engineering Department
Planners or engineers with an understanding of natural hazards	Yes	Community Development and Public Works/Engineering Department
Staff with expertise or training in benefit/cost analysis	Yes	Administrative Services Department
Professionals trained in conducting damage assessments	Yes	The City contracts with building department staff, including a certified Building Official and Building Inspectors
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Public Works/Engineering Department
Staff that work with socially vulnerable populations or underserved communities	Yes	SAFE Team

Resources	Available?	Comment
Environmental scientists familiar with natural hazards	No	-
Surveyors	Yes	Public Works/Engineering Department
Emergency manager	Yes	Police Department
Grant writers	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

4.6.5 Fiscal Capability

Table 4-8 summarizes financial resources available to Cotati. To expand and improve these capabilities, the City could explore incurring debt through private activity bonds or withholding public expenditures in hazard-prone areas.

Table 4-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes – water and sewer
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes, with voter approval
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

4.6.6 Education and Outreach Capability

Table 4-9 summarizes the education and outreach resources available to Cotati. To expand and improve these capabilities, the City could explore the creation of a natural disaster safety program for schools.

Table 4-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	City Manager's Office
Personnel skilled or trained in website development	Yes	Administrative Services Department
Hazard mitigation information available on your website	Yes	Disaster Preparedness Information and Materials
Social media for hazard mitigation education and outreach	Yes	Facebook and Instagram
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Planning Commission
Warning systems for hazard events	Yes	Civic Alert, SoCo Alert
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	City contracts with the Sonoma County Development Commission to provide all housing services targeting vulnerable and under-served communities
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Civic Alert

4.6.7 Community Classifications

Table 4-10 summarizes classifications for community programs available to Cotati.

Table 4-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes – Rancho Adobe Fire Protection District within City of Cotati Limits	5	-
National Weather Service StormReady Certification	No	-	-
Firewise Communities Classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	-	-

N/A = Not applicable; — = Unavailable

4.6.8 Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and

withstand a future hazard event, future conditions, and changing risk. Table 4-11 summarizes the adaptive capacity for each identified hazard of concern and the City's capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 4-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

4.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 4.1 is responsible for maintaining this information.

The City has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the City on December 2, 2008. The Director of Public Works and Engineering is responsible for implementing the requirements of the NFIP by requiring permits for all development within SFHAs shown on the latest FIRM. The Director of Public Works and Engineering reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement

actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The City implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The Director of Public Works and Engineering uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

While the City participates in the NFIP, it does not participate in the CRS. Table 4-12 provides a summary of NFIP compliance in Cotati.

Table 4-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	Public Works and Engineering
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? **If so, what type of assistance/training is needed?**	Yes Updating regulations and standards
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Flood services include development review for consistency with flood standards and making FEMA flood zones accessible to public via GIS.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Development review
What are the barriers to running an effective NFIP program in the community, if any?	Unsure
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? **If so, state the violations.**	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2018
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 15.04 of the Cotati Municipal Code
What is the date that your flood damage prevention ordinance was last amended?	2008
Does your floodplain management program meet or exceed minimum requirements? **If exceeds, in what ways?**	Meets

Question	Comments
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	No
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	No

4.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. According to the dataset, there are no repetitive loss or severe repetitive loss properties in the City of Cotati.

4.7.2 Flood Vulnerability Summary

Table 4-13 provides a summary of flood vulnerability in Cotati.

Table 4-13. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	Areas along the Laguna De Santa Rosa, with the most flood prone areas at East Cotati Avenue and on the west side of US 101.
Do you maintain a list of properties that have been damaged by flooding?	No
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	Not Applicable
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	Follow California Intergovernmental Risk Authority (CIRA) guidance
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	Zero
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	Unknown
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes

4.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction’s overall risk to its hazards of concern. Recent and expected future development trends, including major

residential/commercial development and major infrastructure development, are summarized in Table 4-14 through Table 4-16.

Table 4-14. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020 New Construction Permits Issued	242	24	44	310
2020 Permits Issued within SFHA	21	6	1	28
2021 New Construction Permits Issued	30	0	2	32
2021 Permits Issued within SFHA	0	0	0	0
2022 New Construction Permits Issued	0	0	0	0
2022 Permits Issued within SFHA	0	0	1	1
2023 New Construction Permits Issued	0	0	1	1
2023 Permits Issued within SFHA	0	0	1	1
2024 New Construction Permits Issued	1	2	0	3
2024 Permits Issued within SFHA	0	0	0	0

Note: SFHA = Special Flood Hazard Area

Table 4-15. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Kessing Ranch	Residential	44 SFDs	Multiple	—	Completed Single Family Residential Subdivision
Sandell Warehouse 1	Commercial	1	380 Blodgett St/046-073-006	Partially within a 100-year flood zone	Completed PODS warehouse facility
Sandell Warehouse 2	Commercial	1	390 Blodgett St/046-073-006	Partially within a 100-year flood zone	Completed PODS warehouse facility
Jamie Lane	Residential	5 SFDs	Multiple	—	Completed Single Family Dwellings

Note: Accessory Dwelling Units (ADUs) were not included in the issued permit totals.

a. Only location-specific hazard zones or vulnerabilities identified.

Table 4-16. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
Cotati Village 1	Mixed Use	177 units, 6 buildings	7515 Alder Ave, 8145 Gravenstein Hwy 144-040-011, 144-040-021	—	Entitlements Approved
Cotati Village 2	Mixed Use	126 units	7515 Alder Ave, 8145 Gravenstein Hwy 144-040-011, 144-040-021	—	Entitlements Approved
Cotati Hotel	Commercial	153 rooms	146 St Joseph Wy 144-170-005 144-170-003 144-170-010	—	Construction started
Flahaven Estates	Residential	35 SFDs	8841 Old Redwood Hwy 046-223-018	—	Entitlements Approved
902 E Cotati Cottages	Residential	4 primary units and 2 ADUs, 2 buildings	902 E Cotati Ave 144-302-030	—	Under construction
Cotati Station	Residential	98 units	8354 & 8360 Santero Way 144-320-035; 144-320-034; 144-320-036	—	Entitlements Approved
La Plaza View Mixed Use Project	Mixed Use	35 apartment units, 10,000 sq ft of commercial space	100 E Cotati Ave 144-274-015; 144-275-014	—	Project in design
Lasker Lane Subdivision	Residential	12 SFDs, 12 ADUs	65 Lasker Ln 144-470-007	—	Under review
Redwood Row	Residential	170 apartment units, 14 shopkeeper spaces	286-019, 046-286-018, 046-286-017, 046-286-020	—	Entitlements Approved

Note: Any potential developments not listed in the above table can be found here: https://www.cotaticity.gov/228/projects-in-progress

As noted above, 30 building permits were issued in SFHAs since the previous HMP was adopted and major development is not scheduled to occur in any known hazard areas over the next five years. The percentage of all buildings in the City that are within the 0.2-percent annual chance floodplain (17.5 percent) has not changed since the previous plan, so the overall vulnerability is considered to have stayed the same.

4.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Cotati's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

4.9.1 Hazard Area

Maps of probable hazard areas within the City are shown in Figure 4-3 and Figure 4-4. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Cotati has significant exposure.

Figure 4-3. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

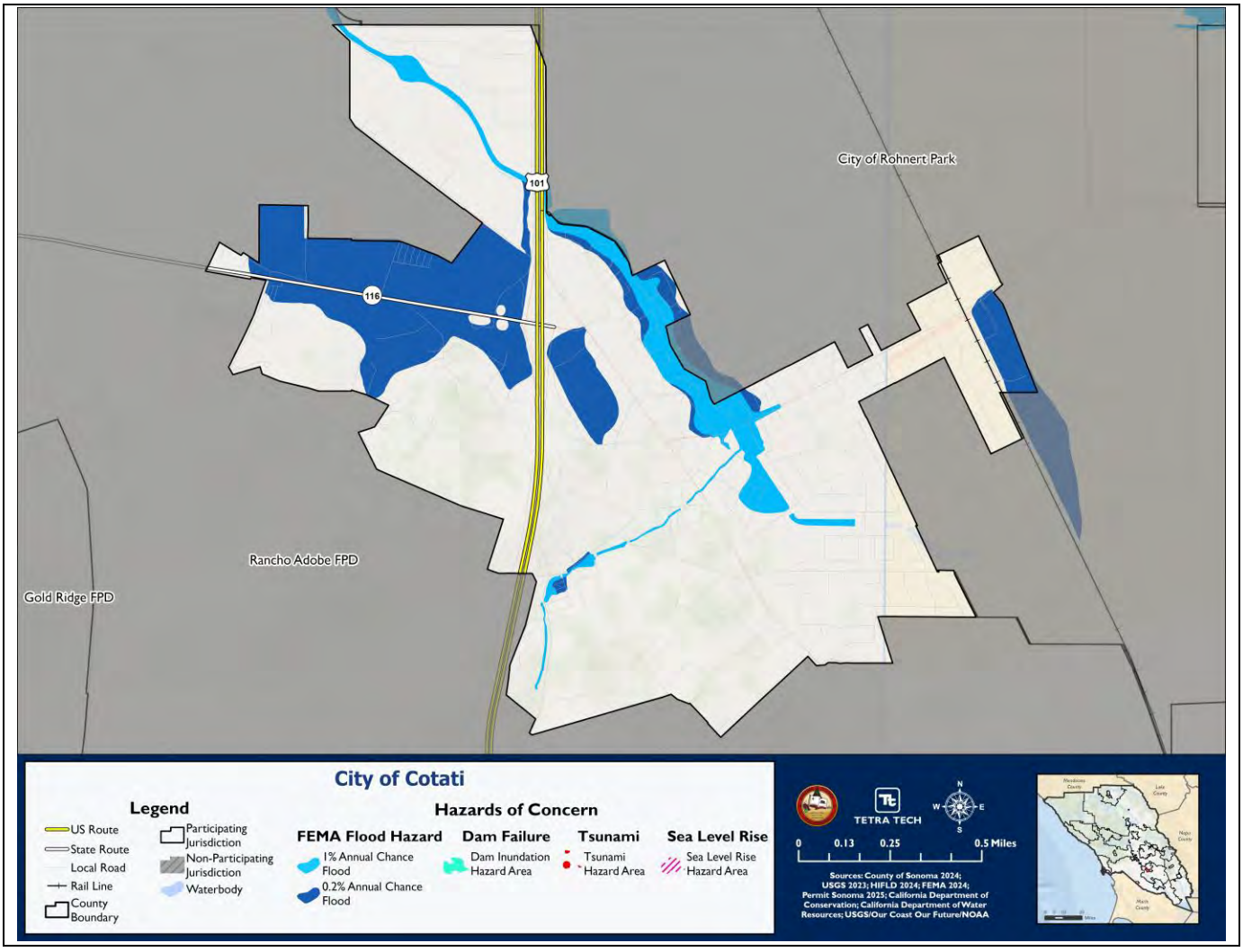
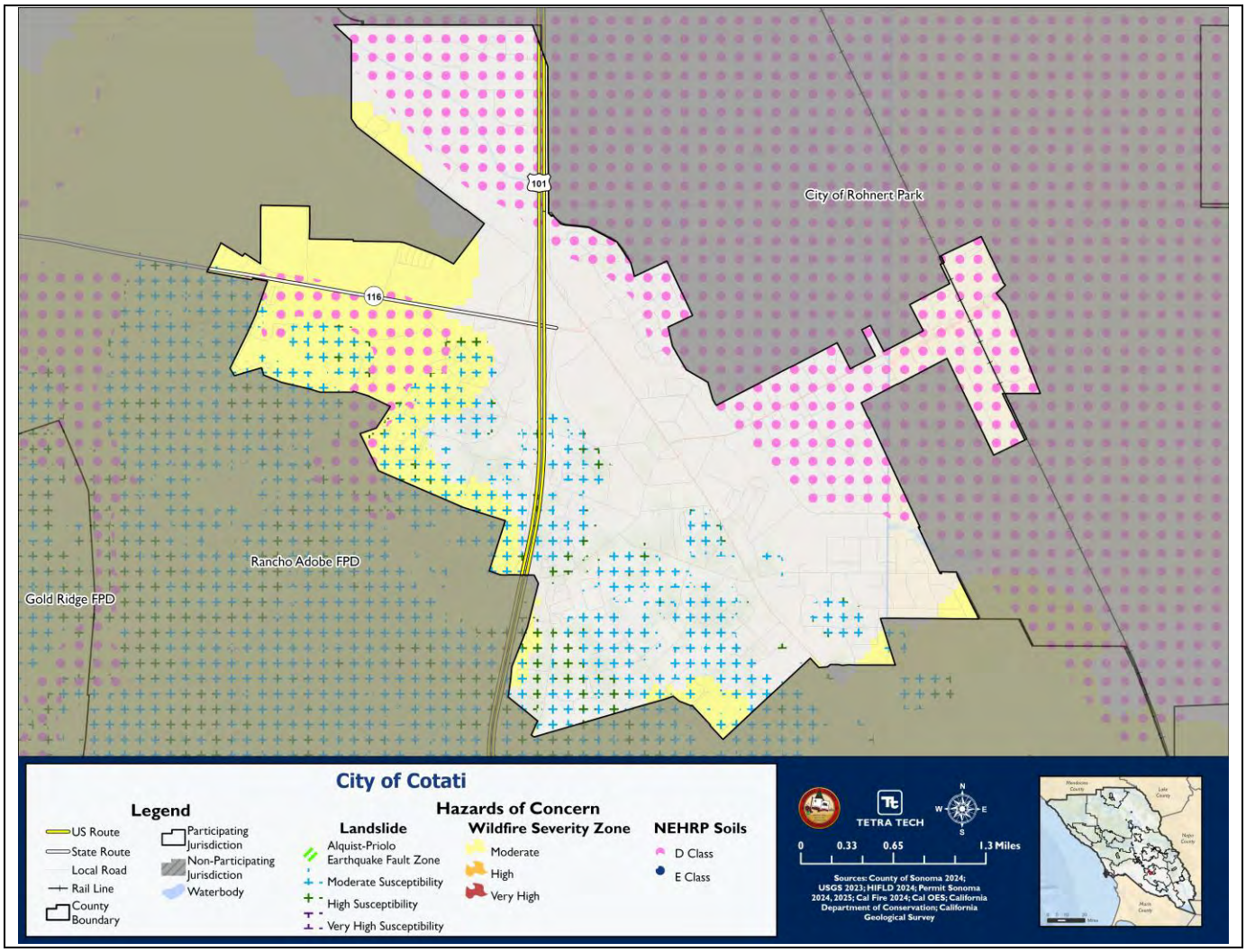


Figure 4-4. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



4.9.2 Hazard Event History

The history of natural and non-natural hazard events in Cotati is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 4-17 provides details on loss and damage in Cotati during hazard events since the last hazard mitigation plan update.

Table 4-17. Hazard Event History in Cotati, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Cotati
January 26-29, 2021	Flood and Debris Flow	N/A	A plume of moisture from the tropical Pacific brought an atmospheric river to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	No significant closures, damage or losses.
March 10, 2021	Hail	N/A	A cold upper low moved through the region in early March bringing widespread showers and isolated thunderstorms to the Greater Bay Area. The Santa Rosa Fire Department reported multiple vehicle accidents on US-101 due to accumulating small hail.	No significant closures, damage or losses.
November 8, 2021	Flood	N/A	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	No significant closures, damage or losses.
December 13, 2021	Flood	N/A	A low pressure system from the Gulf of Alaska tapped into sub-tropical moisture from the Central Pacific to drop heavy rain throughout the state.	No significant closures, damage or losses.
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast.	No significant closures, damage or losses.
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	No significant closures, damage or losses.
January 21-22, 2024	Flood	N/A	Widespread rainfall and nuisance flooding occurred across the Bay Area. Westbound California Route 116 at Travis Road was flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road and Arata Lane offramps from US Highway 101 northbound were closed due to standing water. Flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; 3 inches of water flooded a trailer.	No significant closures, damage or losses.
January 31, 2024	Flood	N/A	A cold front brought widespread rain and high winds through California.	No significant closures, damage or losses.
February 4, 2024	Flood	N/A	Two cold fronts caused minor nuisance flooding gusty winds, and widespread rain. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road near Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. Route 12 was closed due to flooding from Fremont Drive to Watmaugh Road. A creek flowed over Mark West Station Road. Mud, dirt, and rock blocked Los Alamos Road.	No significant closures, damage or losses.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

4.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Cotati.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

The City of Cotati reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. The revised rankings account for the changes in community priorities described in Section 4.5 of this annex and in Volume I of this HMP.

Table 4-18 shows the City of Cotati's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 4-18. Hazard Ranking

Hazard	Rank
Dam Failure	No exposure to this hazard
Drought	Medium
Earthquake	High
Extreme Cold	Low
Extreme Heat	Medium
Extreme Wind	Low
Flood	Medium
Landslide	Low
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

The dam failure inundation area for high and very high hazard dams does not occur within the City's boundaries; therefore, there is no exposure to the dam failure hazard. Because the city is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities in the city.

The City updated the hazard rankings for extreme cold, extreme wind, flood, and wildfire based on the following considerations of local conditions:

- **Extreme Cold and Extreme Wind:** These hazards are generally infrequent and low in severity due to the City's coastal California location. A low ranking is appropriate to reflect the limited risk posed by these events.
- **Flooding:** While the City does not experience widespread flooding, certain areas are subject to localized flood events, particularly during periods of heavy rainfall. A medium ranking better represents the potential impacts and supports appropriate mitigation efforts.
- **Wildfire:** According to the latest State LRA maps, some isolated portions of the City are designated as "moderate" Fire Hazard Severity Zones (FHSZ). However, the majority of the City is not identified as having elevated wildfire risk (See Figure 4-4).

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to the City of Cotati.

Table 4-19 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 4-20 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Table 4-19. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%
NEHRP D & E Soils	31.8%	42.5%	26.3%
1% Annual Chance Floodplain	6.7%	6.0%	5.3%
0.2% Annual Chance Floodplain	17.5%	16.5%	10.5%
Geologic Hazard Area	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	17.1%	13.5%	5.3%
High Landslide Susceptibility Area	3.4%	2.7%	0.0%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	11.0%	9.8%	10.5%
High Fire Hazard Severity Zone	0.0%	0.0%	0.0%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Table 4-20. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NEHRP D & E Soils	32.3%	32.1%	32.3%	31.5%	32.2%	32.2%	32.0%	0.0%
1% Annual Chance Floodplain	7.8%	7.7%	7.8%	7.7%	7.7%	7.7%	7.5%	0.0%
0.2% Annual Chance Floodplain	18.7%	18.7%	18.7%	18.5%	18.6%	18.7%	18.4%	0.0%
Geologic Hazard Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	15.6%	15.4%	15.5%	15.4%	15.5%	15.5%	15.4%	0.0%
High Landslide Susceptibility Area	3.3%	3.2%	3.2%	3.1%	3.2%	3.2%	3.1%	0.0%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	6.6%	6.5%	6.5%	6.2%	6.6%	6.5%	6.6%	0.0%
High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain community lifelines are susceptible to impact if water is unavailable, such as water systems. Four city water wells are identified as critical facilities vulnerable to drought. In addition, the total population of the City (7,533 people) could be impacted by a drought if water rationing is implemented. In particular, the 1,122 adults over age 65 are vulnerable to dehydration in drought conditions.

Buildings located on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an **earthquake**. Almost one-third of the buildings in Cotati (31.8 percent) are located on NEHRP Class D and E soils. In addition, 10 community lifeline facilities are located on Class D and E soils. This includes a bank, daycares, a local bridge, the Cotati Train Station, a sewer lift station, a state bridge, a veterinary office, and water wells. 32.3 percent of the city's population lives on Class D and E soils, including 362 adults over age 65.

Extreme heat is unlikely to cause physical damage to buildings, facilities, or infrastructure. The city has four municipal water wells that are community lifelines. During an extreme heat event, the evaporation of water inside the wells could increase. Individuals who do not have access to air conditioning are vulnerable to health complications during extreme heat episodes. In particular, the 1,122 adults above

age 65 and 600 individuals living below the poverty line could be at risk for heat stroke, especially those who fall into both categories.

Extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gasses. Extreme cold also presents a risk to populations that do not have access to heating, such as the 31 persons experiencing homelessness.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 821 people with disabilities or the 1,122 adults over age 65 may experience difficulty walking through strong gusts of wind.

The City has moderate exposure to **flooding**, with 232 buildings in the 1-percent annual chance floodplain and 604 buildings in the 0.2-percent annual chance floodplain. There are two critical bridges in the 1-percent annual chance floodplain and two veterinary offices in the 0.2-percent chance annual floodplain. 586 people live in the 1-percent annual chance floodplain, including 63 people living with a disability, and 1,410 people live in the 0.2-percent annual chance floodplain, including 153 people living with a disability. **Error! Reference source not found.**Table 4-21 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 4-21. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
LAGUNA DE SANTA ROSA	State Highway Bridge	X	X
LAGUNA DE SANTA ROSA	Local Bridge	X	X
COOK WILLIAM & COOK LYNNE	Veterinary	-	X
CEBO	Veterinary	-	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

The City has low exposure to **landslide** hazards, with 590 buildings in the moderate landslide susceptibility hazard area and 116 buildings in the high landslide susceptibility hazard area. There is one critical facility in the moderate landslide susceptibility hazard area (Thomas Page Academy). There are 1,173 people living in the moderate landslide susceptibility hazard area and 246 people living in the high landslide susceptibility hazard area.

The City has moderate exposure to **wildfires**, with 380 buildings in the moderate fire hazard severity zone. There are three critical facilities in the moderate fire hazard severity zone (Thomas Page Academy and two veterinary offices). There are 496 people living in the moderate fire hazard severity zone, including 54 people living with a disability.

Potential Impacts from Hazards of Local Concern

Table 4-22 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. In the event of a 500-year earthquake, as many as 146

households could be displaced, 69 people may require shelter, 7.9 percent of the buildings in the City could be damaged, and 50,031 tons of debris could be generated. In the event of a 2,500-year earthquake, as many as 489 households could be displaced, 232 people may require shelter, 7.9 percent of the buildings in the City could be damaged, and 134,287 tons of debris could be generated. In the event of a one-percent annual chance flood, as many as 309 people could be displaced, 127 people may require shelter, less than 0.1 percent of the buildings in the City could be damaged, and 42 tons of debris could be generated.

Table 4-22. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	0 people	146 households	489 households	309 people
Population Requiring Shelter	0 people	69 people	232 people	127 people
General Building Damage as % of RCV	0.0%	7.9%	7.9%	<0.1%%
Total Debris Generated (tons)	0	50,031	134,287	42

Note: RCV = Replacement Cost Value

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 4-23 summarizes additional risks specific to the City. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City.

Table 4-23. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Drought	The City is vulnerable to drought conditions that may reduce water availability and impact local agriculture and landscaping.
Earthquake	Located within an active seismic region, Cotati is at risk of experiencing earthquakes that could cause disruption to services and structural damage, specifically to buildings constructed prior to current building standards.
Extreme Cold	Extreme cold events are rare and typically have a minimal impact on Cotati's population and infrastructure.
Extreme Heat	Heat waves occur periodically, posing health risks to residents, especially vulnerable groups, and increasing demand on energy and water systems.
Extreme Wind	The City may experience occasional strong winds that can lead to property damage, power outages, and hazardous conditions.
Flood	Flooding is a concern due to the City's proximity to waterways and the potential for heavy rainfall, which can affect homes, businesses, and infrastructure.
Landslide	Certain areas with sloped terrain may be susceptible to landslides, particularly during heavy rains or seismic events, but no specific landslide hazards have been noted.
Wildfire	Wildfire poses a significant threat to Cotati due to surrounding vegetation and climatic conditions, which can endanger lives, property, and air quality.

4.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, the City of Cotati, through its Public Works/Engineering and Community Development departments, identified the following risk-related issues for the community:

- City water infrastructure is vulnerable to multiple natural hazards, including earthquakes, extreme wind, flooding, and wildfire. These hazards pose a significant risk of damage to water wells and sewer lift stations, which are critical for maintaining public health and safety.
- The City water supply system is vulnerable to hazards such as earthquakes, extreme wind, flooding, and wildfire. These events could disrupt the City's ability to provide a continuous and safe water supply during emergencies, posing a significant risk to public health and safety.
- The City sewer system infrastructure is vulnerable to hazards such as earthquakes, extreme wind, flooding, and wildfire. These events can compromise the integrity of the sewer system, leading to service disruptions, environmental contamination, and public health risks.
- The City faces challenges related to aging water infrastructure, which compromises the reliability and safety of the community's water supply—especially during hazard events such as earthquakes, extreme wind, flooding, and wildfire. Without proactive investment, the aging system may fail to meet future demand or withstand natural disasters.
- The City water infrastructure is vulnerable to the loss of power at well sites during hazard events such as earthquakes, extreme wind, flooding, and wildfire. Power outages can disrupt water supply operations, jeopardizing public health and safety, especially during emergencies when water access is most critical.
- The City of Cotati sewer lift station infrastructure is vulernable to the risk of power loss during hazard events such as earthquakes, extreme wind, flooding, and wildfire. Without backup power, these stations may fail, leading to sewage overflows, environmental contamination, and public health risks.
- The City's critical facilities, such as emergency operations centers, fire stations, and public safety buildings, are vulnerable to the risk of power loss during hazard events including earthquakes, extreme wind, flooding, and wildfire. Without reliable backup power, these facilities may be unable to operate during emergencies, compromising public safety and emergency response capabilities.
- The City recognizes the importance of regional coordination in addressing a wide range of hazards, including drought, earthquake, extreme temperatures, wind, flood, landslide, and wildfire. These hazards do not respect jurisdictional boundaries, and effective mitigation requires a unified, countywide approach.
- The City faces a significant risk of infrastructure failure or damage due to hazards such as earthquakes, flooding, landslides, and wildfires. These events can severely disrupt transportation routes, utilities, and communication systems, making timely and organized evacuation difficult. Without a coordinated evacuation strategy, residents, especially those in vulnerable areas, may face confusion, delays, and increased risk of injury or harm during emergencies.

- The City faces increasing risk of water supply shortages due to hazards such as drought, earthquake, flooding, landslides, and wildfire. These events can disrupt water sourcing and distribution, threatening the availability of safe and reliable drinking water for residents, businesses, and critical facilities.
- The City is experiencing low water pressure and flow, particularly during emergencies such as drought, earthquakes, flooding, landslides, and wildfires. This deficiency poses a serious risk to public safety, as it limits the City's ability to provide adequate water for firefighting and emergency response, especially in high-risk areas.
- During hazard events such as earthquakes, wildfires, or extreme weather, power outages can disrupt traffic signal operations, leading to unsafe intersections and impaired emergency response. This poses a significant risk to public safety and mobility, especially for vulnerable populations and during evacuations.
- The City experiences recurring flooding in the Laguna de Santa Rosa and East Cotati Avenue areas, leading to water loss, infrastructure damage, and disruption of transportation and emergency services. The existing storm drain system is insufficient to manage high-intensity rainfall events, which are becoming more frequent due to climate change.
- Flooding poses a recurring threat to the City of Cotati, endangering property, infrastructure, and public safety. Without access to affordable flood insurance and mitigation incentives, residents and businesses face increased financial vulnerability. Continued participation in the NFIP ensures community eligibility for flood insurance and supports floodplain management efforts.
- Inconsistent or uncoordinated planning between the General Plan's Safety Element and the HMP can lead to gaps in hazard mitigation, regulatory conflicts, and missed opportunities for funding and resilience-building. Ensuring alignment between these plans is essential for legal compliance, operational efficiency, and effective risk reduction.
- The City faces increasing risks of water supply shortages due to prolonged droughts, earthquakes, and wildfire-related infrastructure damage. These hazards threaten the City's ability to provide reliable water for residents, businesses, and emergency services.

4.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

4.10.1 Past Mitigation Action Status

Table 4-24 indicates progress on the City's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 4-24. Status of 2021 Mitigation Actions for Cotati

Mitigation Actions	Status
Project Number	COT-1
Hazards Addressed	Earthquake, severe weather
Lead Agency	City of Cotati
Mitigation Action Description	Implement water system emergency monitoring and leak detection (includes water quality monitoring and zone isolation)
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Partially implemented. Leak detection complete.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	COT-2
Hazards Addressed	Earthquake, severe weather
Lead Agency	City of Cotati
Mitigation Action Description	Collaborate with Sonoma Water on building an emergency interconnect and loop main (Cotati tanks direct interconnect, looping main to Madrone Road)
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Not Started
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	COT-3
Hazards Addressed	Earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Collaborate with the City of Rohnert Park to build a Cotati-Rohnert Park water system emergency interconnect
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Not Started
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	COT-4
Hazards Addressed	Earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Collaborate with the City of Rohnert Park to build a Cotati-Rohnert Park sewer system emergency interconnect
Status	Partially Implemented.
Narrative describing progress or obstacles that have prevented implementation	Received utility maps from Rohnert Park to facilitate temporary emergency interconnection.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	COT-5
Hazards Addressed	Earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Fund and build well sites/tank intrusion monitoring
Status	Not Progress
Narrative describing progress or obstacles that have prevented implementation	Not budgeted. Considered for FY 26-27
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	COT-6
Hazards Addressed	Earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Fund and build well site emergency power interconnects (adding generator hook ups to all well sites)
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Started placing hookups at all well sites.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	COT-7
Hazards Addressed	Earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Fund a Redwood Drive and Myrtle Sewer lift station emergency back-up power source
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Unsuccessful grant applications. Budgeted for FY 25-26
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-07
If discontinue, explain why	Not Applicable
Project Number	COT-8
Hazards Addressed	Earthquake, Severe Weather, Wildfire
Lead Agency	City of Cotati
Mitigation Action Description	Fund critical facilities emergency stationary back-up power system and back-up power project
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Consultant selected to evaluate power options. The study is budgeted for FY 25-26
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-08
If discontinue, explain why	Not Applicable
Project Number	COT-9
Hazards Addressed	Earthquake, wildfire, severe weather, flood, landslide, dam failure, drought, sea level rise, tsunami
Lead Agency	City of Cotati
Mitigation Action Description	Support ongoing hazard mitigation efforts in the county.
Status	Ongoing, In progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	COT-10
Hazards Addressed	Earthquake, wildfire
Lead Agency	City of Cotati
Mitigation Action Description	Fund and implement evacuation coordination project
Status	In progress

Mitigation Actions	Status
Narrative describing progress or obstacles that have prevented implementation	Police zones established as evacuation zones.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-10
If discontinue, explain why	Not Applicable
Project Number	COT-11
Hazards Addressed	Earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Develop an infrastructure asset management system for inspection/rapid repair
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Partially complete. NexGen software being used.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-01
If discontinue, explain why	Not Applicable
Project Number	COT-12
Hazards Addressed	Wildfire, earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Fund emergency water storage and supply projects
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Approved rate increases for the next 5 years
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-11 and 2026-Cotati-17
If discontinue, explain why	Not Applicable
Project Number	COT-13
Hazards Addressed	Wildfire, earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Fund fire flow booster pump system
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Approved rate increases for the next 5 years
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-11
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	COT-14
Hazards Addressed	Wildfire
Lead Agency	City of Cotati
Mitigation Action Description	Fund water main fire flow projects
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Proposed rate increases for the next 5 years
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-12
If discontinue, explain why	Not Applicable
Project Number	COT-15
Hazards Addressed	Wildfire, severe weather, flood, earthquake
Lead Agency	City of Cotati
Mitigation Action Description	Purchase a back-up power source for traffic signal solar red flasher to assist with community movement in the event of power loss
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Battery installed on some signals. Others to be budgeted.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-13
If discontinue, explain why	Not Applicable
Project Number	COT-16
Hazards Addressed	Flood, severe weather
Lead Agency	City of Cotati
Mitigation Action Description	Fund a Laguna de Santa Rosa/East Cotati Avenue storm drain flood improvement project
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Zone 1A responsibility
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-14
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	COT-17
Hazards Addressed	Flood, severe weather
Lead Agency	City of Cotati
Mitigation Action Description	Maintain participation in NFIP
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	Not aware of anyone in the program
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	See Action Worksheet 2026-Cotati-15
If discontinue, explain why	Not Applicable
Project Number	COT-18
Hazards Addressed	All hazards
Lead Agency	City of Cotati
Mitigation Action Description	Ensure compliance, adoption and coordination between General Plan's Safety Element and HMP
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Achieved through annual general plan update report
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

4.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as completed in Table 4-24, Cotati has made significant mitigation progress in the following areas since the adoption of the previous HMP:

- Tree trimming/thinning
- Weed abatement in public right of way
- Rancho Adobe fire mitigation
- Weed abatement on private properties

4.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Cotati participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)

- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Cotati would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 4-25 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 4-25. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure										
Drought	X	X		X	X	X	X			X
Earthquake	X	X		X	X	X	X			X
Extreme Cold	X			X	X	X	X			X
Extreme Heat	X			X	X	X	X			X
Extreme Wind	X	X		X	X	X	X			X
Flooding	X	X		X	X	X	X	X	X	X
Landslide	X	X		X	X	X	X			X
Sea Level Rise										
Tsunami										
Wildfire	X	X		X	X	X	X			X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 4-26 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 4-26. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Installation of Well Sites	Low	High	3	1-5 years	8.231	High
Emergency Power Interconnects	Low	Medium	3	1-5 years	7.231	High
Backup Power	Medium	High	3	1-5 years	7.231	High
Critical Facilities - Backup Power	High	High	4	1-5 years	6.308	Medium
Madrone Road Interconnection	High	High	4	1-5 years	6.308	Medium
Cotati / Rohnert Park Interconnection (Water)	High	High	4	1-5 years	6.308	Medium
Cotati / Rohnert Park Interconnection (Sewer)	High	High	4	1-5 years	6.308	Medium
Water Wells and Sewer Lift Stations	High	High	4	1-5 years	6.308	Medium
Hazard Mitigation Support	Low	Low	12	1-10 years	5.924	Medium
Storm Drain Flood Improvement	High	High	11	1-10 years	5.847	Medium
NFIP Program	Low	Low	11	1-10 years	5.847	Medium
General Plan Safety Element	Low	Low	11	1-10 years	5.847	Medium
Emergency Water and Supply System	High	High	6	1-10 years	5.462	Medium
Water Main Fire Flow	High	High	6	1-10 years	5.462	Medium
Water Storage and Supply	High	High	6	1-10 years	5.462	Medium
Emergency Power - Traffic Safety Signal	Medium	Medium	5	1-10 years	5.385	Medium
Evacuation Coordination	Medium	Medium	4	1-10 years	5.308	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-Cotati-01. Water Wells and Sewer Lift Stations

Lead Agency:	Public Works and Engineering
Supporting Agencies:	Community Development
Hazards of Concern:	Earthquake, Extreme Wind, Flood, Wildfire
Description of the Problem:	The City of Cotati has identified vulnerabilities in its water infrastructure due to multiple natural hazards, including earthquakes, extreme wind, flooding, and wildfire. These hazards pose a significant risk of damage to water wells and sewer lift stations, which are critical for maintaining public health and safety.
Description of the Solution:	The City proposes implementing a water system emergency monitoring and leak detection system. This infrastructure project will enhance the City's ability to detect and respond to system failures in real time, reducing service disruptions and ensuring the continued delivery of safe drinking water.
Estimated Cost:	High
Potential Funding Sources:	Water Enterprise, FEMA HMGP
Implementation Timeline:	Within 5 years
Objectives Met:	2,3,4,6
Benefits:	Ability to supply safe drinking water
Impact on Socially Vulnerable Populations:	Enhanced public health protection
Impact on Future Development:	Supports resilient infrastructure planning, ensuring that future development is served by a reliable water system.
Impact on Critical Facilities/Lifelines:	Protects essential water and wastewater infrastructure, which are lifelines for hospitals, emergency services, and residential areas.
Impact on Capabilities:	Strengthens the City’s operational capacity to monitor, maintain, and respond to infrastructure issues during and after hazard events
Climate Change Considerations:	Addresses increased risk of drought and extreme weather events by improving system efficiency and reducing water loss.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	High

Action 2026-Cotati-02. Madrone Road Interconnection

Lead Agency:	City of Cotati Public Works and Engineering
Supporting Agencies:	Community Development
Hazards of Concern:	Earthquake, Extreme Wind, Flood, Wildfire
Description of the Problem:	The City of Cotati has identified a critical vulnerability in its water supply system due to hazards such as earthquakes, extreme wind, flooding, and wildfire. These events could disrupt the City's ability to provide a continuous and safe water supply during emergencies, posing a significant risk to public health and safety.
Description of the Solution:	The City proposes to collaborate with Sonoma Water to construct an emergency interconnect and loop main, specifically, a direct interconnect from the Cotati Tanks to Madrone Road. This infrastructure will allow for temporary water supply continuity during emergencies and improve system redundancy.
Estimated Cost:	High
Potential Funding Sources:	Water Enterprise, grant funding
Implementation Timeline:	Within 5 years
Objectives Met:	2,3,4,6
Benefits:	This action will ensure continuous water supply as needed for a temporary duration during emergencies. Partnerships between water systems can enhance public health protection by sharing equipment and treatment chemicals.
Impact on Socially Vulnerable Populations:	Enhanced public health protection
Impact on Future Development:	Supports resilient infrastructure planning, ensuring new development is served by a more robust water system.
Impact on Critical Facilities/Lifelines:	Strengthens water supply to critical facilities such as hospitals, emergency shelters, and fire services.
Impact on Capabilities:	Increases the City's operational flexibility and emergency response capacity.
Climate Change Considerations:	Enhances resilience to climate-driven hazards such as drought, wildfire, and extreme weather events.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	High

Action 2026-Cotati-03. Cotati-Rohnert Park Water System Emergency Interconnect (Water)

Lead Agency:	City of Cotati Public Works and Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Earthquake, Extreme Wind, Flood, Wildfire
Description of the Problem:	The City of Cotati has identified a critical vulnerability in its water supply system due to hazards such as earthquakes, extreme wind, flooding, and wildfire. These hazards could disrupt the City's ability to maintain a continuous and safe water supply during emergencies, posing a significant risk to public health, safety, and critical services.
Description of the Solution:	The City proposes to collaborate with the City of Rohnert Park to construct a Cotati–Rohnert Park Water System Emergency Interconnect. This infrastructure project would allow for temporary water supply sharing between the two cities during emergencies, enhancing system redundancy and regional resilience.
Estimated Cost:	High
Potential Funding Sources:	Water Enterprise, FEMA HMGP
Implementation Timeline:	Within 5 years
Objectives Met:	2,3,4,6
Benefits:	This action will ensure continuous water supply as needed for a temporary duration during emergencies. Partnerships between water systems can enhance public health protection by sharing equipment and treatment chemicals.
Impact on Socially Vulnerable Populations:	Enhanced public health protection
Impact on Future Development:	Supports resilient infrastructure planning, ensuring future developments are served by a more robust and interconnected water system.
Impact on Critical Facilities/Lifelines:	Strengthens water supply reliability for hospitals, emergency shelters, fire stations, and other essential services.
Impact on Capabilities:	Enhances the City's operational flexibility and emergency response capacity through inter-jurisdictional coordination.
Climate Change Considerations:	Increases resilience to climate-related hazards, such as drought, wildfire, and extreme weather, by diversifying water supply options.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-04. Cotati-Rohnert Park Sewer System Emergency Interconnect (Sewer)

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Earthquake, Extreme Wind, Flood, Wildfire
Description of the Problem:	The City of Cotati has identified a significant vulnerability in its sewer system infrastructure due to hazards such as earthquakes, extreme wind, flooding, and wildfire. These events can compromise the integrity of the sewer system, leading to service disruptions, environmental contamination, and public health risks.
Description of the Solution:	To mitigate this risk, the City proposes to partner with the City of Rohnert Park to construct a Cotati–Rohnert Park Sewer System Emergency Interconnect. This infrastructure project would allow for temporary sewer system support between the two cities during emergencies, ensuring continued wastewater service and reducing the risk of system failure.
Estimated Cost:	High
Potential Funding Sources:	Water Enterprise, FEMA HMGP
Implementation Timeline:	Within 5 years
Objectives Met:	2,3,4,6
Benefits:	Emergency interconnects allow sewer systems to operate during emergencies when regular connections are compromised.
Impact on Socially Vulnerable Populations:	Enhanced public health protection
Impact on Future Development:	Supports resilient infrastructure planning, ensuring new developments are served by a more robust and interconnected sewer system.
Impact on Critical Facilities/Lifelines:	Maintains essential wastewater services for hospitals, emergency shelters, and other critical facilities.
Impact on Capabilities:	Improves the City’s emergency response and operational flexibility through regional collaboration.
Climate Change Considerations:	Enhances resilience to climate-related hazards, such as increased flooding and wildfire events, which can damage sewer infrastructure.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-05. Installation of Well Sites

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Earthquake, Extreme Wind, Flood, Wildfire
Description of the Problem:	The City of Cotati faces challenges related to aging water infrastructure, which compromises the reliability and safety of the community's water supply—especially during hazard events such as earthquakes, extreme wind, flooding, and wildfire. Without proactive investment, the aging system may fail to meet future demand or withstand natural disasters.
Description of the Solution:	The City proposes to fund and construct new well sites to modernize its water infrastructure. These wells will provide a more reliable and resilient source of clean drinking water, ensuring service continuity during emergencies and reducing dependence on aging components.
Estimated Cost:	Low
Potential Funding Sources:	Water Enterprise, FEMA HMGP
Implementation Timeline:	Within 5 years
Objectives Met:	3,4,6
Benefits:	Consistent clean water supply
Impact on Socially Vulnerable Populations:	Provides clean and fresh drinking water
Impact on Future Development:	Supports sustainable growth by ensuring adequate water infrastructure for new developments.
Impact on Critical Facilities/Lifelines:	Strengthens water supply reliability for hospitals, emergency shelters, and essential services.
Impact on Capabilities:	Improves the City's capacity to manage and maintain a modern, hazard-resilient water system.
Climate Change Considerations:	Enhances resilience to drought and extreme weather events by diversifying and securing water sources.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-06. Emergency Power Interconnects

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Earthquake, Extreme Wind, Flood, Wildfire
Description of the Problem:	The City of Cotati has identified a vulnerability in its water infrastructure due to the loss of power at well sites during hazard events such as earthquakes, extreme wind, flooding, and wildfire. Power outages can disrupt water supply operations, jeopardizing public health and safety, especially during emergencies when water access is most critical.
Description of the Solution:	The City proposes to fund and install emergency power interconnects at all well sites, including generator hookups. This will ensure that well operations can continue during power outages, enhancing the City's resilience and ability to maintain essential services.
Estimated Cost:	Low
Potential Funding Sources:	Water Enterprise, FEMA HMGP
Implementation Timeline:	Within 5 years
Objectives Met:	3,4,6
Benefits:	Builds power resilience and ensures wells continue to work during a power outage.
Impact on Socially Vulnerable Populations:	Provides clean and fresh drinking water during a power outage.
Impact on Future Development:	Supports sustainable and resilient infrastructure for future growth.
Impact on Critical Facilities/Lifelines:	Maintains water service to hospitals, emergency shelters, and fire services.
Impact on Capabilities:	Increases the City's operational readiness and ability to respond to multi-hazard events.
Climate Change Considerations:	Addresses increased risk of climate-driven power outages due to wildfire, heatwaves, and storms.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-07. Backup Power

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Earthquake, Extreme Wind, Flood, Wildfire
Description of the Problem:	The City of Cotati has identified a critical vulnerability in its sewer lift station infrastructure due to the risk of power loss during hazard events such as earthquakes, extreme wind, flooding, and wildfire. Without backup power, these stations may fail, leading to sewage overflows, environmental contamination, and public health risks.
Description of the Solution:	The City proposes to fund and install emergency backup power systems at the Redwood Drive and Myrtle Road sewer lift stations. This includes generator hookups or permanent backup generators to ensure continued operation during power outages.
Estimated Cost:	Medium
Potential Funding Sources:	Water Enterprise, FEMA HMGP
Implementation Timeline:	Within 5 years
Objectives Met:	3,4,6
Benefits:	Builds power resilience and ensures sewer lift stations continue to work during a power outage.
Impact on Socially Vulnerable Populations:	Enhances public protection
Impact on Future Development:	Supports resilient infrastructure planning for new developments.
Impact on Critical Facilities/Lifelines:	Protects wastewater service to hospitals, emergency shelters, and other essential facilities.
Impact on Capabilities:	Increases the City’s emergency response capacity and operational resilience.
Climate Change Considerations:	Addresses increased risk of climate-related power outages due to wildfire, storms, and extreme weather.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	High

Action 2026-Cotati-08. Critical Facilities – Backup Power

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Earthquake, Extreme Wind, Flood, Wildfire
Description of the Problem:	The City of Cotati has identified a significant vulnerability in its critical facilities, such as emergency operations centers, fire stations, and public safety buildings, due to the risk of power loss during hazard events including earthquakes, extreme wind, flooding, and wildfire. Without reliable backup power, these facilities may be unable to operate during emergencies, compromising public safety and emergency response capabilities.
Description of the Solution:	The City proposes to fund and install stationary emergency backup power systems at key critical facilities. These systems will ensure that essential services remain operational during power outages, enhancing the City's resilience and ability to protect the community during disasters. The critical facilities are listed below: • Cotati City Hall - 201 West Sierra Ave • Cotati Police Dept - 203 West Sierra Ave • Sewer Lift Station - Benson Lane, west of Laguna • Sewer Lift Station - Eagle Dr between Lark Dr and Flamingo • Sewer Lift Station - Myrtle Ave between Keppel and Hahn • Sewer Lift Station - Redwood Dr, south of Copeland Creek • Water Well - 90 East Sierra Ave • Water Well - 8562 Lakewood Ave • Water Well - Northwest corner of Cotai near Houser St.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP
Implementation Timeline:	Within 5 years
Objectives Met:	3,4,6
Benefits:	Ensures reliability, safety, and continuity of emergency operations
Impact on Socially Vulnerable Populations:	Provides consistent access to emergency services, especially for those with limited mobility or resources.
Impact on Future Development:	Supports resilient infrastructure planning and ensures future developments are supported by reliable emergency services.
Impact on Critical Facilities/Lifelines:	Protects the operational capacity of lifeline services, including emergency response, communications, and public health.
Impact on Capabilities:	Strengthens the City's emergency management capabilities and continuity of operations.
Climate Change Considerations:	Addresses increased risk of climate-related power outages due to wildfires, storms, and extreme heat events.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-09. Hazard Mitigation Support

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The City of Cotati recognizes the importance of regional coordination in addressing a wide range of hazards, including drought, earthquake, extreme temperatures, wind, flood, landslide, and wildfire. These hazards do not respect jurisdictional boundaries, and effective mitigation requires a unified, countywide approach.
Description of the Solution:	To support this action, the City will actively participate in and contribute to ongoing hazard mitigation efforts led by Sonoma County. This includes attending planning meetings, sharing data, aligning local policies with regional strategies, and supporting implementation of multi-jurisdictional mitigation actions.
Estimated Cost:	Low
Potential Funding Sources:	Staff time
Implementation Timeline:	On going
Objectives Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Benefits:	Strengthens regional hazard mitigation capacity.
Impact on Socially Vulnerable Populations:	Improves equitable access to hazard mitigation resources and protections.
Impact on Future Development:	Encourages coordinated land use planning that reduces exposure to hazards.
Impact on Critical Facilities/Lifelines:	Supports regional infrastructure resilience, benefiting shared lifelines and services.
Impact on Capabilities:	Builds institutional knowledge and interagency coordination, improving response and recovery capabilities.
Climate Change Considerations:	Enhances the community's ability to adapt to evolving climate risks through shared strategies, data, and resources.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures, Emergency Services
Priority	Medium

Action 2026-Cotati-10. Evacuation Coordination

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	The City of Cotati faces a significant risk of infrastructure failure or damage due to hazards such as earthquakes, flooding, landslides, and wildfires. These events can severely disrupt transportation routes, utilities, and communication systems, making timely and organized evacuation difficult. Without a coordinated evacuation strategy, residents, especially those in vulnerable areas, may face confusion, delays, and increased risk of injury or harm during emergencies.
Description of the Solution:	The City proposes to fund and implement a comprehensive evacuation coordination plan. This plan would include route planning, interagency coordination, communication protocols, and public outreach to ensure residents are informed and prepared to evacuate safely and efficiently during a disaster.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMGP, general fund
Implementation Timeline:	5+ years
Objectives Met:	3,4,5,6
Benefits:	Effective communication reducing panic and injuries, reduced chaos and confusion, better decision making in an emergency
Impact on Socially Vulnerable Populations:	Enhances public protection by ensuring equitable access to evacuation resources and information.
Impact on Future Development:	Encourages resilient land use planning by identifying and addressing evacuation challenges in new developments.
Impact on Critical Facilities/Lifelines:	Ensures continued access to and from critical facilities, such as hospitals and emergency shelters, during disasters.
Impact on Capabilities:	Strengthens the City’s emergency response infrastructure and interagency coordination.
Climate Change Considerations:	Supports preparedness for climate exacerbated hazards, such as more frequent wildfires, intense storms, and flooding, which may increase the need for rapid evacuations.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-11. Emergency Water and Supply System

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Drought, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	The City of Cotati faces increasing risk of water supply shortages due to hazards such as drought, earthquake, flooding, landslides, and wildfire. These events can disrupt water sourcing and distribution, threatening the availability of safe and reliable drinking water for residents, businesses, and critical facilities.
Description of the Solution:	The City proposes to fund and implement emergency water storage and supply projects. These may include the construction of new water storage tanks, reservoirs, or interconnects that enhance the City's ability to maintain water availability during and after hazard events.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, Water Enterprise
Implementation Timeline:	5+ years
Objectives Met:	2,3,4,5,6,12
Benefits:	Mitigating impact of drought and minimizing the risk of water shortages.
Impact on Socially Vulnerable Populations:	Ensures equitable access to safe drinking water during emergencies.
Impact on Future Development:	Supports sustainable growth by ensuring adequate water infrastructure for new developments.
Impact on Critical Facilities/Lifelines:	Maintains water supply for hospitals, emergency shelters, and fire suppression systems.
Impact on Capabilities:	Strengthens the City's operational readiness and emergency response capacity.
Climate Change Considerations:	Addresses increased risk of drought and extreme weather by improving long-term water storage and supply reliability.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-12. Water Main Fire Flow

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Drought, Earthquake, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The City of Cotati is experiencing low water pressure and flow, particularly during emergencies such as drought, earthquakes, flooding, landslides, and wildfires. This deficiency poses a serious risk to public safety, as it limits the City's ability to provide adequate water for firefighting and emergency response, especially in high-risk areas.
Description of the Solution:	The City proposes to fund and implement water main fire flow projects. These projects will upgrade and expand water mains to ensure consistent and reliable water pressure and flow, particularly for fire suppression and emergency services.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, Water Enterprise
Implementation Timeline:	5+ years
Objectives Met:	2,3,4,6,7,9
Benefits:	Ensures reliable water pressure and flow during emergencies, safeguards lives and property.
Impact on Socially Vulnerable Populations:	Provides equitable protection by ensuring all neighborhoods have access to adequate fire flow.
Impact on Future Development:	Supports safe and sustainable growth by meeting fire flow requirements for new developments.
Impact on Critical Facilities/Lifelines:	Maintains water supply for hospitals, emergency shelters, and fire stations.
Impact on Capabilities:	Strengthens the City's emergency response infrastructure.
Climate Change Considerations:	Addresses increased fire risk and water system strain due to climate-driven drought and extreme weather.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-13. Emergency Power - Traffic Safety Signal

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	During hazard events such as earthquakes, wildfires, or extreme weather, power outages can disrupt traffic signal operations, leading to unsafe intersections and impaired emergency response. This poses a significant risk to public safety and mobility, especially for vulnerable populations and during evacuations.
Description of the Solution:	Purchase and install a backup power source for the Traffic Signal Solar Red Flasher system to ensure continued traffic control during power outages. This will support safe and efficient community movement during emergencies.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMGP, PDM, General Fund
Implementation Timeline:	5+ years
Objectives Met:	3,4,5,6,10
Benefits:	Safe traffic conditions, better overall visibility
Impact on Socially Vulnerable Populations:	Improves safety and mobility for individuals with limited transportation options or mobility challenges during emergencies.
Impact on Future Development:	Supports resilient infrastructure planning and ensures traffic safety systems are robust against future hazard events.
Impact on Critical Facilities/Lifelines:	Improves access to and from critical facilities such as hospitals, fire stations, and emergency shelters during power outages.
Impact on Capabilities:	Strengthens the city’s emergency response and traffic management capabilities during multi-hazard events.
Climate Change Considerations:	Addresses increased frequency and severity of extreme weather events and wildfires due to climate change, which can lead to more frequent power outages.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Cotati-14. Storm Drain Flood Improvement

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Flood
Description of the Problem:	The City of Cotati experiences recurring flooding in the Laguna de Santa Rosa and East Cotati Avenue areas, leading to water loss, infrastructure damage, and disruption of transportation and emergency services. The existing storm drain system is insufficient to manage high-intensity rainfall events, which are becoming more frequent due to climate change.
Description of the Solution:	Implement a comprehensive storm drain improvement project to enhance floodwater conveyance and storage capacity in the Laguna de Santa Rosa and East Cotati Avenue corridor. This will reduce flood risk, improve water retention for reuse, and minimize soil erosion.
Estimated Cost:	High
Potential Funding Sources:	FEMA FMA, HMGP
Implementation Timeline:	5+ years
Objectives Met:	1,3,4,5,6,7,8,9,10,11,12
Benefits:	Reduced flooding, water collection for other uses, less soil erosion
Impact on Socially Vulnerable Populations:	Improves safety and resilience for low-income and underserved communities that are disproportionately affected by flooding.
Impact on Future Development:	Supports sustainable growth by reducing flood risk in key development areas and ensuring infrastructure resilience.
Impact on Critical Facilities/Lifelines:	Protects access to emergency routes, utilities, and public services by minimizing flood-related disruptions.
Impact on Capabilities:	Enhances the City’s stormwater management and emergency response capabilities, while supporting long-term climate adaptation goals.
Climate Change Considerations:	Addresses increased flood risk due to more intense and frequent storm events linked to climate change. Promotes adaptive infrastructure that can handle future hydrologic variability.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Natural Resource Protection, Structural Flood Control Projects, Emergency Services
Priority	Medium

Action 2026-Cotati-15. NFIP Program

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Flood
Description of the Problem:	Flooding poses a recurring threat to the City of Cotati, endangering property, infrastructure, and public safety. Without access to affordable flood insurance and mitigation incentives, residents and businesses face increased financial vulnerability. Continued participation in the NFIP ensures community eligibility for flood insurance and supports floodplain management efforts.
Description of the Solution:	Maintain active participation in the NFIP by enforcing floodplain management regulations, updating flood maps, and ensuring compliance with FEMA standards. This includes staff time for program administration, community outreach, and coordination with FEMA and State agencies.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time
Implementation Timeline:	Ongoing
Objectives Met:	Flood insurance, reduce future flood damage, reduce financial risk
Benefits:	1,3,4,5,6,7,8,9,10,11,12
Impact on Socially Vulnerable Populations:	Provides affordable insurance options and financial protection for low-income households and renters in flood-prone areas.
Impact on Future Development:	Guides responsible development in floodplains, reducing long-term risk and ensuring compliance with floodplain regulations.
Impact on Critical Facilities/Lifelines:	Helps protect critical infrastructure by enforcing development standards in flood-prone areas.
Impact on Capabilities:	Strengthens the City’s floodplain management, planning, and emergency preparedness capabilities.
Climate Change Considerations:	Supports long-term resilience to increased flood risk due to more intense and frequent storm events driven by climate change.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information
Priority	Medium

Action 2026-Cotati-16. General Plan Safety Element

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Inconsistent or uncoordinated planning between the General Plan's Safety Element and the HMP can lead to gaps in hazard mitigation, regulatory conflicts, and missed opportunities for funding and resilience-building. Ensuring alignment between these plans is essential for legal compliance, operational efficiency, and effective risk reduction.
Description of the Solution:	Ensure ongoing compliance, adoption, and coordination between the General Plan's Safety Element and the HMP through regular updates, interdepartmental collaboration, and integration of hazard mitigation strategies into land use and development policies.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time
Implementation Timeline:	Ongoing
Objectives Met:	1,3,4,5,6,7,8,9,10,11,12
Benefits:	Legal and financial risk mitigation, operational efficiency
Impact on Socially Vulnerable Populations:	Improves equitable access to hazard mitigation benefits and ensures that vulnerable populations are considered in both planning documents.
Impact on Future Development:	Guides responsible development by embedding hazard mitigation into land use planning and zoning decisions.
Impact on Critical Facilities/Lifelines:	Ensures that critical infrastructure is considered and protected through coordinated planning and hazard assessments.
Impact on Capabilities:	Builds institutional capacity for integrated planning, risk assessment, and long-term resilience.
Climate Change Considerations:	Supports climate adaptation by aligning long-range planning documents with evolving hazard profiles and resilience goals.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information
Priority	Medium

Action 2026-Cotati-17. Water Storage and Supply

Lead Agency:	City of Cotati Public Works/Engineering
Supporting Agencies:	Community Development
Hazard(s) of Concern:	Drought, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	The City of Cotati faces increasing risks of water supply shortages due to prolonged droughts, earthquakes, and wildfire-related infrastructure damage. These hazards threaten the City's ability to provide reliable water for residents, businesses, and emergency services.
Description of the Solution:	Fund and implement emergency water storage and supply projects, such as additional water tanks, reservoirs, or intertie systems, to ensure water availability during hazard events and prolonged drought conditions.
Estimated Cost:	High
Potential Funding Sources:	HMGP Grant funding, Water Enterprise
Implementation Timeline:	5+ years
Objectives Met:	2,3,4,5,6,12
Benefits:	Mitigating impact of drought and minimizing the risk of water shortages
Impact on Socially Vulnerable Populations:	Ensures equitable access to water during emergencies, particularly for low-income and medically vulnerable populations.
Impact on Future Development:	Supports sustainable growth by ensuring water infrastructure can meet future demand and withstand hazard impacts.
Impact on Critical Facilities/Lifelines:	Ensures continued water supply to hospitals, fire stations, and emergency shelters during disasters.
Impact on Capabilities:	Improves the city's ability to respond to and recover from water-related emergencies and infrastructure failures.
Climate Change Considerations:	Addresses increased frequency and severity of droughts and wildfires due to climate change. Enhances adaptive capacity through resilient water infrastructure.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

5. CITY OF HEALDSBURG

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Healdsburg with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the City. The annex presents a general overview of Healdsburg, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

5.1 HAZARD MITIGATION PLANNING TEAM

The City of Healdsburg developed this plan over the course of several months, with input from many City departments. Emergency Services represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The City officials who participated in the development of the annex are listed below and shown in Table 5-1. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Point of Contact: Kelsey Carreiro, Emergency Manager

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NFIP Administrator: Larry Zimmer, Public Works Director

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Phone Number: 707-431-3346

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Table 5-1. Additional Contributors

Name	Department	Position	HMP Contribution
Kelsey Carreiro	Police Department	Emergency Manager	Participated in the planning process by reviewing drafts and providing required worksheets.
Raina Allen	City Manager's Office	City Clerk & PIO	Participated in the planning process.
Matt Jenkins	Police Department	Police Chief	Participated in the planning process.
Jason Boaz	Fire Department	Fire Chief	Participated in the planning process.
Lance Macdonald	Fire Department	Fire Marshall	Participated in the planning process.
April Mitts	City Manager's Office	Assistant City Manager	Participated in the planning process.
Scott Duiven	Community Development	Community Development Director	Participated in the planning process.
Ellen McDowell	Community Development	Senior Planner	Participated in the planning process.
Larry Zimmer	Public Works	Public Works Director	Participated in the planning process.
Mark Themig	Community Services	Community Services Director	Participated in the planning process.
Jeff Kay	City Manager's Office	City Manager	Participated in the planning process.
Stephen Sotomayor	Housing	Housing Director	Participated in the planning process.
Tyler Kettmann	City Manager's Office	Central Services Manager	Participated in the planning process.
Curt Bates	Public Works	Principal Engineer	Participated in the planning process.
Patrick Fuss	Water & Wastewater	Utility Director	Participated in the planning process.
Adam McKenna	City Manager's Office	Chief Information & Security Officer	Participated in the planning process.
Katie Edgar	Finance	Finance Director	Participated in the planning process.

5.2 COMMUNITY PROFILE

Originally inhabited by the Pomo people, the area was later settled by European Americans during the mid-19th century. In 1857, Ohio businessman Harmon Heald officially founded the town after purchasing land from the Rancho Sotoyome land grant. Heald laid out a town plan centered around a Spanish-style plaza, which remains the focal point of the city today.

Healdsburg was incorporated in 1867 and quickly grew into a hub of agriculture and commerce, especially after the arrival of the Northwestern Pacific Railroad in 1871. The city became known for its orchards, truck farms, and later, its role in the development of the wine industry (City of Healdsburg 2025).

Today, Healdsburg is a thriving small city with a population of just over 11,000 residents. It is surrounded by three lush valleys—Dry Creek, Alexander, and Russian River—and more than 60 wineries, making it a popular destination for wine tourism. The community blends small-town charm with modern amenities, offering full municipal services including its own police, fire, water, and electric utilities.

Healdsburg is known for its walkable downtown, historic architecture, and strong civic engagement. The city continues to balance growth with preservation, maintaining its unique character while supporting sustainable development and community well-being.

According to the U.S. Census, the 2020 population for Healdsburg was 11,340, a 0.2 percent increase from the 2010 Census. The 2023 American Community Survey (ACS) estimated that the 2023 population of Healdsburg was 11,274; this estimate is used throughout the HMP.

Some populations are at greater risk from hazard events because of decreased resources or physical abilities for responding during a hazard, and the location and construction quality of their housing. Data from the 2023 ACS indicates that 5.3 percent of residents are 5 years of age or younger, 23.7 percent are 65 years of age or older, 3.9 percent are non-English speaking, 11.3 percent live below the poverty threshold, 9.7 percent have disabilities, 2.2 percent live in a single parent household, and 2.1 percent have no vehicle access.

In 2024, the total homeless population in Healdsburg was reported as 50 individuals: 13 sheltered and 37 unsheltered persons (Sonoma County 2024).

5.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Healdsburg completed specific activities to collect input on hazards and vulnerability from the people the City serves.

The community engagement strategy consisted of an initial media release, an online hazards questionnaire, a community workshop, and the availability of the draft plan for review and comment. The community engagement strategy was drafted at the commencement of the plan and was modified as needed throughout the plan development process. During each stage of community outreach during the plan's development process, special attention was paid to ensuring that underserved communities and vulnerable populations in Healdsburg were provided an opportunity to be involved in the planning process, such as the City's Spanish-speaking population, senior members, and the unhoused community. Since Healdsburg has a high population of Spanish speakers, all community outreach was done in both English and Spanish. Additionally, large print flyers were posted in the Healdsburg Senior Center with information about how to participate in the planning process.

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities in the City was contributed through community engagement activities.

5.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Healdsburg

invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

5.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included collaboration with local, regional, and state agencies responsible for emergency management, public safety, and infrastructure. These partners provided critical data, operational insights, and guidance on hazard response and mitigation. Their input helped identify vulnerabilities, shape strategies, and ensure alignment with existing emergency plans and regional resilience efforts.

- Healdsburg Police Department
- Healdsburg Fire Department
- Healdsburg Emergency Management
- Santa Rosa Emergency Management
- Santa Rosa Fire Department
- Sonoma County Emergency Management
- Sonoma County Fire District
- Marin County Office of Emergency Management
- Petaluma Emergency Management
- Cal OES
- National Weather Service
- Graton Fire Protection District
- United States Coast Guard
- Sonoma Valley Fire
- Rancho Adobe Fire
- CAL FIRE
- REDCOM
- Cloverdale Fire
- Petaluma Fire Department
- Northern Sonoma County Fire District

5.4.2 Agencies that Have the Authority to Regulate Development

The planning process involved collaboration with agencies responsible for land use regulation, infrastructure development, environmental protection, and resource management. These entities

provided input on zoning, permitting, and long-term planning to ensure that mitigation strategies could be effectively integrated into existing regulatory frameworks.

Agencies overseeing agriculture, parks, and water resources also contributed valuable expertise to support actions that promote environmental health and community resilience. Their participation ensured that proposed mitigation measures were both practical and aligned with applicable codes, ordinances, and sustainability goals.

- City of Healdsburg
- Sonoma County Permit & Resource Management Department
- Sonoma County Public Infrastructure
- Sonoma County Agriculture, Weights, and Measures
- Sonoma County Regional Parks
- Sonoma Water

5.4.3 Neighboring Communities

Neighboring jurisdictions and institutions were invited to participate in the planning process to promote regional coordination and address shared risks. This included adjacent cities and towns. Their involvement helped identify interdependencies, such as shared infrastructure and emergency services, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- Cloverdale
- Cotati
- Windsor
- Petaluma
- Rohnert Park
- Santa Rosa
- Sebastopol
- Sea Ranch
- Sonoma

5.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged a diverse group of stakeholders from the education sector, infrastructure providers, and private organizations to ensure a well-rounded and inclusive mitigation strategy. Representatives from academic institutions and educational agencies contributed technical expertise and helped assess long-term risks, particularly those affecting schools and learning environments.

Public utilities and transportation agencies offered insights into infrastructure continuity, service reliability, and the interdependencies between critical systems. Organizations involved in regional

events and community services provided perspectives on public safety, emergency coordination, and resource accessibility during hazard events.

This broad collaboration supported the development of mitigation actions that reflect the needs of the wider community and promote strong public-private partnerships in building long-term resilience.

- Santa Rosa Junior College
- Sonoma State University
- Sonoma County Office of Education
- Redwood Empire Schools' Insurance Group
- Sonoma County Fairgrounds
- Pacific Gas & Electric Company
- Sonoma Marin Area Rail Transit
- Golden Gate Bridge, Highway and Transportation District
- Sweetwater Springs Water District

5.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- Coastal Valleys EMS Agency
- American Red Cross
- California 2-1-1
- Legal Aid of Sonoma County
- Sonoma County Council on Aging
- Sonoma County Health and Human Services
- Graton Rancheria
- Dry Creek Rancheria
- Cloverdale Rancheria
- The Sea Ranch Association
- Community Action Partnership
- United Way Wine Country
- Reach for Home
- Corazon Healdsburg
- Catholic Charities of the Diocese of Santa Rosa

- Stewarts Point
- Redwood Empire Food Bank

5.5 CHANGE IN COMMUNITY PRIORITIES

The City of Healdsburg has not changed its priorities since the adoption of its 2023 Local Hazard Mitigation Plan.

5.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Healdsburg performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Healdsburg to identify opportunities for integrating mitigation concepts into ongoing City procedures.

5.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The sections below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 5-2 summarizes the codes, ordinances, and regulations available to the City of Healdsburg.

Table 5-2. City of Healdsburg Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	Healdsburg Municipal Code Title 15 Building Codes and adheres to the California Building Standards Code (CBC), updated every 3 years (latest 2022 edition)	Supports risk reduction through enforcement of structural safety standards for seismic, fire, and flood hazards.	Local	City of Healdsburg
Zoning/Land Use Code	Healdsburg Municipal Code Title 20 Land Use Code	Guides development away from high-risk areas and supports land use planning aligned with hazard mitigation goals.	Local	City of Healdsburg
Subdivision Code	Healdsburg Municipal Code Title 17 Property Development Chapter 17.04 Subdivisions	Ensures new developments incorporate hazard mitigation measures such as adequate drainage and emergency access.	Local	City of Healdsburg
Stormwater Management Code	Best Management Practices	Reduces flood risk and water quality impacts through sustainable stormwater design and infrastructure.	Local	City of Healdsburg
Growth Management	Healdsburg Municipal Code Title 17 Property Development Chapter 17.24 Growth Control Measures	Helps manage population growth and infrastructure demands in a way that supports long-term resilience.	Local	City of Healdsburg
Environmental Protection Ordinance	Healdsburg Municipal Code Title 20 Land Use Code Chapter 20.24	Protects natural resources that contribute to hazard mitigation, such as wetlands and open space buffers.	Local	City of Healdsburg
Flood Damage Prevention Ordinance	Healdsburg Municipal Code Title 17 Property Development Chapter 17.28 Floodplain Management Regulations	Directly supports flood risk reduction by regulating development in flood-prone areas.	Local	City of Healdsburg

Planning Documents

Table 5-3 summarizes the planning documents available to the City of Healdsburg.

Table 5-3. City of Healdsburg Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	General Plan	The City general plan identifies natural resource areas and prioritizes development outside of these resource areas. Adequate additional land is available outside the City boundary but within the sphere of influence to accommodate all projected growth and avoid sensitive natural resources and hazard areas.	Local	City of Healdsburg
Stormwater Management Plan	Healdsburg Municipal Code Title 13 Utilities Chapter 13.28 Urban Storm Water Quality Management and Discharge Controls	This plan aligns with the HMP by managing runoff and reducing localized flooding and water pollution during storm events.	Local	City of Healdsburg
Stormwater Pollution Prevention Plan	Healdsburg Municipal Code Title 13 Utilities Chapter 13.28 Urban Storm Water Quality Management and Discharge Controls	This ordinance helps the HMP by preventing pollutants from entering waterways, protecting water quality and reducing environmental hazards.	Local	City of Healdsburg
Open Space Plan	City of Healdsburg Parks and Recreation Department Parks and Open Space Master Plan	Supports hazard mitigation by preserving open space buffers, reducing development in high-risk areas, and enhancing natural systems that mitigate flooding and wildfire spread.	Local	City of Healdsburg
Urban Water Management Plan	City of Healdsburg 2020 Urban Water Management Plan and Water Shortage Contingency Plan	This plan supports the HMP by promoting long-term water supply reliability and conservation, helping to reduce drought-related risks and ensure emergency water availability.	Local	City of Healdsburg
Community Wildfire Protection Plan	City of Healdsburg Community Wildfire Protection Plan	This plan directly supports wildfire risk reduction through vegetation management, defensible space planning, and community preparedness strategies.	Local	City of Healdsburg
Transportation Plan	Healdsburg Active Transportation Plan	This transportation planning document limits access to hazard areas and is used to guide and prioritize growth in safe directions. It identifies future circulation infrastructure to ensure orderly transportation options are available to public safety staff as growth occurs. The plan prioritizes growth near transportation and transit hubs, with a focus on promoting compact mixed-use development away from hazard areas.	Local	City of Healdsburg
Climate Action/Resilience/ Sustainability Plan	City of Healdsburg Climate Mobilization Strategy	Supports HMP goals by addressing climate-related hazards, reducing greenhouse gas emissions, and building long-term community resilience to extreme weather and environmental change.	Local	City of Healdsburg
Business/ Downtown Development/ Redevelopment Plan	Central Healdsburg Avenue Area Plan	Integrates hazard mitigation by guiding redevelopment in a way that avoids high-risk areas and supports resilient infrastructure and economic continuity.	Local	City of Healdsburg

Response and Recovery Planning Documents

Table 5-4 summarizes the response and recovery planning documents for the City of Healdsburg.

Table 5-4. City of Healdsburg Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	City of Healdsburg Emergency Operations Plan - 2024	This plan complements the HMP by outlining coordinated response procedures for disasters, helping to reduce impacts and speed up recovery efforts.	Local	City of Healdsburg
Continuity of Operations Plan	Healdsburg Continuity of Operations Plan	Supports the HMP by ensuring essential government functions can continue during and after a disaster, minimizing service disruption and aiding recovery.	Local	City of Healdsburg

5.6.2 Integration

Table 5-2 through Table 5-4 list the local planning mechanisms currently in place for the City of Healdsburg. Several of these mechanisms, such as the General Plan, Building Code, Zoning Code, and Capital Improvement Plan, already incorporate hazard-related policies, including seismic safety standards, floodplain development restrictions, and growth management strategies.

The HMP builds on these foundations by identifying mitigation actions that align with and support existing policies, ensuring that hazard mitigation is not treated as a standalone effort but as a coordinated component of broader community planning. As these local plans are updated, information from the HMP, such as risk assessments, vulnerability data, and prioritized projects, can be incorporated to maintain consistency and reinforce long-term resilience goals.

This integration enhances the City's overall risk management framework and ensures that future HMP updates are informed by comprehensive, data-driven insights. By aligning planning efforts across departments and documents, the City strengthens its ability to mitigate risks and adapt to evolving environmental conditions.

5.6.3 Development and Permitting Capability

Table 5-5 summarizes the capabilities of Healdsburg to oversee and track development.

Table 5-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Community Development
Are permits tracked by hazard area? (For example, floodplain development permits.)	N/A	-
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	N/A	-
Describe the level of buildout in your jurisdiction.	N/A	-

5.6.4 Administrative and Technical Capability

Table 5-6 and Table 5-7 summarizes potential staff and personnel resources available to Healdsburg and their current responsibilities that contribute to hazard mitigation. To expand and improve these capabilities, the City could explore the creation of a zoning board or an environmental committee, or the creation of new city positions for benefit/cost analysis, environmental science, resilience, or grant writing.

Table 5-6. Administrative Capabilities

Resources	Available?	Comment
Planning Board	Yes	Planning and Building
Zoning Board of Adjustment	No	-
Planning Department	Yes	Planning and Building
Mitigation Planning Committee	Yes	Framework for HMP Planning Team to continue meeting on regular basis will be outlined in plan maintenance section
Environmental Board/Commission	No	-
Open Space Board/Committee	Yes	Community Services
Economic Development Commission/Committee	Yes	City Manager's Officer
Public Works/Highway Department	Yes	Public Works Department
Construction/Building/Code Enforcement Department	Yes	Planning and Building
Emergency Management/Public Safety Department	Yes	Police Department (Position created and filled in 2022)
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Parks, Public Works, California Conservation Corps: tree maintenance, stormwater inlet cleaning (understaffed), Foss Creek cleaning
Mutual aid agreements	Yes	City Manager's Office

Resources	Available?	Comment
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Human Resource Department
Other	N/A	-

Table 5-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Planning and Building
Engineers or professionals trained in building or infrastructure construction practices	Yes	Planning and Building
Planners or engineers with an understanding of natural hazards	Yes	Planning and Building
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	Yes	Planning and Building
Personnel skilled or trained in GIS and/or Hazus applications	Yes	IT Department has a GIS position
Staff that work with socially vulnerable populations or underserved communities	Yes	Housing Department and Police Social Services Team
Environmental scientists familiar with natural hazards	No	-
Surveyors	Yes	Planning and Building
Emergency manager	Yes	Police Department
Grant writers	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	-

5.6.5 Fiscal Capability

Table 5-8 summarizes financial resources available to Healdsburg. To expand and improve these capabilities, the City could explore applying for a CDBG or CDBG-DR grant, incurring debt through private activity bonds, withholding public expenditures in hazard-prone areas, or developing an open space acquisition program.

Table 5-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes

Financial Resources	Accessible or Eligible to Use?
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	N/A

5.6.6 Education and Outreach Capability

Table 5-9 summarizes the education and outreach resources available to Healdsburg. To expand and improve these capabilities, the City could explore creating a citizen board or commission that addresses issues related to hazard mitigation, hiring personnel skilled or trained in website development, or developing a natural disaster safety program for schools.

Table 5-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	City Manager
Personnel skilled or trained in website development	No	-
Hazard mitigation information available on your website	Yes	healdsburgemergency.org
Social media for hazard mitigation education and outreach	Yes	Facebook, X, Instagram
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	Nixle
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	COPE, El Corazon
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Nixle, Website, Social Media

5.6.7 Community Classifications

Table 5-10 summarizes classifications for community programs available to Healdsburg.

Table 5-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	No	-	-

Program	Participating?	Classification	Date Classified
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
National Weather Service StormReady Certification	No	-	-
Firewise Communities Classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	-	-

N/A = Not applicable; — = Unavailable

5.6.8 Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 5-11 summarizes the adaptive capacity for each identified hazard of concern and the City's capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 5-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

5.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 5.1 is responsible for maintaining this information.

The City has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the City on December 2, 2008. The Public Works Director is responsible for implementing the requirements of the NFIP by requiring permits for all development within SFHAs shown on the latest FIRM. The Public Works Director reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The City implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The Public Works Director uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

While the City participates in the NFIP, it does not participate in the CRS. Table 5-12 provides a summary of NFIP compliance in Healdsburg.

Table 5-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	The Public Works Director is listed as the Floodplain Administrator in the city's floodplain ordinance.
Are any certified floodplain managers on staff in your jurisdiction?	No.
Do you have access to resources to determine possible future flooding conditions from climate change?	No.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Not currently but likely will in the future. Current Public Works staff is trained in floodplain management. Current staff will require periodic refresher training and new, future staff will require NFIP-related training.

Question	Comments
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Enforcing the city's floodplain ordinance, specifically development related requirements within the special flood hazard area including permit review and inspections, providing flood zone determinations, talking to property owners and developers/contractors about flood risks and flood insurance requirements, keeping an inventory of elevation certificates on file.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	A substantial improvement is triggered if the value of the improvement is 50% or more of the value of the existing structure. City staff uses the current appraised value of the structure and the cost estimate of the proposed building improvement to determine if there is substantial damage (refer to FEMA definition in CFR 44).
What are the barriers to running an effective NFIP program in the community, if any?	The current barrier is not having funding to update the older flood insurance rate maps to have an updated understanding of existing flood hazard risks in the community.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown but estimated after the December 2014 flood event. Although not an official CAV, the city met with FEMA after the February 2019 flood events to discuss the flood event and potential flood improvements. The city became a cooperating technical partner with FEMA in 2019.
What is the local law number or municipal code of your flood damage prevention ordinance?	Healdsburg Municipal Code, Chapter 17.28.
What is the date that your flood damage prevention ordinance was last amended?	Date of last amendment is August 7, 2006: Ordinance 1043.
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	City staff believes the floodplain ordinance meets minimum NFIP requirements although city staff has not performed a consistency review for at least the last 7 years.
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes, all development entitlements and construction permits are reviewed for compliance with development regulations in the special flood hazard area including finished floor elevations of new residential buildings to be at least one foot above the base flood elevation. Also, city stormwater quality management requirements
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Healdsburg is not currently a part of the Community Rating System. There are no current plans to join the CRS program.

5.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. Table 5-13 summarizes the repetitive loss and severe repetitive loss properties in the City.

Table 5-13. Repetitive Loss Summary

Type of Repetitive Loss	Residential	Non-Residential
Repetitive Loss Properties (NFIP definition)	12	3
Repetitive Loss Properties (FMA definition)	0	0
Severe Repetitive Loss Properties (NFIP definition)	2	1
Severe Repetitive Loss Properties (FMA definition)	2	1

Source: (FEMA 2024)
Note: See Appendix C for definitions of repetitive loss types presented in this table.

5.7.2 Flood Vulnerability Summary

Table 5-14 provides a summary of flood vulnerability in Healdsburg.

Table 5-14. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	The areas along the Russian River and Foss Creek in Healdsburg are prone to flooding, as well as portions of the city's waste water recycling facility within the unincorporate County of Sonoma.
Do you maintain a list of properties that have been damaged by flooding?	We maintain a list of repetitive loss and severe repetitive loss properties.
Do you maintain a list of property owners interested in flood mitigation?	No, a list is not maintained.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	—
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	Not at this time however, the city's 5-year CIP lists a project to start a physical map revision for the city of Healdsburg in FY26/27. The project has not yet been funded.
How do you make Substantial Damage determinations?	FEMA has a substantial damage estimator tool which would be used to generate determinations. If the cost generated in the calculator is 50% or more of the value of the existing structure, it is considered substantial damage. Refer to 44 CFR for FEMA definition.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	There have been zero substantial determinations declared in recent events.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	This information is not readily available and does not appear to have been maintained over the years. Current city staff is not aware of any elevated or acquired properties in the special flood hazard area in city limits.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	No – the data used to generate the currently effective flood insurance rate maps is from prior to 2008 and should be updated through a new physical map revision process.

5.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its

hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 5-15 through Table 5-17.

Table 5-15. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Converted ADU	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2021 New Construction Permits Issued	28	3	15	5	51
2021 Permits Issued within SFHA	0	0	0	0	0
2022 New Construction Permits Issued	14	3	2	3	22
2022 Permits Issued within SFHA	0	0	0	0	0
2023 New Construction Permits Issued	9	2	0	4	15
2023 Permits Issued within SFHA	0	0	0	0	0
2024 New Construction Permits Issued	14	5	2	4	25
2024 Permits Issued within SFHA	0	0	0	0	0
2025 New Construction Permits Issued	1	0	0	0	1
2025 Permits Issued within SFHA	0	0	0	0	0

Note: SFHA = Special Flood Hazard Area; 2025 permits as of May 2025

Table 5-16. Recent Major Development and Infrastructure from 2021 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Montage and Saggio Hills Hotel, single-family homes, and low-income multifamily housing	Commercial and Residential	78	—	WUI	High end hotel, residential properties, and low-income multifamily housing
North Village including Sr. Housing, hotel, and multifamily housing	Commercial and Residential	15	—	WUI	High end hotel, Sr. Housing facility, and low-income and mid-income multifamily housing
Mill District including high end condos, hotel, amenities building, market rate condos, and low-income multifamily housing	Commercial and Residential	10	—	—	High end condos, hotel, market rate condos, and low-income multifamily housing
3 Healdsburg – low-income multifamily housing	Residential	5	—	—	Low-income multifamily housing

a. *Only location-specific hazard zones or vulnerabilities identified.*

Table 5-17. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
Continued buildout of above projects @ Saggio Hills, North Village, and Mill District	Commercial and Residential		—	—	—
155 Dry Creek – low-income multifamily housing	Residential	1	—	—	Low-income multifamily housing
Perhaps a new Boys and Girls Club Facility and another boutique Hotel	—	—	—	—	Non-Residential and Hotel

As noted above, there have been no permits issued in SFHAs over the past five years. Since the last HMP, 93 new units or structures were built in the Wildland-Urban Interface. Therefore, the vulnerability of the City has increased since the previous plan was approved.

5.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Healdsburg's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

5.9.1 Hazard Area

Maps of probable hazard areas within the City are shown in Figure 5-1 and Figure 5-2. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Healdsburg has significant exposure.

Figure 5-1. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

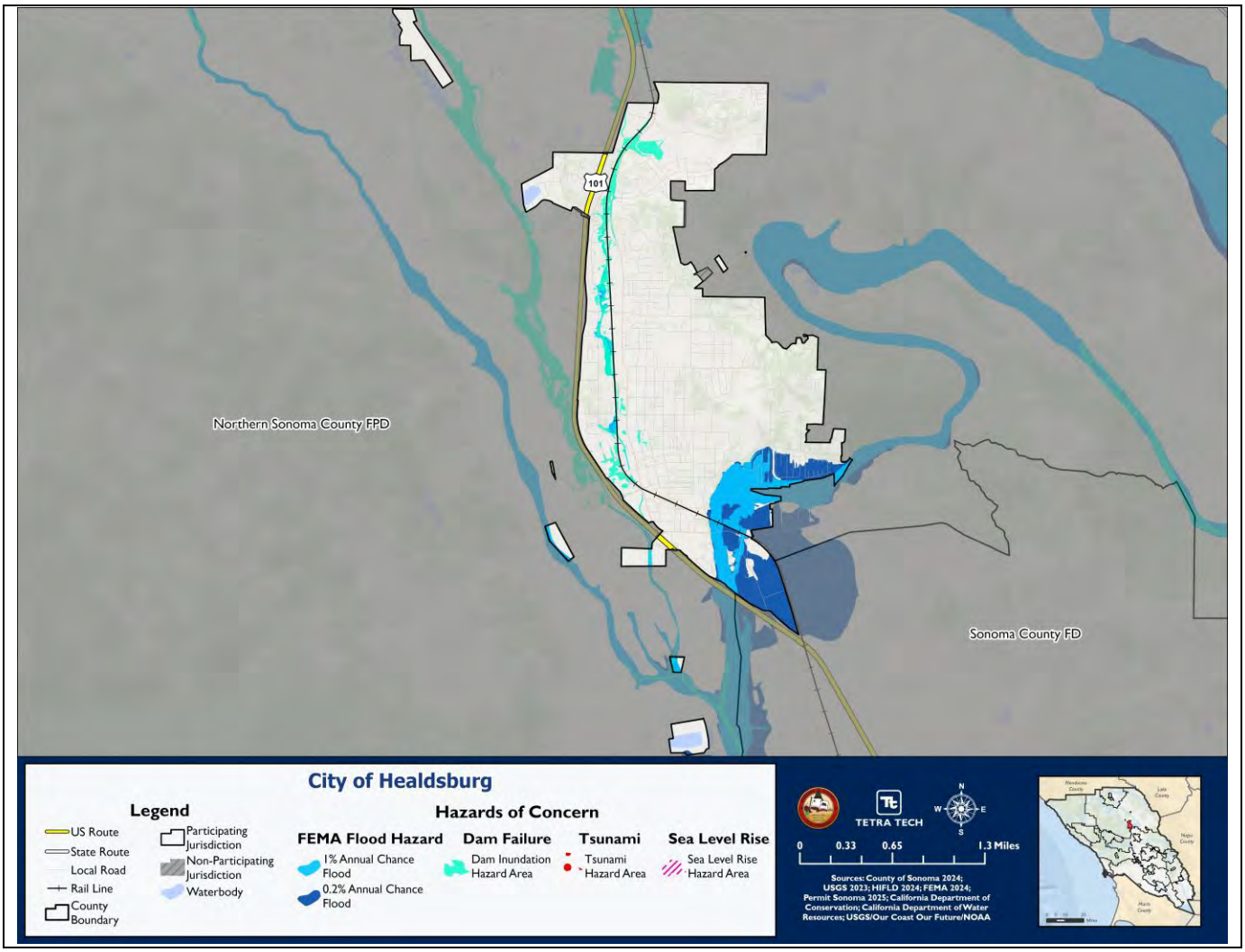
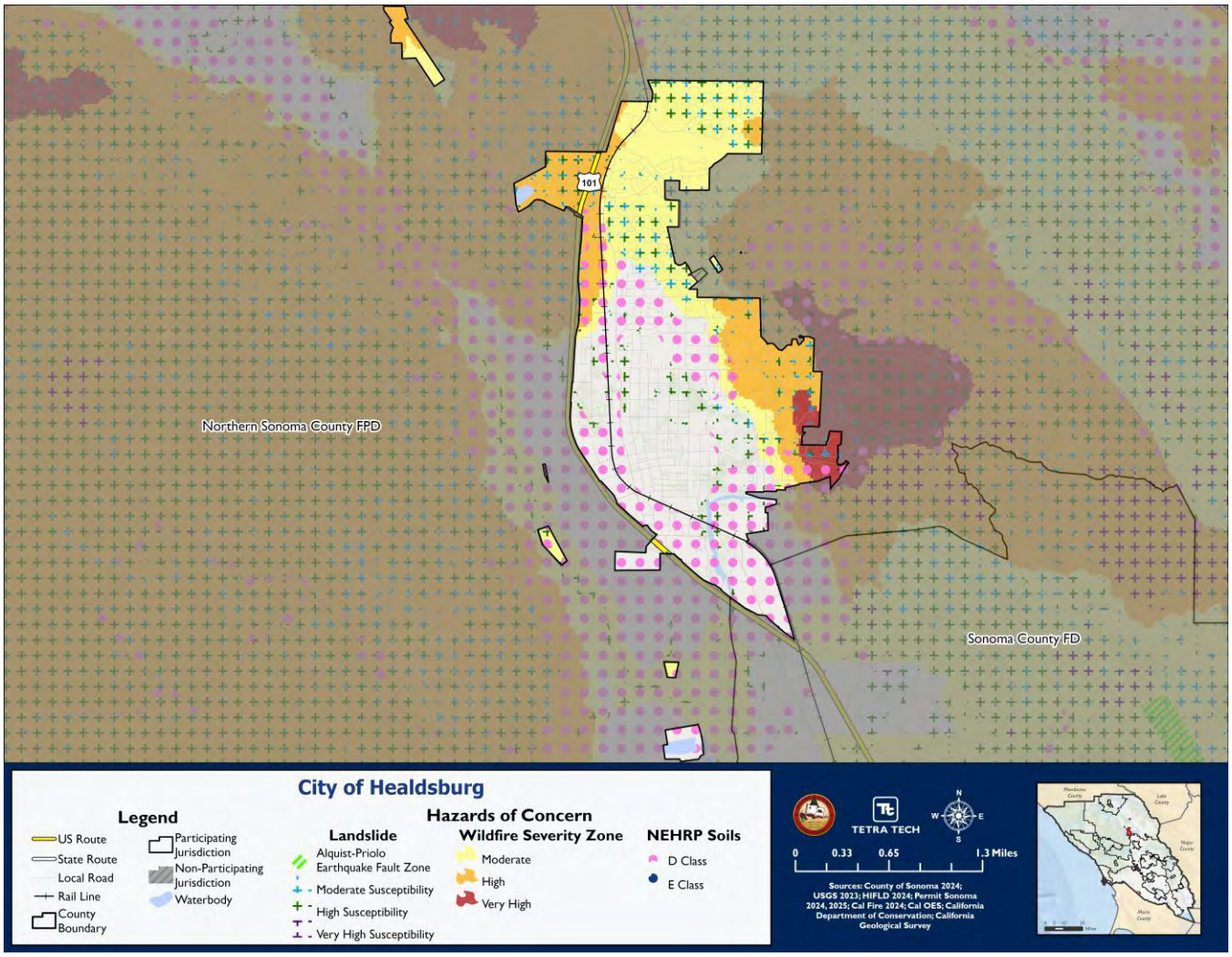


Figure 5-2. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



5.9.2 Hazard Event History

The history of natural and non-natural hazard events in Healdsburg is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 5-18 provides details on loss and damage in Healdsburg during hazard events since the last hazard mitigation plan update.

Table 5-18. Hazard Event History in Healdsburg, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Healdsburg
January 26-29, 2021	Flood and Debris Flow	N/A	A plume of moisture from the tropical Pacific brought an Atmospheric River to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	No impact
March 10, 2021	Hail	N/A	A cold upper low moved through the region in early March bringing widespread showers and isolated thunderstorms to the Greater Bay Area. The Santa Rosa Fire Department reported multiple vehicle accidents on US-101 due to accumulating small hail.	No impact
November 8, 2021	Flood	N/A	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	No impact
December 13, 2021	Flood	N/A	A low pressure system from the Gulf of Alaska tapped into sub-tropical moisture from the Central Pacific to drop heavy rain throughout the state. Heavy rain caused flooding on Labath Ave and the closure of SR 12 between Route 116 and 8th St.	No impact
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast.	Localized flooding in downtown, minor street closures due to impassable roads.
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast.	Minor localized flooding, but no impact on travel
January 21-22, 2024	Flood	N/A	Widespread rainfall and nuisance flooding occurred across the Bay Area. Westbound California Route 116 at Travis Road was flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road and Arata Lane offramps from US Highway 101 northbound were closed due to standing water. Flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; 3 inches of water flooded a trailer.	No impact
January 31, 2024	Flood	N/A	A cold front brought widespread rain and high winds through California.	No impact

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Healdsburg
February 4, 2024	Flood	N/A	Two cold fronts caused minor nuisance flooding gusty winds, and widespread rain. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road near Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. Route 12 was closed due to flooding from Fremont Drive to Watmaugh Road. A creek flowed over Mark West Station Road. Mud, dirt, and rock blocked Los Alamos Road.	Downed tree closed Hidden Acres Rd for extended period of time (3-4 days) until it could be removed.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

5.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Healdsburg.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

The City of Healdsburg reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. The revised rankings account for changes in community priorities described in Section 5.5 of this annex and in Volume I of this HMP.

Table 5-19 shows the City of Healdsburg's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 5-19. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flood	Low
Landslide	Low
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

Because the city is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities in the city.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to the City of Healdsburg.

Table 5-20 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 5-21 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Table 5-20. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	0.4%	1.0%	3.6%
NEHRP D & E Soils	35.5%	39.9%	44.6%
1% Annual Chance Floodplain	1.9%	1.5%	5.4%
0.2% Annual Chance Floodplain	7.2%	7.5%	7.1%
Geologic Hazard Area	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	7.9%	8.0%	5.4%
High Landslide Susceptibility Area	10.4%	9.7%	3.6%
Very High Landslide Susceptibility Area	<0.1%	<0.1%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Moderate Fire Hazard Severity Zone	19.7%	20.9%	16.1%
High Fire Hazard Severity Zone	11.5%	14.1%	3.6%
Very High Fire Hazard Severity Zone	2.0%	1.6%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Table 5-21. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	0.1%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%
NEHRP D & E Soils	35.7%	35.6%	35.7%	35.5%	35.6%	35.6%	35.6%	35.1%
1% Annual Chance Floodplain	2.1%	2.0%	2.1%	2.0%	2.1%	2.1%	2.0%	1.8%
0.2% Annual Chance Floodplain	8.6%	8.5%	8.5%	8.4%	8.6%	8.5%	8.5%	7.0%
Geologic Hazard Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	8.3%	8.2%	8.2%	8.2%	8.2%	8.2%	8.1%	7.0%
High Landslide Susceptibility Area	10.7%	10.6%	10.7%	10.7%	10.6%	10.6%	10.5%	10.5%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	23.3%	23.3%	23.3%	23.2%	23.3%	23.3%	23.1%	22.8%
High Fire Hazard Severity Zone	11.2%	11.1%	11.2%	11.1%	11.2%	11.2%	10.9%	10.5%
Very High Fire Hazard Severity Zone	2.7%	2.7%	2.7%	2.5%	2.6%	2.7%	2.4%	1.8%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

There are 28 buildings in the City that are located in the high hazard **dam failure** inundation hazard area: 6 residential buildings, 12 commercial buildings, 8 industrial buildings, and 2 buildings in the government, religion, agriculture, or education category. Two of these buildings are considered critical facilities: a veterinary office and a bank. Only 16 people live in the high hazard dam inundation area, which includes three older adults over age 65, one person with a disability, and one person living in poverty. The following high hazard dam is located in Healdsburg:

- Foss Creek North Area

Drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain community lifelines are susceptible to impact if water is unavailable, such as water systems. The City's water tank is identified as a critical facility that is vulnerable to drought. In addition, the total population of the City (11,274 people) could be impacted by a drought if water rationing is implemented. In particular, the 2,667 adults over age 65 are vulnerable to dehydration in drought conditions.

Buildings located on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an **earthquake**. More than one-third of the buildings in Healdsburg (35.5 percent) are located on NEHRP Class D and E soils. In addition, 56 community lifeline facilities are located on Class D and E soils. This includes banks, the Healdsburg Recreation Dam, daycares, the Healdsburg Fire Station, local bridges, municipal halls, schools, shelters, a veterinary office, and the city water tank. More than one-third of the city's population (35.7 percent) lives on Class D and E soils, including 951 adults over age 65.

Extreme heat is unlikely to cause physical damage to buildings, facilities, or infrastructure. The City water tank is a community lifeline. During an extreme heat event, the evaporation of water inside the tank could increase. Individuals who do not have access to air conditioning are vulnerable to health complications during extreme heat episodes. In particular, the 951 adults above age 65 and 452 individuals living below the poverty line could be at risk for heat stroke, especially those who fall into both categories.

Extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gasses. Extreme cold also presents a risk to populations that do not have access to heating, such as the 50 persons experiencing homelessness.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 391 people with disabilities or the 951 adults over age 65 may experience difficulty walking through strong gusts of wind.

The City has low exposure to **flooding**, with 126 buildings in the 1-percent annual chance floodplain and 490 buildings in the 0.2 percent annual chance floodplain. There are three critical facilities in the 1-percent annual chance floodplain: a daycare and two local bridges. The Healdsburg Recreation Dam is located in the 0.2 percent annual chance floodplain. There are 240 people living in the 1-percent annual chance floodplain, including 27 people living below the poverty line. There are 967 people living in the 0.2-percent annual chance floodplain, including 228 adults above age 65. Table 5-22 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 5-22. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
Healdsburg Montessori School	Daycare	X	X
RUSSIAN RIVER	Local Bridge	X	X
RUSSIAN RIVER OVERFLOW	Local Bridge	X	X
Healdsburg Recreation	Dam	-	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

The City has moderate exposure to **landslide** hazards, with 537 buildings in the moderate landslide susceptibility hazard area, 707 buildings in the high landslide susceptibility hazard area, and one building in the very high landslide susceptibility hazard area. There are three critical facilities in the moderate landslide susceptibility hazard area (a shelter, veterinary office, and daycare), and two critical facilities in the high landslide susceptibility hazard area (abridge and a school). There are 931 people living in the moderate landslide susceptibility hazard area and 1,205 people living in the high landslide susceptibility hazard area.

The City has moderate exposure to **wildfires**, with 1,331 buildings in the moderate fire hazard severity zone, 780 buildings in the high fire hazard severity zone, and 137 buildings in the very high fire hazard severity zone. There are nine critical facilities in the moderate fire hazard severity zone, including dams, daycares, hospitals, local bridges, shelters, veterinary offices, and the City water tank. There are two critical facilities in the high fire hazard severity zone: a shelter and the municipal airport. There are 2,631 people living in the moderate fire hazard severity zone, 1,268 people living in the high fire hazard severity zone, and 303 people living in the very high fire hazard severity zone.

Potential Impacts from Hazards of Local Concern

Table 5-23 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. In the event of a dam failure, 92 people could be displaced, 48 people may require shelter, and 26 tons of debris could be generated. In the event of a 500-year earthquake, 185 households could be displaced, 83 people may require shelter, 9.4 percent of the buildings in the City could be damaged, and 122,044 tons of debris could be generated. In the event of a 2,500-year earthquake, 818 households could be displaced, 370 people may require shelter, 24.5 percent of the buildings in the City could be damaged, and 134,287 tons of debris could be generated. In the event of a one-percent annual chance flood, as many as 212 people could be displaced, 63 people may require shelter, and 121 tons of debris could be generated.

Table 5-23. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	92 people	185 households	818 households	212 people

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Population Requiring Shelter	48 people	83 people	370 people	63 people
General Building Damage as % of RCV	<0.1%	9.4%	24.5%	<0.1%
Total Debris Generated (tons)	26	122,044	134,287	121

Note: RCV = Replacement Cost Value

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 5-24 summarizes additional risks specific to the City. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City.

Table 5-24. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	There is a potential risk from dam failure due to the presence of nearby reservoirs, which could lead to flooding in low-lying areas of Healdsburg.
Drought	The City is susceptible to drought conditions that can significantly impact local water supply and agricultural activities.
Earthquake	Located within an active seismic region, Healdsburg is at risk of experiencing earthquakes that could cause disruption to services and structural damage, specifically to buildings constructed prior to current building standards.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the City's population and infrastructure.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources.
Extreme Wind	Healdsburg may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes and infrastructure.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity.
Wildfire	The City faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety.

5.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Healdsburg identified the following risk-related issues for the community:

- Inconsistent or uncoordinated planning between the General Plan's Safety Element and other plans can lead to gaps in hazard mitigation, regulatory conflicts, and missed opportunities for state and federal funding. Ensuring integration between these plans is essential for legal compliance, operational efficiency, and effective risk reduction.

- Many residents lack awareness of the practical steps they can take to reduce risks from natural hazards in their homes. Without accessible, community-based outreach and education, this lack of knowledge can lead to increased vulnerability during emergencies. There is a need for coordinated protective efforts to educate residents on existing safety measures.
- As water resources become increasingly strained due to drought, many communities face challenges in maintaining a reliable and sustainable water supply. Despite the availability and benefits of recycled water, public understanding and acceptance remain limited. Without targeted outreach and education, opportunities to expand water conservation though the use of recycled water may be underutilized, hindering long-term water sustainability efforts.
- Many building owners lack awareness of the risks posed by earthquakes and the benefits of seismic upgrades to both structural and non-structural parts of their buildings. Without proper education and outreach, critical opportunities to reduce damage, save lives, and improve community resilience may be missed.
- Many existing storm drains are located in residential backyards, making them difficult to access for maintenance and vulnerable to blockages. This limits the city's capacity to respond to flooding events.
- Several critical facilities in the City are currently located within high hazard areas, making them vulnerable to damage from natural disasters.
- The City experiences increased stormwater runoff and reduced groundwater recharge due to conventional development practices. Without the implementation of low impact development (LID) best management practices (BMPs), these issues contribute to flooding, erosion, and declining water quality.
- The City lacks a tailored outreach strategy to effectively communicate stormwater management goals and practices to its residents. Without localized messaging and engagement, the materials developed through the Russian River Watershed Association's Storm Water Resource Plan may not reach or resonate with the community, limiting public awareness and participation in stormwater mitigation efforts.
- Overhead powerlines in areas with high vegetative fuels, especially within the wildland-urban interface (WUI), pose a significant risk of utility-caused wildfires. Without relocating these lines underground where feasible, the City remains vulnerable to fire ignition sources that threaten public safety, property, and critical infrastructure.
- The City is increasingly impacted by public safety power shutoff (PSPS) events and heat waves that strain the electric grid, leading to power disruptions that affect critical public facilities and community safety. Without utility-scale microgrids, the City lacks a resilient and redundant power system to maintain essential services during grid failures and extreme weather conditions.
- The City lacks sufficient funding to implement vegetation treatment strategies that reduce wildfire risk and improve ecosystem health. Without dedicated financial support, critical fuel reduction efforts outlined in the California Vegetation Treatment Plan cannot be carried out, leaving high-risk areas vulnerable to wildfire ignition and spread.
- During rain events, excessive infiltration and inflow into the City's wastewater system can overwhelm the sewer collection infrastructure, leading to potential overflows, service disruptions, and environmental contamination.

- The City's fire station is located in an area prone to flooding, which threatens emergency response operations and the safety of personnel and equipment. Without implementing targeted flood mitigation strategies, the facility remains vulnerable to service disruptions during storm events, compromising public safety and emergency readiness.
- A tower within the City is currently overloaded with equipment, increasing its vulnerability to structural failure during high wind events and contributing to wildfire risk due to potential ignition sources.
- The North Fitch Mountain area, including the Fitch Mountain Open Space Preserve, is experiencing slope instability that poses a risk to public safety, infrastructure, and natural resources.
- Residents may be unaware of the specific mitigation actions they can take to reduce wildfire risk around their homes, such as clearing combustibles and creating defensible space. Without a targeted outreach program based on the Healdsburg CWPP Annex, community engagement and participation in home-level fire prevention efforts remain limited, increasing vulnerability to wildfire impacts.
- While commercial, industrial, and new residential construction projects include sprinkler laterals during water line installation, existing residential buildings are excluded from this practice. Without integrating sprinkler laterals during routine water line replacements, these homes remain at higher risk during fire events and miss an opportunity for cost-effective fire protection upgrades.
- Stormwater runoff during heavy rain events contributes to localized flooding, putting infrastructure and property at risk.
- The City lacks a coordinated strategy to guide impactful, equitable, and community-driven actions that support state and regional greenhouse gas reduction goals.
- Hazard disclosure for residential properties is often inconsistent, and without improved coordination with real estate agents, buyers may remain unaware of risks in designated natural hazard zones.
- Many health care facilities lack disaster mitigation plans, leaving them vulnerable to service disruptions during emergencies.
- The main fire station is at risk of being impacted during emergencies, and without a completed substation, the City lacks a reliable backup facility to maintain fire response operations.
- Without incentives, many residents may not upgrade to energy-efficient appliances and systems, missing opportunities to reduce energy use, lower emissions, and improve climate resilience.
- Many households lack basic water-saving devices, and without access to free items like low-flow showerheads and faucet aerators, opportunities to reduce water use and improve drought resilience are missed.
- Without free energy audits for commercial customers and education for residents, opportunities to improve energy efficiency and reduce utility costs across the community are being missed.
- Without accessible education and outreach, many residents are unaware of practical water conservation strategies, limiting community-wide efforts to reduce water use and improve drought resilience.

- Water mains and sewer pipelines crossing active fault lines are vulnerable to damage during seismic events, especially in areas subject to high ground shaking, earthquake-induced ground failure, and surface fault rupture.

5.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

5.10.1 Past Mitigation Action Status

Table 5-25 indicates progress on the City's mitigation strategy identified in the 2023 City of Healdsburg Local Hazard Mitigation Plan. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 5-25. Status of Previous Mitigation Actions

Action Number	Description	Department or Agency Lead	Status	Include in 2026 HMP?	If NO, Explain Why
1	Integrate the hazard analysis and mitigation strategy into the General Plan's Safety Element.	Planning & Building Department	Complete	No	Complete
2	Have a booth at the annual Safety Fair to provide outreach and education about what residents can do in their own homes. Coordinate this effort with social media outreach.	Fire Department	Not Complete	Yes	
3	Develop a water conservation outreach program that focuses on recycled water.	Public Works Department	Not Complete	Yes	
4	Develop and implement plans to increase building owners' general knowledge of and appreciation for the value of seismic upgrading of their buildings' structural and nonstructural elements.	Planning & Building Department	Not Complete	Yes	
5	The City is interested in removing storm drains from backyards and relocating the storm drains to streets. This is also an opportunity to increase stormwater capacity; ensure that relocation of storm drains also increases overall capacity.	Public Works Department	Not Complete	Yes	
6	Acquire, relocate, or elevate critical facilities within high hazard areas (specify severity for each hazard)	Public Works Department	Not Complete	Yes	
7	Comply with low impact development (LID) best management practices (BMPs) to reduce stormwater runoff and increase groundwater recharge.	Public Works Department	Not Complete	Yes	

Action Number	Description	Department or Agency Lead	Status	Include in 2026 HMP?	If NO, Explain Why
8	Develop a Healdsburg-specific outreach strategy to utilize the materials being developed through the Russian River Watershed Association on the in-development Storm Water Resource Plan (SWRP).	Public Works Department	Not Complete	Yes	
9	Underground powerlines, when possible, to reduce the risk of utility-caused wildfire. Prioritize undergrounding in WUI and other areas with high vegetative fuels.	Utilities Department	Not Complete	Yes	
10	Develop utility scale microgrids to mitigate the impacts of PSPS events and heatwaves that limit supply from the electric grid and to provide redundant power systems for critical public facilities.	Utilities Department	Not Complete	Yes	
11	Funding for Cal vegetation treatment plan	Fire Department	Not Complete	Yes	
12	Wastewater infiltration and inflow reductions to mitigate overwhelming the sewer collection system during rain events.	Public Works Department	Not Complete	Yes	
13	Fire Station Flooding Mitigation	Fire Department	Not Complete	Yes	
14	Tower being overloaded with equipment	Public Works Department	Complete	No	Complete
15	Implement landslide stabilization and/or protection measures into the North Fitch Mountain Slide Repair to include Fitch Mountain Open Space Preserve. Stabilization measures include grading the unstable portion of the slope to a lower gradient, construction of rock buttresses and retaining walls, and drainage improvements. Protection measures include containment and/or diversion of the moving debris, such as walls, berms, ditches, and catchment basins.	Public Works Department	Not Complete	Yes	
16	Implement an outreach program that educates residents on mitigation actions they can take at their homes such as removing dead or dry leaves and combustibles from roofs, decks, eaves, porches, and yards; and creating a defensible spaces or buffer zones around their houses as outlined in the Healdsburg CWPP Annex.	Fire Department	Not Complete	Yes	
18	When replacing water lines, put in laterals for sprinklers to residential buildings (already included for commercial, industrial and new construction, but not for existing residential buildings).	Public Works Department	Not Complete	Yes	
19	Implement stormwater runoff reduction projects to reduce the impacts of flooding	Public Works Department	Complete	No	Complete
20	Develop and implement a Climate Mobilization Strategy in support of state and regional greenhouse gas reduction goals. The strategy should identify key measures and actions that will be most impactful in reducing greenhouse gas emissions, are equitable, feasible, and community driven.	City Manager's Office	Not Complete	Yes	

Action Number	Description	Department or Agency Lead	Status	Include in 2026 HMP?	If NO, Explain Why
21	Assist in ensuring adequate hazard disclosure by working with real estate agents to improve enforcement of real estate disclosure requirements for residential properties with regard to seven official natural hazard zones.	Planning & Building Department	Not Complete	Yes	
22	Encourage health care facilities to develop disaster mitigation plans.	Emergency Management	Complete	No	Complete
23	Complete construction of a Healdsburg Fire Department Substation that will serve as an alternate station should the main station be impacted.	Planning & Building Department	Not Complete	Yes	
24	Provide energy efficiency rebates for items such as heat pumps, air conditioners & evaporative coolers, duct sealing and weatherization, air conditioner and heat pump tune-ups, and replacement of water heaters, dishwashers, and clothes washers with electric appliances.	Utilities Department	Not Complete	Yes	
25	Provide free water saving items such as low-flow shower heads and faucet aerators to the public.	Utilities Department	Not Complete	Yes	
26	Provide free energy audits for commercial electric customers and education for residential customers.	Utilities Department	Not Complete	Yes	
27	Offer water conservation education and outreach opportunities to the public such as: • Home-scale Greywater • Inspect and Evaluate Your Irrigation System • State Mandated Water Restrictions and You • Basics of Drought Tolerant Landscaping • Setting a Landscape Water Budget • Practical Solutions to Create a WaterWise Home Series: • Water Conservation 101 • Indoor Solutions • Harvest the Rain & Slow the Flow	Utilities Department	Not Complete	Yes	
28	Manage a weed abatement program for the City by conducting annual inspections to ensure all residents abate high weeds, trim up limbs at least 6 feet off the ground, and remove ladder fuels.	Fire Department	Not Complete	Yes	
29	Equip water mains crossing fault lines for emergency connection. Include “areas subject to high ground shaking, earthquake-induced ground failure, and surface fault rupture” in the list of criteria used for determining a replacement schedule for pipelines. Where active faults are found based on geologic investigations, public water mains will include additional valves and fire hydrants placed on each side of the fault. Design of sewer mains will include a manhole on each side of the fault.	Public Works Department	Not Complete	Yes	

5.10.2 Additional Mitigation Efforts

No additional mitigation efforts have been completed since the adoption of the previous HMP.

5.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Healdsburg participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Healdsburg would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 5-26 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 5-26. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X		X	X	X	X			X
Drought	X	X		X	X	X	X			X
Earthquake	X	X		X	X	X	X			X
Extreme Cold	X	X		X	X	X	X			X
Extreme Heat	X	X		X	X	X	X			X
Extreme Wind	X	X		X	X	X	X			X
Flooding	X	X	X	X	X	X	X		X	X
Landslide	X	X	X	X	X	X	X			X
Sea Level Rise										
Tsunami										
Wildfire	X	X	X	X	X	X	X			X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 5-27 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 5-27. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Free Energy Audits	Low	Medium	10	1-5 years	7.77	High
Education & Outreach – Water Conservation	Low	Medium	10	1-5 years	7.77	High
Outreach and Education – Mitigation Actions	Low	Medium	9	1-5 years	7.693	High
Hazard Disclosure	Low	Medium	9	1-5 years	7.693	High
Disaster Mitigation Plan Development	Low	Medium	9	1-5 years	7.693	High
Fault Lines	Low	Medium	9	1-5 years	7.693	High
Vegetation Treatment Plan Funding	Low	Medium	7	1-5 years	7.539	High
Fire Station Flood Mitigation	Low	Medium	7	1-5 years	7.539	High
Education and Outreach	Low	Medium	6	1-5 years	7.462	High
Sustainable Water Use Outreach Program	Low	Medium	6	1-5 years	7.462	High
Landslide Stabilization	Low	Medium	6	1-5 years	7.462	High
Seismic Retrofitting	Low	Medium	4	1-5 years	7.308	High
Cooling Device Rebate Program	Low	Medium	1	1-5 years	7.077	High
Provide Water Saving Items	Low	Medium	1	1-5 years	7.077	High
Stormwater Management Improvement	Medium	Medium	11	1-5 years	6.847	Medium
LID and BMP Compliance	Low	Low	11	1-5 years	6.847	Medium
Stormwater Project Implementation	Medium	Medium	11	1-5 years	6.847	Medium
Weed Abatement Program	Low	Low	7	1-5 years	6.539	Medium
Microgrids	Low	Low	6	1-5 years	6.462	Medium
Wastewater Infiltration	Medium	Medium	6	1-5 years	6.462	Medium
SWRP Outreach	Low	Low	4	1-5 years	6.308	Medium
Underground Power Line Upgrades	Medium	Medium	4	1-5 years	6.308	Medium
Water Line Replacement	Medium	Medium	4	1-5 years	6.308	Medium
Upgrade Critical Facilities	High	Medium	3	1-5 years	5.231	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026–Healdsburg–01. Education and Outreach

Lead Agency:	City of Healdsburg Fire Department
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Many residents lack awareness of the practical steps they can take to reduce risks from natural hazards in their homes. Without accessible, community-based outreach and education, this lack of knowledge can lead to increased vulnerability during emergencies. There is a need for coordinated protective efforts to educate residents on existing safety measures.
Description of the Solution:	Have a booth at the annual Safety Fair to provide outreach and education about what residents can do in their own homes. Coordinate this effort with social media outreach.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1,2,5,6,10,13
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Socially vulnerable populations may need more assistance or resources from the community in order to stay safe during an emergency. Providing useful emergency information through multiple sources will give vulnerable populations greater access to community support if needed. Outreach and education will help vulnerable populations to be better prepared and more resilient during an emergency.
Impact on Future Development:	An informed and well-prepared community can better manage and mitigate the impacts of emergencies, leading to a more resilient community that supports future development.
Impact on Critical Facilities/Lifelines:	Efficient communication with the public during an emergency supports the public in being part of the solution by reducing water consumption or wastewater production if systems are damaged or temporarily disrupted.
Impact on Capabilities:	Enhancing public awareness and education will make communities more responsive and better equipped to handle future emergencies.
Climate Change Considerations:	Climate change is leading to more frequent and severe weather events such as storms, floods, and wildfires. This increases the likelihood of emergencies that the city will need to respond to, making a public outreach plan even more critical.
Mitigation Category	Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Emergency Services
Priority	High

Action 2026–Healdsburg–02. Sustainable Water Use Outreach Program

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Drought
Description of the Problem:	As water resources become increasingly strained due to drought, many communities face challenges in maintaining a reliable and sustainable water supply. Despite the availability and benefits of recycled water, public understanding and acceptance remain limited. Without targeted outreach and education, opportunities to expand water conservation though the use of recycled water may be underutilized, hindering long-term water sustainability efforts.
Description of the Solution:	Develop a water conservation outreach program that focuses on recycled water.
Estimated Cost:	Low
Potential Funding Sources:	General Fund, WaterSMART Grants
Implementation Timeline:	1-5 years
Objectives Met:	1,2,5,6,10,13
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Outreach can equip socially vulnerable populations with knowledge and resources to conserve water, lower their bills, and understand safe water reuse.
Impact on Future Development:	Conservation goals can stimulate innovation in future developments.
Impact on Critical Facilities/Lifelines:	Reduces the risk of water supply disruptions.
Impact on Capabilities:	Builds public awareness and behavioral capability. Strengthens drought preparedness and response.
Climate Change Considerations:	Conservation and recycled water help create flexibility in water systems, improving climate resilience.
Mitigation Category	Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Emergency Services
Priority	High

Action 2026–Healdsburg–03. Seismic Retrofitting

Lead Agency:	City of Healdsburg Planning and Building Department
Supporting Agencies:	-
Hazard(s) of Concern:	Earthquake
Description of the Problem:	Many building owners lack awareness of the risks posed by earthquakes and the benefits of seismic upgrade to both structural and non-structural parts of their buildings. Without proper education and outreach, critical opportunities to reduce damage, save lives, and improve community resilience may be missed.
Description of the Solution:	Develop and implement plans to increase building owners' general knowledge of and appreciation for the value of seismic upgrading of their buildings' structural and nonstructural elements.
Estimated Cost:	Low
Potential Funding Sources:	Hazard Mitigation Grant Program (HMGP); HMA
Implementation Timeline:	1-5 years
Objectives Met:	2,3,4,5
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Reduces the risk of post-disaster displacement – a major threat for socially vulnerable populations.
Impact on Future Development:	Positive impact on future development with the intention of strengthening critical water infrastructure that can withstand an earthquake in order to provide continued potable water flow.
Impact on Critical Facilities/Lifelines:	Reduces risk of major damage to critical facilities, reduces significant cost from future damage
Impact on Capabilities:	Ensures critical infrastructures remain functioning during disasters and available for response and recovery capabilities
Climate Change Considerations:	Many buildings house critical infrastructure that is affected by both seismic activity and climate change.
Mitigation Category	Local Plans and Regulations, Education and Awareness
CRS Category	Property Protection
Priority	High

Action 2026–Healdsburg–04. Stormwater Management Improvement

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Flood
Description of the Problem:	Many existing storm drains are located in residential backyards, making them difficult to access for maintenance and vulnerable to blockages. This limits the city's capacity to respond to flooding events.
Description of the Solution:	The city is interested in removing storm drains from backyards and relocating the storm drains to streets. This is also an opportunity to increase stormwater capacity; ensure that relocation of storm drains also increases overall capacity.
Estimated Cost:	Medium
Potential Funding Sources:	Community Development Block Grant (CDBG) Program
Implementation Timeline:	1-5 years
Objectives Met:	1,3,4,5,6,7,8,9,10,11,12
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Reduces risk in low-income flood-prone areas.
Impact on Future Development:	May require zoning adjustments.
Impact on Critical Facilities/Lifelines:	Prevents flooding in neighborhoods, around critical facilities, and across evacuation routes
Impact on Capabilities:	Strengthens local flood control capabilities and emergency response times.
Climate Change Considerations:	Prepares for more frequent heavy rainfall events.
Mitigation Category	Structure and Infrastructure
CRS Category	Preventative Measures, Structural Flood Control Projects
Priority	Medium

Action 2026–Healdsburg–05. Upgrade Critical Facilities

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Several critical facilities in the City are currently located within high hazard areas, making them vulnerable to damage from natural disasters.
Description of the Solution:	Acquire, relocate, or elevate critical facilities within high hazard areas.
Estimated Cost:	High
Potential Funding Sources:	HMGP
Implementation Timeline:	1-5 years
Objectives Met:	3,4,6
Benefits:	High
Impact on Socially Vulnerable Populations:	Provides consistent access to emergency services, especially for those with limited mobility or resources.
Impact on Future Development:	Supports resilient infrastructure planning and ensures future developments are supported by reliable emergency services.
Impact on Critical Facilities/Lifelines:	Protects the operational capacity of lifeline services, including emergency response, communications, and public health.
Impact on Capabilities:	Ensures critical facilities and infrastructure remain functional during and after disaster events.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026–Healdsburg–06. LID and BMP Compliance - Stormwater

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Flood
Description of the Problem:	The City experiences increased stormwater runoff and reduced groundwater recharge due to conventional development practices. Without the implementation of low impact development (LID) best management practices (BMPs), these issues contribute to flooding, erosion, and declining water quality.
Description of the Solution:	Comply with LID BMPs to reduce stormwater runoff and increase groundwater recharge.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1,3,4,5,6,7,8,9,10,11,12
Benefits:	Low
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Reduces long-term risk and ensures compliance with stormwater management.
Impact on Critical Facilities/Lifelines:	Protects critical infrastructure by enforcing development standards.
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure, Natural Systems Protection
CRS Category	Preventative Measures
Priority	Medium

Action 2026–Healdsburg–07. SWRP Outreach

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Flood
Description of the Problem:	The City of Healdsburg lacks a tailored outreach strategy to effectively communicate stormwater management goals and practices to its residents. Without localized messaging and engagement, the materials developed through the Russian River Watershed Association's Storm Water Resource Plan may not reach or resonate with the community, limiting public awareness and participation in stormwater mitigation efforts.
Description of the Solution:	Develop a Healdsburg-specific outreach strategy to utilize the materials being developed through the Russian River Watershed Association on the in-development Storm Water Resource Plan (SWRP).
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	3,4,5,6
Benefits:	Low
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness
CRS Category	Public Information
Priority	Medium

Action 2026–Healdsburg–08. Underground Power Line Upgrades

Lead Agency:	City of Healdsburg Utilities Department
Supporting Agencies:	Fire Department
Hazard(s) of Concern:	Extreme Wind, Wildfire
Description of the Problem:	Overhead powerlines in areas with high vegetative fuels, especially within the wildland-urban interface (WUI), pose a significant risk of utility-caused wildfires. Without relocating these lines underground where feasible, the City remains vulnerable to fire ignition sources that threaten public safety, property, and critical infrastructure.
Description of the Solution:	Install underground powerlines, when possible, to reduce the risk of utility-caused wildfire. Prioritize undergrounding in WUI and other areas with high vegetative fuels.
Estimated Cost:	Medium
Potential Funding Sources:	CDBG Program
Implementation Timeline:	1-5 years
Objectives Met:	1,2,5,6
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Reduces outages during storms or extreme weather events. Reduces risks of wildfires and downed lines, particularly in dense urban areas.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure
CRS Category	Preventative Measures
Priority	Medium

Action 2026–Healdsburg–9. Microgrids

Lead Agency:	City of Healdsburg Utilities Department
Supporting Agencies:	-
Hazard(s) of Concern:	Extreme Heat
Description of the Problem:	The City is increasingly impacted by public safety power shutoff (PSPS) events and heatwaves that strain the electric grid, leading to power disruptions that affect critical public facilities and community safety. Without utility-scale microgrids, the City lacks a resilient and redundant power system to maintain essential services during grid failures and extreme weather conditions.
Description of the Solution:	Develop utility scale microgrids to mitigate the impacts of PSPS events and heatwaves that limit supply from the electric grid and to provide redundant power systems for critical public facilities.
Estimated Cost:	Low
Potential Funding Sources:	CAL FIRE, HMA, HMGP
Implementation Timeline:	1-5 years
Objectives Met:	4, 6, 8, 9, 11, 12
Benefits:	Low
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure
CRS Category	Preventative Measures
Priority	Medium

Action 2026–Healdsburg–10. Vegetation Treatment Plan Funding

Lead Agency:	City of Healdsburg Fire Department
Supporting Agencies:	-
Hazard(s) of Concern:	Wildfire
Description of the Problem:	The City lacks sufficient funding to implement vegetation treatment strategies that reduce wildfire risk and improve ecosystem health. Without dedicated financial support, critical fuel reduction efforts outlined in the California Vegetation Treatment Plan cannot be carried out, leaving high-risk areas vulnerable to wildfire ignition and spread.
Description of the Solution:	Funding for California vegetation treatment plan
Estimated Cost:	Low
Potential Funding Sources:	CAL FIRE, SAFER, HMGP
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,8,9,13
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Provides protection for vulnerable communities in fire-prone areas
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Strengthens fire response and preparedness.
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection
CRS Category	Preventative Measures
Priority	High

Action 2026–Healdsburg–11. Wastewater Infiltration

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Flood
Description of the Problem:	During rain events, excessive infiltration and inflow into the City's wastewater system can overwhelm the sewer collection infrastructure, leading to potential overflows, service disruptions, and environmental contamination.
Description of the Solution:	Wastewater infiltration and inflow reductions to mitigate overwhelming the sewer collection system during rain events.
Estimated Cost:	Medium
Potential Funding Sources:	CA DWR, HMGP
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 4, 6, 11, 12
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Enhanced public health protection.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Maintains essential wastewater services for hospitals, emergency shelters, and other critical facilities.
Impact on Capabilities:	Strengthens fire response and preparedness.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure
CRS Category	Preventative Measures
Priority	Medium

Action 2026–Healdsburg–12. Fire Station Flood Mitigation

Lead Agency:	City of Healdsburg Fire Department
Supporting Agencies:	-
Hazard(s) of Concern:	Flood
Description of the Problem:	The City's fire station is located in an area prone to flooding, which threatens emergency response operations and the safety of personnel and equipment. Without implementing targeted flood mitigation strategies, the facility remains vulnerable to service disruptions during storm events, compromising public safety and emergency readiness.
Description of the Solution:	Implement strategies to reduce the risk of flooding to the fire station and its operations.
Estimated Cost:	Low
Potential Funding Sources:	CAL FIRE, SAFER, HMGP
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 4, 6, 10, 11, 12
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Enhanced public health protection.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Reduces the risk of flooding and damage that can impact day-to-day operations.
Impact on Capabilities:	Strengthens fire response and preparedness.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure
CRS Category	Preventative Measures
Priority	High

Action 2026–Healdsburg–13. Landslide Stabilization

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Landslide
Description of the Problem:	The North Fitch Mountain area, including the Fitch Mountain Open Space Preserve, is experiencing slope instability that poses a risk to public safety, infrastructure, and natural resources.
Description of the Solution:	Implement landslide stabilization and/or protection measures into the North Fitch Mountain Slide Repair to include Fitch Mountain Open Space Preserve. Stabilization measures include grading the unstable portion of the slope to a lower gradient, construction of rock buttresses and retaining walls, and drainage improvements. Protection measures include containment and/or diversion of the moving debris, such as walls, berms, ditches, and catchment basins.
Estimated Cost:	Low
Potential Funding Sources:	HMGP
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,5,6
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure, Natural Systems Protection
CRS Category	Preventative Measures
Priority	High

Action 2026–Healdsburg–14. Outreach and Education – Mitigation Actions

Lead Agency:	City of Healdsburg Fire Department
Supporting Agencies:	-
Hazard(s) of Concern:	Wildfire
Description of the Problem:	Residents may be unaware of the specific mitigation actions they can take to reduce wildfire risk around their homes, such as clearing combustibles and creating defensible space. Without a targeted outreach program based on the Healdsburg CWPP Annex, community engagement and participation in home-level fire prevention efforts remain limited, increasing vulnerability to wildfire impacts.
Description of the Solution:	Implement an outreach program that educates residents on mitigation actions they can take at their homes such as removing dead or dry leaves and combustibles from roofs, decks, eaves, porches, and yards; and creating a defensible spaces or buffer zones around their houses as outlined in the Healdsburg CWPP Annex.
Estimated Cost:	Low
Potential Funding Sources:	HMGP, EMPG, CAL FIRE
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 4, 6, 7, 8, 9, 11, 12
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	This action will benefit the Safety and Security lifeline, specifically firefighting.
Climate Change Considerations:	N/A
Mitigation Category	Education Awareness Programs
CRS Category	Public Information
Priority	High

Action 2026–Healdsburg–15. Water Line Replacement

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	
Hazard(s) of Concern:	Wildfire
Description of the Problem:	While commercial, industrial, and new residential construction projects include sprinkler laterals during water line installation, existing residential buildings are excluded from this practice. Without integrating sprinkler laterals during routine water line replacements, these homes remain at higher risk during fire events and miss an opportunity for cost-effective fire protection upgrades.
Description of the Solution:	When replacing water lines, put in laterals for sprinklers to residential buildings (already included for commercial, industrial and new construction, but not for existing residential buildings).
Estimated Cost:	Medium
Potential Funding Sources:	General Fund, CDBG Program
Implementation Timeline:	1-5 years
Objectives Met:	1,2,5,6
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure
CRS Category	Preventative Measures
Priority	Medium

Action 2026–Healdsburg–16. Stormwater Project Implementation

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	
Hazard(s) of Concern:	Flood
Description of the Problem:	Stormwater runoff during heavy rain events contributes to localized flooding, putting infrastructure and property at risk.
Description of the Solution:	Implement stormwater runoff reduction projects to reduce the impacts of flooding.
Estimated Cost:	Medium
Potential Funding Sources:	HMGP, Prop 1
Implementation Timeline:	1-5 years
Objectives Met:	1,3,4,5,6,7,8,9,10,11,12
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Reduces risk in low-income flood-prone areas.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure
CRS Category	Preventative Measures
Priority	Medium

Action 2026–Healdsburg–17. Hazard Disclosure

Lead Agency:	City of Healdsburg Planning and Building Department
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Hazard disclosure for residential properties is often inconsistent, and without improved coordination with real estate agents, buyers may remain unaware of risks in designated natural hazard zones.
Description of the Solution:	Assist in ensuring adequate hazard disclosure by working with real estate agents to improve enforcement of real estate disclosure requirements for residential properties with regard to seven official natural hazard zones.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 3, 4, 6, 8, 9, 11, 12
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure, Education and Awareness
CRS Category	Public Information
Priority	High

Action 2026–Healdsburg–18. Disaster Mitigation Plan Development

Lead Agency:	City of Healdsburg Emergency Management
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Many health care facilities lack disaster mitigation plans, leaving them vulnerable to service disruptions during emergencies.
Description of the Solution:	Encourage health care facilities to develop disaster mitigation plans.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 3, 4, 6, 8, 9, 11, 12
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	High

Action 2026–Healdsburg–19. Cooling Device Rebate Program

Lead Agency:	City of Healdsburg Utility Department
Supporting Agencies:	-
Hazard(s) of Concern:	Drought
Description of the Problem:	Without incentives, many residents may not upgrade to energy-efficient appliances and systems, missing opportunities to reduce energy use, lower emissions, and improve climate resilience.
Description of the Solution:	Provide energy efficiency rebates for items such as heat pumps, air conditioners and evaporative coolers, duct sealing and weatherization, air conditioning and heat pump tune-ups, and replacement of water heaters, dishwashers, and clothes washers with electric appliances.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund, WaterSMART Grants
Implementation Timeline:	1-5 years
Objectives Met:	13
Benefits:	Medium
Impact on Socially Vulnerable Populations:	Provides life-saving relief to seniors, individuals with disabilities, and low-income residents who may be homebound, medically fragile, or without access to air conditioning. Reduces reliance on transportation to cooling centers, improving safety for those who would otherwise face heat exposure risks while trying to reach public facilities.
Impact on Future Development:	Ensures continued fire and emergency response.
Impact on Critical Facilities/Lifelines:	Lowers the burden on community cooling centers and emergency shelters during heat events. Distributes cooling capacity across households, contributing to decentralized resilience.
Impact on Capabilities:	N/A
Climate Change Considerations:	Directly addresses the projected increase in drought.
Mitigation Category	Structure and Infrastructure
CRS Category	Public Information
Priority	High

Action 2026–Healdsburg–20. Provide Water Saving Items

Lead Agency:	City of Healdsburg Utility Department
Supporting Agencies:	-
Hazard(s) of Concern:	Drought
Description of the Problem:	Many households lack basic water-saving devices, and without access to free items like low-flow showerheads and faucet aerators, opportunities to reduce water use and improve drought resilience are missed.
Description of the Solution:	Provide free water saving items such as low-flow shower heads and faucet aerators to the public.
Estimated Cost:	Low
Potential Funding Sources:	General Fund, WaterSMART Grants
Implementation Timeline:	1-5 years
Objectives Met:	13
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure, Education Awareness
CRS Category	Preventative Measures
Priority	High

Action 2026–Healdsburg–21. Free Energy Audits

Lead Agency:	City of Healdsburg Utility Department
Supporting Agencies:	-
Hazard(s) of Concern:	Drought
Description of the Problem:	Without free energy audits for commercial customers and education for residents, opportunities to improve energy efficiency and reduce utility costs across the community are being missed.
Description of the Solution:	Provide free energy audits for commercial electric customers and education for residential customers.
Estimated Cost:	Low
Potential Funding Sources:	General Fund, WaterSMART Grants
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 4, 6, 7, 8, 9, 11, 12,13
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness
CRS Category	Public Information
Priority	High

Action 2026–Healdsburg–22. Education and Outreach – Water Conservation

Lead Agency:	City of Healdsburg Utility Department
Supporting Agencies:	-
Hazard(s) of Concern:	Drought
Description of the Problem:	Without accessible education and outreach, many residents are unaware of practical water conservation strategies, limiting community-wide efforts to reduce water use and improve drought resilience.
Description of the Solution:	Offer water conservation education and outreach opportunities to the public such as: • Home-scale Greywater • Inspect and Evaluate Your Irrigation System • State Mandated Water Restrictions and You • Basics of Drought Tolerant Landscaping • Setting a Landscape Water Budget • Practical Solutions to Create a Water-Wise Home Series: • Water Conservation 101 • Indoor Solutions • Harvest the Rain & Slow the Flow
Estimated Cost:	Low
Potential Funding Sources:	General Fund, WaterSMART Grants
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 4, 6, 7, 8, 9, 11, 12,13
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness
CRS Category	Public Information
Priority	High

Action 2026–Healdsburg–23. Weed Abatement Program

Lead Agency:	City of Healdsburg Fire Department
Supporting Agencies:	-
Hazard(s) of Concern:	Wildfire
Description of the Problem:	Without regular inspections and enforcement, overgrown vegetation and ladder fuels around properties increase wildfire risk and threaten community safety.
Description of the Solution:	Manage a weed abatement program for the City by conducting annual inspections to ensure all residents abate high weeds, trim up limbs at least 6 feet off the ground, and remove ladder fuels.
Estimated Cost:	Low
Potential Funding Sources:	General Fund, CAL FIRE, HMGP
Implementation Timeline:	1-5 years
Objectives Met:	2,3,4,8,11,12,13
Benefits:	Low
Impact on Socially Vulnerable Populations:	Provides homeowners in underserved communities peace of mind regarding the safety of their housing.
Impact on Future Development:	Creates a culture of fire preparedness among housing developers and multifamily housing unit owners.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Decreases risk of multifamily units causing or exacerbating the scale of future wildfires.
Climate Change Considerations:	N/A
Mitigation Category	Plans and Regulations, Education and Awareness
CRS Category	Public Information
Priority	Medium

Action 2026–Healdsburg–24. Fault Lines

Lead Agency:	City of Healdsburg Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Earthquake
Description of the Problem:	Water mains and sewer pipelines crossing active fault lines are vulnerable to damage during seismic events, especially in areas subject to high ground shaking, earthquake-induced ground failure, and surface fault rupture.
Description of the Solution:	Equip water mains crossing fault lines for emergency connection. Include “areas subject to high ground shaking, earthquake-induced ground failure, and surface fault rupture” in the list of criteria used for determining a replacement schedule for pipelines. Where active faults are found based on geologic investigations, public water mains will include additional valves and fire hydrants placed on each side of the fault. Design of sewer mains will include a manhole on each side of the fault.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 3, 4, 6, 8, 9, 11, 12
Benefits:	Medium
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure
CRS Category	Preventative Measures
Priority	High

6. CITY OF PETALUMA

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Petaluma with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the City. The annex presents a general overview of Petaluma, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

6.1 HAZARD MITIGATION PLANNING TEAM

The City of Petaluma identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Petaluma Fire Department represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The City officials who participated in the development of the annex are listed below and shown in Table 6-1. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Thomas Jordan, Emergency Manager

Address: 198 D Street Petaluma, CA 94952

Phone Number: (707) 778-4390

Email: tjordan@cityofpetaluma.org

Alternate Point of Contact: Paul Kaushal, Director of Public Works

Address: 1318 Redwood Way, Petaluma, CA 94954.

Phone Number: (707) 778-4303

Email: pkaushal@cityofpetaluma.org

NFIP Administrator: Gina Benedetti-Petnic, Assistant Director of Public Works and Floodplain Administrator

Address: 202 N McDowell Blvd, Petaluma, CA 94954

Phone Number: (707) 778-4303

Email: gbenedettipetnic@cityofpetaluma.org

Table 6-1. Additional Contributors

Name	Department	Position	HMP Contribution
Peggy Flynn	City Manager's Office	City Manager	Approved final annex
Patrick Carter	City Manager's Office	Assistant to the City Manager	Contributed information to the HMP, reviewed draft plan
Brian Cochran	City Manager's Office	Assistant City Manager	Contributed information to the HMP, reviewed draft plan
Jerome Hoberg	Community Development	Chief Building Official	Contributed information to the HMP, reviewed draft plan
Brian Oh	Community Development	Director of Community Development	Contributed information to the HMP, reviewed draft plan
Heather Gurewitz	Community Development	Senior Planner	Contributed information to the HMP, reviewed draft plan
Ingrid Alverde	Economic Development & Open Government	Director Economic Development and Open Government	Contributed information to the HMP, reviewed draft plan
Sarah Wolf	Community Development	Management Analyst	Contributed information to the HMP, reviewed draft plan
Brendan Galten	Economic Development & Open Government	Information Technology Manager	Contributed information to the HMP, reviewed draft plan
Caitlin Corley	City Clerk	City Clerk	Contributed information to the HMP, reviewed draft plan
Eric Danley	City Attorney	City Attorney	Contributed information to the HMP, reviewed draft plan
Jeff Schach	Fire	Fire Chief	Contributed information to the HMP, reviewed draft plan
David Catalinotto	Fire	Senior Management Analyst	Contributed information to the HMP, reviewed draft plan
Amy Segui	Fire	Fire Marshal	Contributed information to the HMP, reviewed draft plan
Linda Le	Human Resources	Director of Human Resources & Risk Management	Contributed information to the HMP, reviewed draft plan
Drew Halter	Parks and Recreation	Director of Parks and Recreation	Contributed information to the HMP, reviewed draft plan
Brian Miller	Police	Police Chief	Contributed information to the HMP, reviewed draft plan
Nick McGowan	Police	Deputy Police Chief	Contributed information to the HMP, reviewed draft plan
Gina Benedetti-Petnic	Public Works	Assistant Director of Public Works	Contributed information to the HMP, reviewed draft plan
Kent Carothers	Public Works	City Engineer	Contributed information to the HMP, reviewed draft plan
Diane Ramirez	Public Works	Project Manager	Contributed information to the HMP, reviewed draft plan
Johnathan Sanglerat	Public Works	Engineering/CIP Manager	Contributed information to the HMP, reviewed draft plan

Name	Department	Position	HMP Contribution
Jared Hall	Public Works	Transit Manager	Contributed information to the HMP, reviewed draft plan
Dan Herrera	Water Resources & Utilities	Deputy Director of Operations	Contributed information to the HMP, reviewed draft plan
Dan Cohen	Public Works	Airport and Marina Manager	Contributed information to the HMP, reviewed draft plan
Chelsea Thompson	Water Resources & Utilities	Director of Water Resources & Utilities	Contributed information to the HMP, reviewed draft plan
Pamela Tuft	Public Works	Special Projects Consultant and CRS Coordinator	Contributed information to the HMP, reviewed draft plan
Paul Kaushal	Public Works	Director of Public Works	Contributed information to the HMP, reviewed draft plan
Jason Beatty	Public Works	Special Projects Manager	Contributed information to the HMP, reviewed draft plan
Leah Walker	Public Works	Special Projects Consultant	Contributed information to the HMP, reviewed draft plan
Deb Fox	City Manager's Office	Climate Action Manager	Contributed information to the HMP, reviewed draft plan
Heather Hines	Community Development	Planner	Contributed information to the HMP, reviewed draft plan
Matt Pierce	Water Resources & Utilities	Water Recycling Plant Operations Supervisor	Contributed information to the HMP, reviewed draft plan

6.2 COMMUNITY PROFILE

The City of Petaluma is located approximately 40 miles north of San Francisco and is geographically defined by surrounding hillsides. The City has experienced steady growth since suburbanization in the 1950s and the adoption of an urban growth boundary but has a reputation for maintaining a “small town” atmosphere as the population grew. Its proximity to the San Francisco Bay Area and the well-preserved historic downtown make it an attractive place for home buyers.

The City of Petaluma is located at the southern end of Sonoma County. The City was built on the northern banks of the navigable end of the Petaluma River, a tidal estuary that flows south to the San Pablo Bay. It is comprised of 13.9 square miles of land and one-tenth of a square mile of water (consisting mostly of the Petaluma River). U.S. Highway 101 bisects the City, connecting locals and visitors to the surrounding Bay Area. The City is within the Petaluma River Valley, which is defined by Sonoma Mountain to the northeast and hills extending from Burdell Mountain on the west. The City is surrounded by the unincorporated communities of Penngrove to the north and Lakeville to the south.

According to the U.S. Census, the 2020 population for Petaluma was 59,776, a 2.9 percent increase from the 2010 Census. The 2023 American Community Survey estimated that the 2023 population of Petaluma was 59,321; this estimate is used throughout the HMP.

Some populations are at greater risk from hazard events because of decreased resources or physical abilities for responding during a hazard, and the location and construction quality of their housing. The 2023 American Community Survey indicates that 4.3 percent of the population is 5 years of age or younger, 21.3 percent is 65 years of age or older, 3.9 percent is non-English speaking, 6.1 percent is below the poverty threshold, 11.0 percent have disabilities,1.6 percent live in a single parent household, and 5.9 percent have no vehicle access.

In 2024, the total homeless population in Petaluma was reported as 240 individuals: 97 sheltered and 143 unsheltered persons (Sonoma County 2024).

6.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Petaluma completed specific activities to collect input on hazards and vulnerability from the people the City serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

On January 22, 2025, the City of Petaluma and the Sonoma County Department of Emergency Management co-hosted a public meeting at the Petaluma Fairgrounds. The meeting provided an opportunity for the community to learn about Sonoma County's efforts to prepare for natural disasters and participate in creating a resilient community. Presenters described the 2026 Sonoma County hazard mitigation planning process and how the public could provide input on natural hazard problems and potential solutions. The public feedback and questions received at this meeting are listed in Volume I, Appendix C.

On March 15, 2025, Petaluma's emergency manager presented about the 2026 Sonoma County Hazard Mitigation Plan at a county-wide meeting on Excellence in Neighborhood Preparedness Leadership. Attendees were given an overview of the purpose of the HMP and opportunities for the public to participate. The meeting was open to the public.

Additional outreach to underserved communities and vulnerable populations was contractor-led, involving comprehensive community public engagement and collaboration with City-affiliated community-based organizations. The City's public engagement efforts are illustrated in Figure 6-1 through Figure 6-4.

Figure 6-1. Public Meeting Flyers



Figure 6-2. Petaluma Newsletter January 2025



Figure 6-3. Pictures of January Public Meeting



Figure 6-4. Excellence in Neighborhood Preparedness Leadership Flyers



6.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Petaluma invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

6.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. Public works and engineering departments contributed infrastructure data and identified vulnerabilities. Emergency management officials provided guidance on preparedness and response capabilities. Fire protection services offered insights into wildfire risk, water infrastructure, and emergency response coordination. These agencies played a key role in shaping mitigation strategies and ensuring alignment with existing emergency plans.

- California Department of Forestry and Fire Protection (CAL FIRE)
- California Department of Transportation (Caltrans)
- Sonoma County Department of Emergency Management
- Sonoma County Department of Public Works

6.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. This included community development and building departments, planning commissions, and city councils. Their involvement ensured that proposed actions were feasible and aligned with local codes and ordinances.

- Community Development
- Building Department
- Planning Commission
- City Council
- Sonoma Water

6.4.3 Neighboring Communities

Neighboring jurisdictions and institutions were invited to participate in the planning process to promote regional coordination and address shared risks. Their involvement helped identify interdependencies,

such as shared infrastructure and emergency services, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- City of Cotati
- City of Rohnert Park
- City of Santa Rosa
- City of Sebastopol
- Sonoma Water

6.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community, academic institutions, and private sector organizations. Local businesses and utility providers contributed perspectives on economic resilience and infrastructure continuity. Academic institutions provided technical expertise and helped assess long-term risks. This diverse input helped ensure that the plan addressed the needs of the broader community and supported public-private collaboration in mitigation efforts.

- Pacific Gas and Electric (PG&E)
- Petaluma Chambers of Commerce
- Santa Rosa Junior College Petaluma Campus
- Petaluma Valley Hospital

6.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- Sonoma Community Organizations Active in Disaster (COAD)
- Petaluma People Services Center
- Committee on the Shelterless ("COTS")
- The Salvation Army

6.5 CHANGES IN COMMUNITY PRIORITIES

There have been no changes in priorities for the City since the 2020 City of Petaluma Local Hazard Mitigation Plan.

6.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Petaluma performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Petaluma to identify opportunities for integrating mitigation concepts into ongoing City procedures.

6.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The tables below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 6-2 summarizes the codes, ordinances, and regulations available to the City of Petaluma.

Table 6-2. City Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	Title 17 Building And Construction 10/7/24	The City of Petaluma has adopted the 2022 California Building Code by reference, which includes provisions on earthquake safety, wind damage, and general safety and welfare of building inhabitants.	Municipal	Department of Public Works
Zoning/Land Use Code	Petaluma Implementing Zoning Ordinance 2019	The City's Implementing Zoning Ordinance (IZO) replaced the City's 1973 zoning ordinance. It guides current development through standards and regulations relating to allowable land uses consistent with the General Plan, conditionally allowable land uses, height, setbacks, parking, and signage. The IZO also addresses Hillside Protection, Tree Preservation, Floodway and Floodplain districts.	Municipal	Department of Public Works
Subdivision Code	Title 20 Subdivisions 10/7/24	Title 20 of the Petaluma's Municipal Code contains the City's subdivision provisions, and Chapter 4 of IZO has procedural requirements, tentative subdivision maps, parcels maps, dedications, and improvements. It also outlines streets, alleys, and other public right-of-way or easements for emergency access.	Municipal	Department of Public Works
Site Plan Code	24.050 Site Plan and Architectural Review. 2022	Title 24, section 24.050 provides information on site planning. Discretionary projects involve site plan review as part of the planning and approval process conducted by the City's Planning Divisions. The Development Engineering Division of the Public Works Department provides review and permit processing. This division reviews subdivision maps, construction plans, public improvement, and grading plans for all residential, commercial, and industrial projects. This division also ensures compliance with standards for development in the floodplain and in accordance with CRS requirements.	Municipal	Department of Public Works
Stormwater Management Code	17.30 10/7/24	Title 17, section 17.30 provides information on Storm Drainage. The City complies with requirements under MS4 Order No. 2013-0001-DWQ, which was updated in 2013 as part of the second Phase II Small MS4 General Permit (adopted July 2013). The City is implementing a Storm Water Management Plan that contains processes that will be used to meet mandatory requirements under the updated order.	Municipal	Department of Public Works
Growth Management	General Plan	The City adopted RGMS in 1972; a ULL was designated in 1987. An urban growth boundary was approved by voters in 1998 and then extended in 2010.	Municipal	Planning Department
Environmental Protection Ordinance(s)	16.07	Chapter 16 Hillside Protection of the Petaluma's IZO contains the City's provisions for development and altering properties in hillside and ridgeline areas. The purpose is to preserve the essential scenic and natural resources that define the character of Petaluma and minimize potential for geologic failures, fires and floods. Section 16.070 ensures hillside subdivisions are designed to avoid development on steep slopes exceeding 10 percent as determined by the City's average slope formula.	Municipal	Department of Public Works, Environmental Services team

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Flood Damage Prevention Ordinance	6.013 Methods of Reducing Flood Losses.	Chapter 6 of the Petaluma IZO contains the City's Floodplain Regulations. Special flood hazard areas in the City are based on the August 1979 Flood Insurance Study (FIS) for the City of Petaluma and recent Flood Insurance Rate Maps (FIRM). It limits development of projects in the flood hazard zone unless the project demonstrates that flood management facilities will protect the project to the urban level of flood protection, and implements conditions on the permit or project entitlement that protect the project to standard flood protection standards. Chapter 6.070 summarizes the standards of construction for new projects, and new construction or substantial improvements shall have the lowest floor elevation, including basements, elevated to either 1 or 2 feet, dependent upon location, above the base flood elevation. Upon completion of construction, the elevation of the lowest floor shall be reviewed, approved, and signed by the City Engineer. The certification shall be provided to the Floodplain Administrator. The IZO precludes development within the regulatory floodway and prohibits blocking or redirecting flood flows of the river.	Municipal	Department of Public Works
Wellhead Protection	15.20 Water Wells For statutory provisions defining water wells, see Water Code §13710.	----	Municipal	Department of Public Works
Emergency Management Ordinance	2.32.100	----	Municipal	City Manager
Climate Change Ordinance	Ordinance No. 2689 N.C.S. 9/5/19	The Ordinance established a Climate Action Commission to act as a focal point for community education about climate change, understand the City's impact on the environment, suggest climate change policies, encourage community groups, and examine best practices related to climate change.	Municipal	City Manager
Unreinforced Masonry Ordinance	Ordinance No. 1882	The Unreinforced Masonry Building Ordinance (Petaluma Ordinance No. 1882, Section 17.34.110) contains details related to Resolution No. 92-48 N.C.S. from the City, originally initiated in 1992. The Ordinance required unreinforced masonry buildings in the City to be retrofitted by the year 2017. This retrofitting process was completed in 2019.	Municipal	

Planning Documents

Table 6-3 summarizes the planning documents available to the City of Petaluma.

Table 6-3. City Planning Documents

Capability Type	Name of Plan and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	Petaluma General Plan, 2008	The General Plan serves as the primary land use policy document as recognized by State Planning Law. The City's General Plan was last updated and amended in 2012. The Housing Element was last updated and amended in 2018. Both planning documents are the City's most comprehensive land use and development tools. Together, they establish the vision for the buildout of the City of Petaluma through 2025. They also include a set of broad-based goals and objectives to guide development in the City. The City of Petaluma General Plan update is a comprehensive revision of the City's long-term policy framework guiding land use, housing, infrastructure, and hazard resilience, now underway with anticipated adoption in 2026 following release of draft policy frameworks and ongoing CEQA review. The update is explicitly integrating climate and hazard planning—building on recent hazard analyses, Flood Resilience Policy Frameworks and updated sea level rise/flood mapping—to embed strategies for sea level rise adaptation, flood risk management, and resilience into land use policies, while aligning with and informing the City's hazard mitigation and climate action efforts. The Adaptation and Flood Resilience Policy Framework within the General Plan Update lays out a set of goals, policies, and implementation actions to prepare the community for current and future flooding and sea level rise hazards by preserving and enhancing critical infrastructure, advancing understanding of future flood conditions, and guiding regulations and long-range planning to reduce risk and build adaptive capacity. It emphasizes flood adaptation planning through a dedicated Flood Adaptation Master Plan, preparedness and recovery strategies, and proactive engagement of stakeholders to ensure that growth, land use, and regulatory approaches reflect updated hazard data and long-term resilience objectives. The framework works in concert with other policy topics, such as natural environment stewardship and safety planning, to embed climate adaptation into broader city planning and decision-making processes.	Municipal	Planning Department
Capital Improvement Program	Capital Improvement Division	The Capital Improvement Division of the Public Works and Utilities Department is responsible for the planning, designing and renovating of all City of Petaluma CIP projects. These include projects such as construction, repair, and improvements of public streets, utility pipelines, pump stations, bridges, bike paths, public buildings, and public parks. The Capital Improvement Division follows design standards, and standard plans and specifications for all street, utility, parks, streetscape, and storm water projects. The Division also maintains a Pavement Management System database of all the City streets with a uniformly calculated numeric rating of the condition of pavement.	Municipal	Department of Public Works

Capability Type	Name of Plan and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Floodplain Management or Watershed Plan	City of Petaluma Floodplain Management Plan, 2015	The City of Petaluma Floodplain Management Plan (FMP) (October 2015) describes the nature and magnitude of flooding the City has experienced, floodplain management activities implemented, additional alternative remedies, and a plan for future action to address current floodplain problems. The City converted from the XP-SWMM model to the HEC-RAS 2D to conform with the modeling of the unincorporated County area by Sonoma Water. In addition, the City completed a sea level rise analysis through the end of the century and submitted updated FIRMs for review and approval by FEMA in 2025. Future adoption of revised FIRMs will occur in concert with the adoption of the updated General Plan. The City's first FIRM was dated 1980 and the City joined the CRS Program in 1991, it now has a Class 6 rating.	Municipal	Department of Public Works
Stormwater Management and Pollution Prevention Plan	Petaluma River Watershed Master Drainage Plan 2003, Site specific plans (e.g., Stormwater Control Plan For a Regulated Project Creekwood Condominiums)	The Plan describes watersheds and water systems in Petaluma. It discusses the impact of flooding on the community and identifies flood projects and funding options.	Municipal	Sonoma Water, Departments of Planning and Public Works
Urban Water Management Plan	Petaluma Urban Water Management Plan, 2020	The plan addresses the existing water infrastructure and uses in the City and identifies targets for future use and reliability.	Municipal	Department of Water Resources and Utilities
Climate Action/ Resiliency/ Sustainability Plan	Blueprint for Carbon Neutrality, 2024	The plan identifies greenhouse gas emissions reduction approaches.	Municipal	Planning Department
Hazard Mitigation Plan	City of Petaluma Local Hazard Mitigation Plan, 2020	This HMP will supersede the 2020 HMP. The Mitigation Strategy updates from the 2020 plan appear in Section 6.10.1 Past Mitigation Action Status. The HMP was integrated with the City's Capital Improvement Program.	Municipal	Planning Department

Response and Recovery Planning Documents

Table 6-4 summarizes the response and recovery planning documents for the City of Petaluma.

Table 6-4. City Response and Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	City of Petaluma Emergency Operations Plan, March 2022	This plan complements the HMP by outlining coordinated response procedures for disasters, helping to reduce impacts and speed up recovery efforts.	Municipal	City Manager's Office

6.6.2 Integration

Several of the local planning mechanisms currently in place for the City of Petaluma, such as the General Plan, Building Code, Zoning Code, and Capital Improvement Plan, already incorporate hazard-related policies, including seismic safety standards, floodplain development restrictions, and growth management strategies. Future updates to these policy and regulatory documents are incorporated into this HMP by reference.

The HMP builds on these foundations by identifying mitigation actions that align with and support existing policies, ensuring that hazard mitigation is not treated as a standalone effort but as a coordinated component of broader community planning. As these local plans are updated, information from the HMP, such as risk assessments, vulnerability data, and prioritized projects, can be incorporated to maintain consistency and reinforce long-term resilience goals.

This integration enhances the City's overall risk management framework and ensures that future HMP updates are informed by comprehensive, data-driven insights. By aligning planning efforts across departments and documents, the City strengthens its ability to mitigate risks and adapt to evolving environmental conditions.

6.6.3 Development and Permitting Capability

Table 6-5 summarizes the capabilities of Petaluma to oversee and track development.

Table 6-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Planning, Fire Prevention, and Public Works are involved in issuing development permits.
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Permits are tracked by the City Engineer, the Floodplain Administrator, and the CRS Coordinator in cooperation with the Planning Department.
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	Yes	The City of Petaluma maintains a buildable land inventory as part of its housing planning efforts, particularly through its Housing Element (2023–2031), which includes a site inventory identifying vacant and underutilized parcels that are suitable and available for residential development to meet the city's Regional Housing Needs Allocation obligations.

	Yes/No	Comment
Describe the level of buildout in your jurisdiction.	N/A	Under the current General Plan 2025, the planning-level buildout envisioned approximately 6,000 new residential units beyond existing development, bringing total units to roughly 27,950 if fully realized — indicating there is remaining capacity for residential growth within the urban growth boundary as mapped by the plan.

6.6.4 Administrative and Technical Capability

Table 6-6 summarizes the administrative bodies and programs available to support mitigation initiatives in the City. In addition to these capabilities, the City also maintains a planning team that communicates quarterly regarding implementation and maintenance of the HMP. To expand and improve these capabilities, the City could explore the creation of a zoning board, economic development commission, or environmental committee. The City could also explore the creation of new city positions for a resilience officer or grant writer.

Table 6-6. Administrative Capabilities

Resources	Available?	Comment
Planning Department	Yes	Available to support hazard mitigation projects
Planning Commission	Yes	Available to support hazard mitigation projects
City Council	Yes	Available to support hazard mitigation projects
Public Works Department	Yes	Available to support hazard mitigation projects
Police and Fire Departments	Yes	Available to support hazard mitigation projects
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Debris, downed and dead tree, and non-native plant removal, tree trimming, sediment removal—to maintain in-channel flood capacity
Mutual aid agreements	Yes	Existing agreements
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	City staff are required to support disaster response

Table 6-7 summarizes potential staff and personnel resources available to Petaluma and their current responsibilities that contribute to hazard mitigation.

Table 6-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Expertise available in the Planning and Public Works Departments.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Expertise available in the Public Works and Water Resources and Utilities Departments

Resources	Available?	Comment
Planners or engineers with an understanding of natural hazards	Yes	Expertise available in the Planning (Environmental Services), Public Works, Water Resources and Utilities, and Fire (Emergency Management) Departments
Staff with expertise or training in benefit/cost analysis	Yes	Expertise available in the Public Works, Water Resources and Utilities, and Finance Departments
Professionals trained in conducting damage assessments	Yes	Expertise available in the Planning, Public Works (Streets, Transit, Airport, Capital Improvements, Engineering), Water Resources and Utilities, and Fire (Fire Marshal) Departments
Personnel skilled or trained in GIS and/or Hazus applications	Yes	GIS and IT expertise available; GIS and IT specialist on staff
Staff that work with socially vulnerable populations or underserved communities	Yes	Expertise available at City
Environmental engineer	Yes	Expertise available at City
Surveyor and Hydrologist	Yes	Available by contract
Emergency manager	Yes	Dedicated emergency manager in the Fire Department
Public Information	Yes	Available in the City Manager's Office, Open Government, GIS/IT, Finance, Police and Fire Departments
Floodplain Specialist	Yes	Floodplain Administrator (also a structural engineer) and CRS Coordinator on staff
Engineers	Yes	Environmental engineer, civil engineers, and certified water and wastewater operators on staff

6.6.5 Fiscal Capability

Table 6-8 summarizes financial resources available to Petaluma.

Table 6-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes

6.6.6 Education and Outreach Capability

Table 6-9 summarizes the education and outreach resources available to Petaluma.

Table 6-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Communications Manager
Personnel skilled or trained in website development	Yes	Web developers
Hazard mitigation information available on your website	Yes	All hazard information
Social media for hazard mitigation education and outreach	Yes	Coordinated through PIO
Community boards or commissions that address issues related to hazard mitigation	Yes	The boards and commissions listed in Table 6-6.
Warning systems for hazard events	Yes	Emergency notifications
Natural disaster/safety programs in place for schools	Yes	First responders in schools
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Existing relationships with local and regional non-profit organizations
Public outreach mechanisms / programs to inform residents on natural hazards, risk, and ways to protect themselves during such events	Yes	Website, social media, and newsletter. Hard copy publications available at various City offices and public library.

6.6.7 Community Classifications

Table 6-10 summarizes classifications for community programs available to Petaluma.

Table 6-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	Yes	6	2024
Building Code Effectiveness Grading Schedule	Yes	3/3	2021
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	2	2024
National Weather Service StormReady Certification	Yes	-	2023
Firewise Communities classification	Yes	-	Various

— = *Not Applicable*

6.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 6-11 summarizes the

adaptive capacity for each identified hazard of concern and the City's capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 6-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Strong
Drought	Strong
Earthquake	Moderate
Extreme Cold	Strong
Extreme Heat	Strong
Extreme Wind	Moderate
Flood	Strong
Landslide	Moderate
Sea Level Rise	Strong
Tsunami	Strong
Wildfire	Moderate

6.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 6.1 is responsible for maintaining this information.

The City has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the City on October 2, 2015. The Public Works Director is responsible for implementing the requirements of the NFIP by requiring permits for all development within special flood hazard areas (SFHAs) shown on the latest FIRM. The Public Works Director reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The City implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The Public Works Director uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

Petaluma participates in the NFIP and is a Class 6 CRS community. Table 6-12 provides a summary of NFIP compliance in Petaluma.

Table 6-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	Public Works
Are any certified floodplain managers on staff in your jurisdiction?	Yes, with history and training back to the 1990s and a certified CRS Coordinator.
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes, the City has modeled for future precipitation and storm intensity increases as well as sea level rise.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes, the City anticipates adding additional staff to attain a full-time certified Floodplain Manager. FEMA FPA training, additional CRS Coordinator training.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Full service of NFIP CRS services, mapping, education/outreach, flood history, elevation certificate retention, and base flood elevation information by parcel. Engineering review of development/improvement plans. GIS, permitting, and field inspections are provided by other City departments.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	In compliance with the City zoning regulations, review by Planning and Building staff.
What are the barriers to running an effective NFIP program in the community, if any?	Funding for mitigation assistance implementation, additional outreach within the many subbasins in the Petaluma Watershed. Need for consistent enforcement of flood mitigation and flood reduction between government jurisdictions within the watershed (City and County).

Question	Comments
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Due to COVID restrictions, the 2021 5-year audit was done by remote review. No CAV or CAC visits have occurred to date.
What is the local law number or municipal code of your flood damage prevention ordinance?	6.013. Methods of Reducing Flood Losses.
What is the date that your flood damage prevention ordinance was last amended?	The Petaluma Implementing Zoning Ordinance is current through Ordinance 2900, passed April 21, 2025.
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Exceeds in multiple ways. Petaluma is currently a Class 6 community (#060379) in the FEMA NFIP CRS Program.
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	All project applications subject to obtaining a building permit are subject to review. In addition, a discretionary permit triggers environmental review including referral to multiple departments for input and recommended conditions or restrictions. The Zoning Ordinance defines development standards for any proposal within a regulatory floodplain. No development is permitted in the regulatory floodway.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Actively working on improving from CRS Class 6 to Class 5. Obtaining Mitigation Funding Assistance would be of exceptional value in expanding the City's outreach and solution-based approach to flood management.

6.7.1 Repetitive Loss

The Open FEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. Table 6-13 summarizes the repetitive loss and severe repetitive loss properties in the City.

Table 6-13. Repetitive Loss Summary

Type of Repetitive Loss	Residential	Non-Residential
Repetitive Loss Properties (NFIP definition)	23	7
Repetitive Loss Properties (FMA definition)	5	1
Severe Repetitive Loss Properties (NFIP definition)	5	0
Severe Repetitive Loss Properties (FMA definition)	7	0

Source: (FEMA 2024)

Note: See Appendix C for definitions of repetitive loss types presented in this table.

6.7.2 Flood Vulnerability Summary

The SFHA is an area having special flood, mudflow or flood-related erosion hazards that is shown on a Flood Hazard Boundary Map or a Flood Insurance Rate Map (FIRM). The SFHA is the area where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

Figure 6-5 identifies the FEMA-mapped areas most likely to flood in the City. These areas include the 1 percent annual chance and 0.2 percent annual chance flood areas. The map also shows the sea level rise and dam failure inundation areas in Petaluma. These flooding hazards present a risk to life and property in the City. Table 6-14 provides a summary of flood vulnerability.

Table 6-14. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	See FEMA FIRM maps. Primarily, flooding occurs in proximity to the Petaluma River and the creek tributaries flowing into the river from the Petaluma watershed.
Do you maintain a list of properties that have been damaged by flooding?	Property records are maintained through the Building Permit records system. Maintaining a site-specific list would not be public record if a property were qualified as a repetitive loss property, so the City does not maintain a specific list.
Do you maintain a list of property owners interested in flood mitigation?	Flood mitigation information is provided on an individual property basis. Contact logs are maintained on an annual basis to document inquiries. At this time, no financial support is available but staff time is provided to assist with information on opportunities and options for protecting existing structures from flooding.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	The City maintains FEMA FIRMs and City-wide HEC-RAS 2D surface water modeling to provide actual flood depth data on a parcel-specific basis, as well as sea level rise maps for mid-century and end-of-century based on projected increased precipitation and sea level rise impacts. Annual outreach is made throughout the community to properties within the regulatory floodplain provide information and contacts, and to repetitive loss neighborhoods. Workshops have been held to share sea level rise information and mapping to show anticipated impacts to end-of-century. The City is now working toward identifying mitigation projects by sub-watershed basin to addresse anticipated sea level rise related impacts.
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	The City has completed the conversion of modeling to HEC-RAS 2D and is currently updating the FIRMs. Upon completion of the update, anticipated in 2026, the City will be able to provide all necessary information to quantify the flood impacts on any specific parcel and assist in the identification and prioritization of flood reduction capital projects.

NFIP Topic	Comments
How do you make Substantial Damage determinations?	The completion of the Petaluma River Flood Control Project in 2015 resulted in the acquisition of 12 parcels. Homes were either relocated to a parcel outside of the floodplain or demolished, at the owner's discretion. There are three houses within the residential area protected by the Petaluma River Flood Control Project and all three were elevated by their owners. The home significantly damaged by the failure of a City drainage system is not in the project neighborhood but is off East Court and is not in the SFHA. It was replaced, at a higher elevation, by the City.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	None, there have not been any substantial damage determinations as a result of recent flood events in the City.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? **If there are mitigation properties, how were the projects funded?**	Yes. The City's flood hazard maps—utilizing FIRMs and the General Plan work maps for sea level rise, storm surge, and future mid-century and end-of-century maps—provide clear information on current conditions and illustrate potential future conditions.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? **If not, state why.**	Property records are maintained through the Building Permit records system. Maintaining a site-specific list would not be public record if a property were qualified as a repetitive loss property, so the City does not maintain a specific list.

6.7.3 Natural Floodplain Functions

The Petaluma River and its tributaries drain an area of about 146 square miles, of which 113 square miles are in Sonoma County and 33 square miles are in Marin County. The basin is pear shaped and has a length of about 19 miles, oriented in a northwest-southeast direction, and a maximum width of about 13 miles. Petaluma River, from its source at the confluence of Liberty Creek and Willow Brook in the northwest portion of the basin, flows generally southeast through the middle of the basin for about 18 miles, passing through Petaluma and emptying into San Pablo Bay.

The Petaluma River basin is composed of a hilly and mountainous headwater section, a central valley section, and a tidelands section near the bay. Elevations range from sea level at the mouth of the Petaluma River to about 2,000 feet above sea level along the ridges and peaks of the mountainous northern boundary. About 56 percent of the basin area consists of mountainous and hilly headwater land, 33 percent of the basin is included in the central valley section, and the remaining 11 percent consists of a salt march section. At least one third of the marshlands have been reclaimed by a system of levees, drainage ditches, tide gates, and pumps.

The City of Petaluma is actively pursuing regulatory permits for ongoing stream and channel maintenance to enable routine, proactive management of vegetation, sediment, and obstructions in local waterways, particularly along the Petaluma River and tributaries. Securing these permits supports reduced flood risk, improved hydraulic capacity, and protection of critical infrastructure, while providing regulatory certainty that allows maintenance to occur at the right time and scale. This approach also delivers co-benefits for habitat health, emergency preparedness, and long-term climate adaptation, aligning stream management with sea level rise and flood resilience objectives.

6.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 6-15 and Table 6-16.

Table 6-15. Recent Major Development and Infrastructure from 2020 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
BioMarin	Business Park/ Industrial	1 structure/ 72,000 square feet	85 Old Corona Road 150-020-42 and 150-242-041	SFHA Zones AE and 0.2% (shaded, Zone X)	Construction complete
Wasatch Storage	Business Park/ Industrial	1 structure/ 47,000 square feet	85 Corona 150-020-008	None	Construction complete
Adobe Road Winery	Commercial	1 structure	1 C St. 008-069-002	Potential flood	Under construction
Home 2 Suites Hotel	Commercial	1 structure, 140 rooms	1206 Redwood Way 007-411-034	None	Construction complete
Marriott Hotel	Commercial	1 structure, 120 rooms	700 Caulfield Ln 136-690-004	N/A	Construction complete
Quarry Heights	Residential	91 SFD	Various 300 Jacquelyn 019-630-081	None	Construction complete
Deer Creek Residential	Residential	5 structures/ 129 MFD	495 N McDowell Blvd 007-380-034	None	Construction complete
Riverbend Subdivision	Residential	30 SFD	Various 529 Madison St 007-041-006	A few of the homes are located in the 0.2% (shaded, Zone X)	Construction complete
Makenna Subdivision	Residential	36 SFD	Various 240 Casa Grande Rd 017-040-020	Partially in the 0.2% (shaded, Zone X) and in Zone X	Construction complete
North River Landing	Residential	2 structures/ 184 MFD	368 Petaluma Blvd N 006-163-040, -041	None	Construction complete
414 Petaluma Blvd N	Residential	1 structure/ 43 units	414 Petaluma Blvd N 006-163-044	None	Construction complete
PEP Senior Housing	Residential	4 structure/ 53 MFD	951 Petaluma Blvd S 008-530-008	None	Construction complete
Riverplace Apartments	Residential	1 structure/ 50 MFD	1601 Petaluma Blvd S 019-210-052	None	Under construction

a. Only location-specific hazard zones or vulnerabilities identified.

Table 6-16. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
Hampton Inn/Silk Mill Expansion	Commercial	1 structure/ 18 rooms to add to existing 78-room hotel	450 Jefferson 007-163-002	None	Approved Planning entitlements
5002 Petaluma Blvd N	Commercial	2+ buildings/ 4,500 square feet, 4,900 square feet, existing	5002 Petaluma Blvd N 007-412-075	The site, including the location of the 2 buildings is located within the Zone AE and 0.2% (shaded, Zone X).	Under construction
LabCon	Business Park/ Industrial	1 building/ 228,000 square feet	1677 Fisher Dr 005-280-058	None	Approved Planning entitlements
Scott Ranch Subdivision	Residential	28 SFD	1860 D St. Ext 019-120-041	Wildland-Urban Interface, Zone X	Approved Planning Entitlements
Creekwood Housing Development	Residential	36 buildings/ 59 SFD	270 Casa Grande 017-040-051	A good portion of the site is designated as 0.2% (shaded, Zone X)	Approved Planning Entitlements
2 Rovina Apartments	Residential	2 structures/ 32 MFD	2 Rovina Ln 019-210-009	Wildland-Urban Interface, Zone X	Approved Planning Entitlements
Riverview (Baywood)	Residential	Multiple structures/ 264 MFD	8 Casa Grande Rd 005-060-042	This property is significantly covered by Zone AE and 0.2% (shaded, Zone X)	Approved Planning Entitlements
Sid Commons Apartments	Residential	Multiple structures/ 180 MFD	18 Bernice Ct 019-010-006	None	Approved Planning Entitlements
Spirit Living Community Care	Commercial Residential	1 structure/ 106 senior assisted living units	136-690-005	None	Approved Planning Entitlements
Riverscape Townhomes	Residential	Multiple structures/ 44 MFD	500 Hopper St 136-690-007	None	Approved Planning Entitlements
Danco Meridian Apartments	Residential	Multiple structures/ 131 MFD	890 N McDowell 137-061-019	Zone AE and 0.2% (shaded, Zone X)	Approved Planning Entitlements
Washington Commons	Residential	1 structure/ 50 MFD	817 E Washington 007-022-065	None	Approved Planning Entitlements
Haystack Pacifica Mixed Use	Mixed Use	Multiple structures/ 182 MFD + 15,000 SF commercial	215 Weller St. 007-143-015	0.2% (shaded, Zone X)	Approved Planning Entitlements

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
Oyster Cove Residential	Residential	Multiple structures/ 132 SFD	101 E D St. 007-700-006	This property includes portions of Zone AE, 0.2% (shaded, Zone X)	In Planning Review
Gallaher Senior Living	Commercial Residential	1 structure/ 120 senior assisted living units	1221 Petaluma Blvd N 006-450-001	None	In Planning Review

Since the last HMP, development has occurred in SFHAs and will continue to occur in SFHAs and the wildland-urban interface (WUI). Therefore, the vulnerability of the City has increased since the previous plan was approved.

6.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Petaluma's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

6.9.1 Hazard Area

Maps of probable hazard areas within the City are shown in Figure 6-5 and Figure 6-6.These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Petaluma has significant exposure.

Figure 6-5. Petaluma Probable Hazard Areas; Map 1 – Flood, Dam Failure, Tsunami, Sea Level Rise

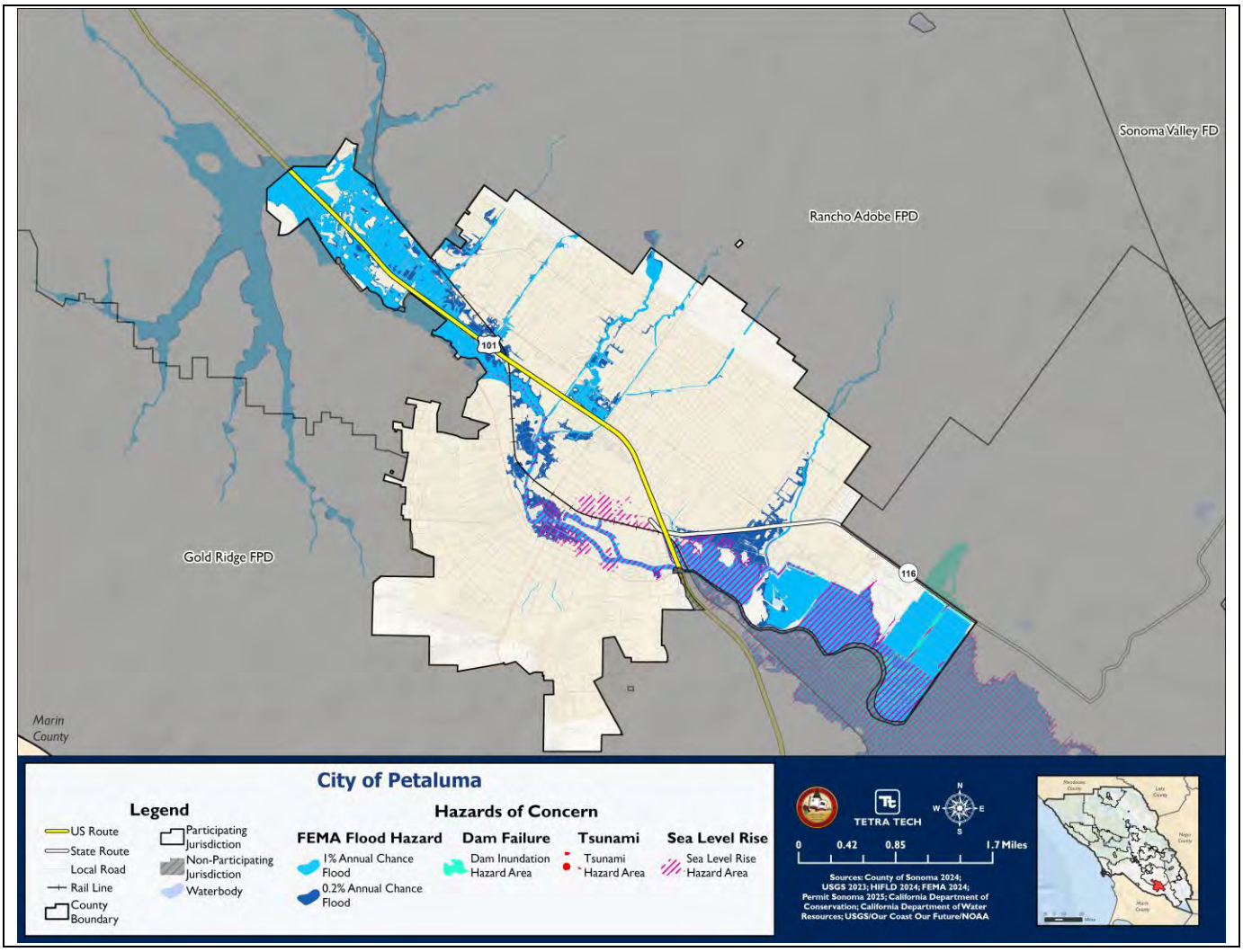
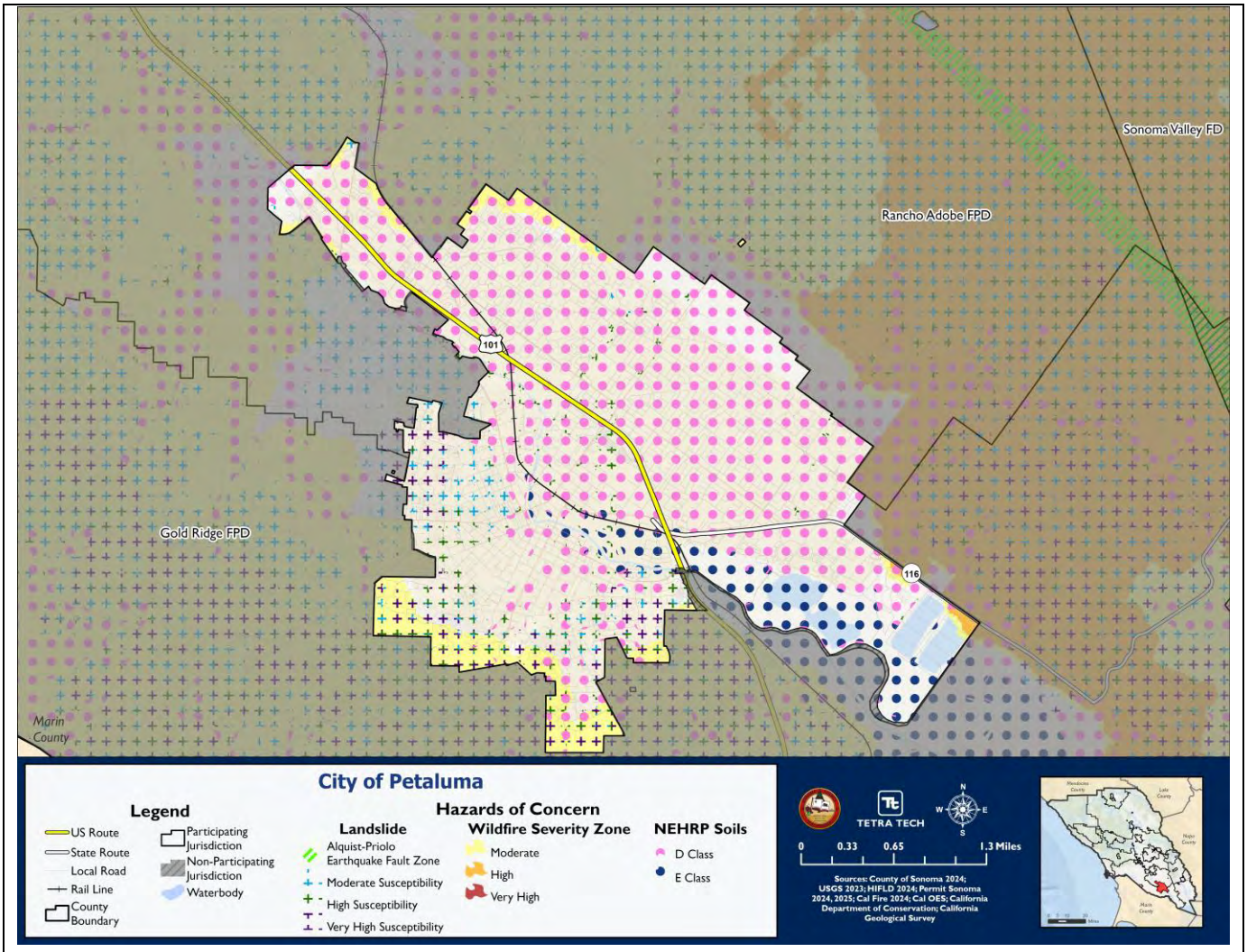


Figure 6-6. Petaluma Probable Hazard Areas; Map 2 – Landslide, Wildfire, NEHRP Soils



Note: There is a temporary inconsistency along the southern Rodgers Creek Fault Zone due to recent updates by the California Geological Survey (CGS). On February 22, 2024, CGS released revised maps of Earthquake Fault Zones (EFZs) for the southern Rodgers Creek Fault Zone in Sonoma County, in the Sears Point, Petaluma River, Glen Ellen, Cotati, and Santa Rosa quadrangles. The updated EFZs have not yet been incorporated into Sonoma County's Geologic Hazard Combining District zoning.

6.9.2 Hazard Event History

The history of natural and non-natural hazard events in Petaluma is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 6-17 provides details on loss and damage in Petaluma during hazard events since the last hazard mitigation plan update.

Table 6-17. Hazard Event History in Petaluma, 2020-2024

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Petaluma
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast.	Short duration road closures and impacts on storm drain system.
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical jet stream from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	Short duration road closures and impacts on storm drain system.
January 21-22, 2024	Flood	N/A	Widespread rainfall and nuisance flooding occurred across the Bay Area. Westbound California Route 116 at Travis Road was reported flooded across all lanes. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; three inches of water flooded a trailer in less than 20 minutes.	Short duration road closures and impacts on storm drain system.
February 4, 2024	Flood	N/A	A cyclone and atmospheric river combined from February 3 to 5, creating a period of strong winds, heavy rain, and high surf.	Short duration road closures and impacts on storm drain system.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)
N/A = Not applicable

6.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Petaluma.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

The City of Petaluma reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. The revised rankings account for changes in community priorities described in Section 6.5 of this annex and in Volume I of this HMP.

Table 6-18 shows the City of Petaluma's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 6-18. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flood	Medium
Landslide	Low
Sea Level Rise	Low
Tsunami	Low
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to the City of Petaluma.

Table 6-19 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 6-20 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Table 6-19. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%
NEHRP D & E Soils	74.7%	80.0%	77.5%
1% Annual Chance Floodplain	2.6%	4.6%	5.3%
0.2% Annual Chance Floodplain	5.8%	10.5%	13.2%
Geologic Hazard Area	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	6.9%	5.3%	2.6%

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
High Landslide Susceptibility Area	6.9%	5.8%	10.6%
Very High Landslide Susceptibility Area	4.2%	4.8%	2.0%
Sea Level Rise	1.3%	2.8%	4.6%
Tsunami	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	2.9%	4.4%	2.6%
High Fire Hazard Severity Zone	0.1%	0.1%	0.7%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Table 6-20. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area[b]	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NEHRP D & E Soils	77.0%	77.0%	77.0%	77.0%	77.0%	77.0%	77.0%	77.0%
1% Annual Chance Floodplain	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.2%	2.3%
0.2% Annual Chance Floodplain	5.1%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Geologic Hazard Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	6.6%	6.6%	6.6%	6.6%	6.6%	6.6%	6.5%	6.6%
High Landslide Susceptibility Area	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.4%	6.5%
Very High Landslide Susceptibility Area	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.7%
Sea Level Rise	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	3.0%	2.9%	3.0%	2.9%	3.0%	3.0%	3.0%	3.0%
High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

b. The Lawler Dam inundation study began in 2025 and the City expects the final inundation map to intersect with people.

There are no buildings, critical facilities, or populations in the high hazard **dam failure** inundation hazard area. However, there are three dams upstream of the City: La Crema, Lawler, and Pinheiro. The La Crema inundation map hits the Ellis Creek Water Recycling Facility ponds; Lawler inundation study is just beginning; and the privately owned Pinheiro is significantly distant from the urban area but it shows the flow line leads to Ellis Creek.

As discussed in Volume I, **drought** is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain community lifelines are vulnerable to collapse if water is unavailable, such as the health and medical lifeline. There are five skilled nursing centers identified as critical facilities in the City. Water rationing introduced during drought conditions may impact operations at these and other medical facilities. In addition, the total population of the City (59,776 people) could be impacted by a drought if water rationing is implemented. In particular, the 12,647 people over age 65 are vulnerable to dehydration in drought conditions.

As noted in Volume I, buildings on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an **earthquake**. Almost three-quarters of the buildings in Petaluma (74.7 percent) are on NEHRP Class D and E soils. In addition, 117 community lifeline facilities are on Class D and E soils. This includes the Municipal airport, banks, daycares, municipal emergency operations center, fire stations, the Petaluma Valley Hospital, libraries, local bridges, food manufacturing, health centers, microwave towers, police stations, post offices, schools, rail stations, shelters, skilled nursing centers, state bridges, and veterinary offices. More than three-quarters of the city's population (77.0 percent) live on Class D and E soils, including 9,741 people over age 65.

Extreme heat is unlikely to cause physical damage to buildings, facilities, or infrastructure. The city has four municipal water tanks that are in the water systems community lifeline. During an extreme heat event, the evaporation of water inside the tanks could increase. Individuals who do not have access to air conditioning are vulnerable to health complications during extreme heat episodes. In particular, the 12,647 people above age 65 and 3,619 individuals living below the poverty line could be at risk for heat stroke, especially for individuals who fall into both categories.

Extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gasses. Extreme cold also presents a risk to populations that do not have access to heating, such as the 240 persons experiencing homelessness.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 6,532 people with disabilities or the 12,647 people over age 65 may experience difficulty walking through strong gusts of wind.

The City has low exposure to **flooding**, with 674 buildings in the 1 percent annual chance floodplain and 1,506 buildings in the 0.2 percent annual chance floodplain. There are eight critical facilities in the 1 percent annual chance floodplain, including local bridges, the Petaluma Health Center, microwave towers, and a state bridge. There are 10 critical facilities in the 0.2 percent annual chance floodplain, including banks, fire stations, local bridges, a rail station, and a veterinary office. There are

1,374 people living in the 1 percent annual chance floodplain, including 151 people living with a disability. There are 2,996 people living in the 0.2 percent annual chance floodplain, including 638 people above age 65. Table 6-21 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 6-21. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
WILLOW BROOK	State Highway Bridge	X	X
PETALUMA RIVER	Local Bridge	X	X
PETALUMA RIVER	Local Bridge	X	X
WILLOW BROOK CREEK	Local Bridge	X	X
ADOBE CREEK	Local Bridge	X	X
Petaluma Health Center (North McDowell Boulevard)	Medical Center	X	X
WRWE371	Microwave Tower	X	X
WRWE372	Microwave Tower	X	X
PETALUMA RIVER	Local Bridge	-	X
WASHINGTON CREEK	Local Bridge	-	X
WASHINGTON CREEK	Local Bridge	-	X
Petaluma - North Station[a]	Rail Station	-	X
Petaluma FD - Station 93-1	Fire Station	-	X
Petaluma FD - Station 93-2	Fire Station	-	X
Central Animal Hospital	Veterinary	-	X
Bank of Marin (Baywood Drive)	Bank	-	X
Bank of Marin (North McDowell Boulevard)	Bank	-	X
Poppy Bank (2nd Street)	Bank	-	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

a. *The light rail station at Corona and N. McDowell is surrounded by Zone AE which can hinder vehicular access to the station during heavy rain or a flood.*

The City has low exposure to **landslide** hazards, with 1,802 buildings in the moderate landslide susceptibility hazard area, 1,801 buildings in the high landslide susceptibility hazard area, and 1,102 buildings in the very high landslide susceptibility hazard area. There are four critical facilities in the moderate landslide susceptibility hazard area (the four municipal water tanks), 16 critical facilities in the high landslide susceptibility hazard area (banks, daycares, libraries, local bridges, schools, shelters, and a veterinary office), and three critical facilities in the very high landslide susceptibility hazard area (daycares and a school). There are 3,916 people living in the moderate landslide susceptibility hazard area, 3,846 people living in the high landslide susceptibility hazard area, and 2,847 people living in the very high landslide susceptibility hazard area.

There are 327 buildings in the City that are in the **sea level rise** hazard area, including 95 residential buildings, 167 commercial buildings, 44 industrial buildings, and 21 government, religion, agriculture, or education buildings. In addition, seven critical facilities are in the sea level rise hazard area, including a bank, fire station, local bridge, microwave towers, and a veterinary office. Finally, 300 people live in the sea level rise hazard area, including 64 people above age 65.

As described in Volume I, the City does not have people, buildings, or critical facilities in the **tsunami** hazard area. However, rising sea levels and increasing extreme precipitation events are being closely monitored by the City for potential cascading impacts in the future. The buildings, critical facilities, and populations vulnerable to sea level rise may be vulnerable to tsunamis given the right variables, including tidal influence, rainfall, and the conditions of the San Pablo Bay and Petaluma River.

The City has moderate exposure to **wildfires**, with 752 buildings in the moderate fire hazard severity zone (FHSZ) and eight buildings in the high FHSZ. There are four critical facilities in the moderate FHSZ – including daycares, a school and a water tank – and there is one critical facility in the high FHSZ – Lawler Dam. Finally, there are 1,763 people living in the moderate FHSZ.

Potential Impacts from Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes potential impacts on community assets for the hazards of local concern to the City of Petaluma.

Table 6-22 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. In the event of a 500-year earthquake, as many as 1,154 households could be displaced, 522 people may require shelter, 7.5 percent of the buildings in the City could be damaged, and 393,637 tons of debris could be generated. In the event of a 2,500-year earthquake, as many as 3,645 households could be displaced, 1,642 people may require shelter, 18.0 percent of the buildings in the City could be damaged, and 1,024,645 tons of debris could be generated. In the event of a 1 percent annual chance flood, as many as 1,204 people could be displaced, 362 people may require shelter, 0.1 percent of the buildings in the City could be damaged, and 607 tons of debris could be generated.

Table 6-22. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	0 people	1,154 households	3,645 households	1,204 people
Population Requiring Shelter	0 people	522 people	1,642 people	362 people
General Building Damage as % of RCV	0.0%	7.5%	18.0%	0.1%
Total Debris Generated (tons)	0	393,637	1,024,645	607

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 6-23 summarizes additional risks specific to the City. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City.

Table 6-23. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	There is a potential risk from dam failure due to the presence of nearby reservoirs, which could lead to flooding in low-lying areas of Petaluma. The La Crema inundation map hits the Ellis Creek Water Recycling Facility ponds; Lawler inundation study is just beginning; and the privately-owned Pinheiro is significantly distant from the urban area but it does show the flow line leads to Ellis Creek.
Drought	The City is susceptible to drought conditions that can significantly impact local water supply and agricultural activities.
Earthquake	Located within an active seismic region, Petaluma is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. It is important to note that little to no damage occurred from the 1989 Loma Prieta earthquake.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the City's population and infrastructure.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Extreme heat conditions are consistent with the decision points used by the local power utility to initiate planned de-energization (Public Safety Power Shutoff, PSPS).
Extreme Wind	The City may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding is a significant concern due to proximity to waterways such as the Petaluma River and potential for heavy rainfall, which can impact homes, businesses, infrastructure, and evacuation routes.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity.
Sea Level Rise	Being near the coast and affected by tidal waterways, the City will be impacted by sea level rise, increasing flood risk in low-lying areas.
Tsunami	While not directly on the open coast, Petaluma's proximity to the bay means tsunami risk is low but not entirely absent.
Wildfire	The City faces moderate wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. Overly vegetated creek corridors to the center of the city is a fire risk. Wildfire on the exterior of the city could easily travel down these corridors into the center of the city.

6.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Petaluma identified the following risk-related issues for the community:

- Rising sea levels, increased temperatures, and changing rainfall patterns are expected to increase the frequency and severity of natural hazards in Petaluma.
- Sewer lift stations are at risk from power outages caused by natural hazards.

- The water recycling facility is vulnerable to earthquakes and floods.
- Historic buildings are exposed to natural hazards.
- Riverfront infrastructure is at risk from flooding.
- City communications systems may need integration and backup power.
- There are three dams upstream of the City: La Crema, Lawler, and Pinheiro. La Crema Winery dam is a high hazard dam that could impact the Ellis Creek wastewater treatment plan (WWTP). The City needs to work with the dam owners to conduct further analysis to understand the extent of dam inundation and the need for emergency planning efforts.
- According to the City's 2020 Urban Water Management Plan, the City does not rely on groundwater as a significant portion of supply due to yield and water quality limitations. Groundwater is only used for peak water demand needs or to minimize short-term supply cost impacts, and only half of the City's existing wells are used due to low yields, poor water quality, and deteriorating well conditions. Instead, the City obtains the majority of its water supply from Russian River surface water deliveries from Sonoma Water. While the City currently relies on various groundwater management tools and studies are underway to better understand the groundwater basin, the City anticipates using more groundwater to meet demand during emergencies, when backup supplies are necessary during drought conditions. As a result, the City of Petaluma has a 20 percent maximum daily demand peak water usage goal.
- The 46,000-acre Petaluma Valley Groundwater Basin is located within the larger 93,440-acre Petaluma Valley watershed. The City of Petaluma relies on local groundwater to supplement imported Russian River surface water supplies from Sonoma Water. While studies are underway to evaluate groundwater conditions in Petaluma Valley Groundwater Basin, current conditions suggest that groundwater elevations are relatively stable in southern and central Petaluma Valley, but areas in the northwest have exhibited long-term declines. The Basin has historical occurrences of serious nitrate contamination in the western portion of the Basin and evidence of saltwater intrusion from the tidally influenced portion of the Petaluma River. Other degradation of water quality impacts and loss of storage capacity continue to be evaluated through the installation of new groundwater monitoring wells and technical guidance from the California DWR. The Sustainable Groundwater Management Act provides for the establishment of local Groundwater Sustainability Agencies (GSAs) to manage groundwater sustainability within groundwater subbasins. The City of Petaluma is a local agency, which overlays the Petaluma Valley Groundwater Basin. As such, the City has become part of the local GSA. The Petaluma Valley GSA was required to develop and implement, no later than January 31, 2022, a Groundwater Sustainability Plan (GSP) to ensure a sustainable yield of groundwater, without causing undesirable results. The GSP is a 20-year plan to ensure that groundwater will be used sustainably in the groundwater basin.
- The City of Petaluma's sea level rise modeling and adaptation framework for its General Plan Update uses state-of-the-art flood modeling that incorporates terrain, anticipated rainfall/storm patterns, tidal influences, and projected sea level rise scenarios out to mid-century and end-of-century to map potential inundation and flood hazard areas around the Petaluma River. These models, including multiple sea level rise and storm-surge scenarios, are being used to inform land use planning and policy development in the General Plan and the Flood Resilience Policy

Framework, which will embed goals, policies, and implementation actions for flood adaptation, resilience, and infrastructure protection; this effort is linked with ongoing floodplain mapping updates and future FEMA flood map revisions to align hazard data with planning decisions.

- The City of Petaluma adopted the 2016 California Building Code (CBC), which governs the design, construction, and maintenance of buildings. In California, most cities adopt model building codes maintained by the International Building Code, and every few years the International Code Council publishes new editions of the codes. The CBC requires specific tests for masonry to ensure that structures can adequately resist seismic forces during earthquakes. The City of Petaluma has already identified unreinforced masonry properties in its jurisdiction that are vulnerable to seismic risk and has removed or retrofitted most of the City-owned buildings and facilities, with the exception of the City's historic museum and library. While most City-owned facilities have been seismically retrofitted, there are key critical facilities in the City where seismic retrofit analyses need to be conducted to better understand detailed vulnerabilities during major earthquakes. These buildings include the City police and fire stations, City Emergency Operations Center (EOC), and City's Emergency Communication Center. Solutions could include bracing of non-structural items to reduce damage potential to building contents and reduce risk of injury, ensuring continuity of operations during an incident.
- For over the past 15 years, the City of Petaluma has been proactive to mitigate flood hazards within the Petaluma watershed. The City has worked on the Petaluma River Flood Control Project, as part of the joint effort with the U.S. Army Corps of Engineers, and has received state funding to implement four phases of the Petaluma River–Denman Reach flood mitigation project near the north end of the City along Industrial Avenue. Both projects help the City implement the 1996 Petaluma River Access and Enhancement Plan, General Plan 2025, and the 2015 FMP. The River Access and Enhancement Plan was readopted in 2008 as an appendix of the General Plan 2025 document. These past and current structural projects increase the capacity of the historic floodplain and alleviate flood impacts on neighboring residences and businesses. The Petaluma River Flood Control Project included channel widening, floodwalls along Washington Creek and the Petaluma River, a concrete transition weir, two new pump stations, replacement of the Payran Street Bridge and the Lakeville Street Bridge, replacement of the Lakeville Street railroad trestle, removal of a rail trestle downstream from Lakeville Street, and the creation of a U-shaped channel along one reach of the river. This project was completed in late 2015. The first three phases of the Petaluma River–Denman Reach project were completed from 2005 to 2020 with California DWR grant funds. The first phases involved acquiring vacant parcels, developing a permanent trail easement, opening the river channel and extending a flood terrace along the top of the bank, widening the eastern bank of the River within the lower portion of Denman Reach (between Petaluma Boulevard North and Corona Road), and creating wetlands and riparian habitat. The completed project lowered the flood elevation for the 100-year storm up to 1 foot in areas around Industrial Avenue and Corona Road.
- Consistent with the General Plan 2025 and the 2015 FMP goals and property protection activities, the City of Petaluma has successfully undertaken efforts to acquire and relocate 13 properties in the floodplain. The City will continue to explore opportunities for property protection, acquisition, and relocation consistent with the General Plan 2025 Policy 8P-37 and the 2015 FMP property protection activities. The City would seek acquisition and relocation

funding using pre-disaster mitigation and Flood Mitigation Assistance (FMA) program funding, with a focus on acquiring properties in the repetitive loss areas of the floodplain. These houses were part of the Petaluma River Flood Control Project. With the updating of the FEMA FIRMs, the area protected by the completed project will be amended from a designation of A-99 to Zone X. This will remove the majority of he City's repetitive loss properties from being located in the SFHA.

- The City has worked with Sonoma County and Sonoma Water since the December 11, 2014, flood event to clear channels and creeks of debris, sediment, and overgrown vegetation within the parameters of existing environmental permits. The City has pursued Stream Maintenance Permits from the state to allow work within creek channels to build upon the permitting and process Sonoma Water currently holds for some reaches of the river and creeks within Petaluma. These permit approvals will greatly support the environmental enhancement of creeks by removal of dead and downed debris, removal of non-native invasive plant species, and restoration of natural flow corridors.
- Petaluma has prioritized floodplain management activities since joining the NFIP CRS Program in October 1996. Floodplain management activities were introduced in the 1987 General Plan and significantly strengthened in the General Plan 2025, adopted in 2008. The City participates in the CRS program as one of its efforts to reduce potential losses due to flooding, and the NFIP has conducted annual audits of the City's floodplain management efforts for three decades and awarded the City a Class 6 rating.
- The City seeks to maximize the flood insurance discount offered to the people who own property in the City. The City is working toward achieving a Class 5 rating to improve the CRS discount by another 5 percent, to 25 percent.
- The City currently has several industrial sites that could release hazardous material during an accident or disaster, with negative impacts on the health of persons in the community.
- The Petaluma River stretches for 6.5 miles through the City from the upstream freshwater reaches to the downstream tidally influenced portion upstream from the historic downtown, known as the "transition zone." Natural protection of wetlands and marsh in the southern portion of the City's planning area can help the City adapt to rising sea levels and tidal fluctuations in San Pablo Bay.
- Watershed runoff deposits silt within the waterway. The City recently completed a sediment solution study to address the challenges and opportunities to capture and reuse sediment flowing into the Petaluma River from the tributaries
- The City of Petaluma anticipates planning for and adapting to risk from increased flooding due to sea level rise and coastal storm events along the Petaluma River. A portion of the properties located to south of downtown Petaluma and near the tidally influenced portions of the Petaluma River consist of open space and park lands that make up the City's greenbelt. Given the open space land use designation, development is not permitted within these low-elevation properties where tidal flooding is common. Although building codes are enforced on adjacent developed commercial properties and flood insurance is required, these developed properties are at risk from future flooding that could be exacerbated by sea level rise. Traditional land management controls, like land use zoning and open space preservation, could be used to limit development.

The City could also improve interagency cooperation related to ecological conservation efforts within the lands susceptible to flooding and sea level rise by focusing on property acquisition, protecting natural areas, and improving habitat resiliency. Interagency coordination would enhance the overall connectivity of different open space preservation and habitat restoration projects within the San Pablo Bay transition zone.

- GIS is an effective tool that can identify where climate-change related effects are likely to occur now and in the future. Mapping and overlaying climate information, such as projected sea level rise projections, with critical facilities, parcel, infrastructure, and building footprints can help communities understand the expected extent of sea level rise, and also where flooding, wildfires, and other natural hazards are more likely to occur based on climate change. The 2019 HMP included a preliminary sea level rise vulnerability assessment that analyzed three sea level rise scenarios: 25 centimeters (cm), 75 cm, and 200 cm sea level rise inundation datasets based on best available science from the CoSMos Version 2.1 Model applicable to the City of Petaluma (see Section 4.3.6 Sea Level Rise in Chapter 4). This dataset provided detailed projections of tidal inundation, also referred to the predicted average annual tidal inundation conditions. It also included detailed projections of coastal flood hazards, also referred to as the 100-year coastal flood event, that account for coastal wave and storm surge intervals. The preliminary vulnerability assessment is consistent with the full spectrum of sea level rise (0 to 2 meters, 5 meters) and storms (daily to 100-year return) used on the outer Sonoma coast. Storm events used inside San Pablo Bay were derived from the Global Climate Model. Since sea level rise projections linked to planning horizons can change with new scientific data, the preliminary sea level rise scenarios selected by the City are based on sea level rise elevation. The probabilistic projections based on the high emissions scenario (business as usual) for 2050 and 2070 translates to 1.1 foot by 2050 and 1.9 feet by 2070, both which have a 66 percent probability of occurrence. The conservative approach has a 0.5 percent probability of occurrence and translates to 1.9 feet by 2050 and 4.0 feet by 2070. The City HMP also considered one conservative scenario to assess potential future impacts on critical infrastructure. These projection recommendations roughly convert to the 25 cm (1 foot or 0.25 meters), 75 cm (2.7 feet or 0.75 meters), and 200 cm (6.6 feet or 2 meters) sea level rise datasets. These three elevations could apply to a range of sea level rise projections and associated planning years.
- Sea level rise science continues to evolve, and the best available science on sea level rise projections will change. The City is adapting to those potential changes through the Adaptation Framework.
- The City of Petaluma sits mainly in the flattest portion of the watershed basin. The Petaluma River bisects the town and is the main waterway collecting all the runoff from the various streams in the watershed. The areas around the river and larger streams are more prone to damage from flooding. Increased setbacks along the river have been in the General Plan since 2008 to set aside floodplain lands. In addition, the City has zero net fill standards in the most critical areas and requires a 2-foot freeboard for any development proposed.
- Generator replacement can minimize the effects of power outages during earthquake, extreme heat, severe storms, wildfire, and high wind hazard events in the City, as generators will supply backup power during a power outage. City facilities will also need backup power during planned

Public Safety Power Shutoffs. The City will need reliable emergency backup power when Pacific Gas & Electric (PG&E) power lines are affected by natural hazard events.

- Climate change is expected to result in longer droughts and longer days of extreme heat. Extreme heat can also disproportionately affect the health of vulnerable populations in the City of Petaluma.
- Existing local building codes do not provide the highest level of protection against natural hazards. While the City has adopted the highest building code offered by the state, the Municipal Code goes further to protect vulnerable areas of the community. The City has obtained points through the CRS system for having “Higher Regulatory Standards,” and seeks to enhance local building codes and ordinances to ensure that new structures and remodels or improvements to buildings and structures incorporate wind-resistant design features to withstand high winds and tornadoes. This action would prevent wind damage through revisions to the existing building code and adoption of standards for residential construction in high-wind regions.
- The City of Petaluma has been proactive with sharing information on the City PSPS webpage providing tips for the public to prepare and make plans for their families. The City has opened community shelters, and coordinated with the school districts on school closures and which areas of the City are impacted. The City wants to expand the existing public information to provide resources and tips for local businesses to be able to continue business operations during PSPS events.
- The City’s fire suppression water system is an integral part of the Fire Department operations and Fire Prevention planning. There are several areas within the City’s water system with low fire-flow. Currently, there is not a system, map, or other record retention system where the Fire Prevention Bureau or Fire Department staff can access fire flow data from each fire hydrant in the City.
- California has a long history of wildfire, and the destruction and effects are growing more intense and frequent, developing into a year-round problem. Within the Petaluma city limits there is a designated WUI and high FHSZ. The City is also surrounded on the west side by a moderate FHSZ and hilly topography that consists of rural residential development, undeveloped hillsides, and open space. Wildland fires west of the City could be exacerbated by prevailing winds. California has implemented specific requirements for new buildings within the WUI and FHSZs, and some jurisdictions throughout the state are implementing stricter codes and requirements specific to their jurisdiction. The City of Petaluma has minimally expanded those requirements, but there may be a benefit to substantially expanding those requirements further. Government Code Sections 65302 subdivision (g)(3) and 65302.5 subdivision (b) require the General Plan Safety Element to address the risk of fire for land classified as SRAs and land classified as very high FHSZ. Additionally, the staff and resources currently deployed in the Fire Prevention Bureau have limited capacity for education, enforcement or assistance for the community to improve their defensible space.. The Petaluma Fire Department wildland apparatus is limited to a Type VI pick-up mounted pumper. It may be beneficial to have more wildland specific equipment to avoid wildfire hazards within the WUI. As wildland fire characteristics continue to change, the capabilities, resources, policies and programs need to be re-evaluated to assure the community has the most appropriate protection.

- Existing City facilities are not operating with a fire protection system that is updated to the highest level of protection, leaving them vulnerable to structure fires and wildfires.
- As wildland fires spread more rapidly with a drier climate, increased heat days, drought and strong north winds, pre-planning hazard areas, access points, and locations to fight fire are important to ensure a more efficient response and deployment of resources.
- The City currently has few routes leading out of downtown Petaluma. During an accident or disaster, impacts on these transportation routes could negatively impact the health of persons in the community. It is important to be able to notify the public when they need to take action to protect themselves, whether sheltering-in-place or evacuating. Emergency notification systems are a critical type of communication that let people know of potential and impending disaster events. The installation of an alert warning system with outdoor sirens and coordinating their use with neighboring jurisdictions was a mitigation action included in the 2005 and 2010 HMP Annex. Previous studies showed that the City's warning systems are not an effective tool in Petaluma due to the nature of the natural disasters anticipated in the area. Sirens are a common warning device for coastal areas that have some, but little warning of a natural disaster, specifically with tsunamis. In Petaluma, the greatest major natural disaster threat—an earthquake—has no warning signs. Flood hazards usually have several days of warning notice. The City, however, has several other hazards that could result in regional disasters, as well as several industrial sites that could release hazardous material during an accident or disaster, with negative impacts on the health of persons in the community. An alert warning system would be beneficial for these hazard types. While the City currently notifies the public about how to best prepare for natural disasters before they occur through radio, television, and phone-based warning systems (i.e. Strategy #GOVT-b-22 in 2010 HMP Annex) and other media outlets, it is important to be able to notify the public when they need to take action to protect themselves, whether sheltering in-place or following evacuation procedures, and how they can make recovery easier.
- In order to be prepared for no-notice hazard events, the City will periodically assess the need for new or relocated fire or police stations and other emergency facilities, changes in staffing levels, and need for supplies, equipment, technologies, and in-service training classes.
- City staff who respond to emergencies do not have access to interoperable communications systems, leaving them vulnerable to communications blackouts when power or internet communications systems fail.
- The City's EOP last underwent a full update in 2007. It includes a basic plan that addresses the City of Petaluma's responsibilities in emergencies associated with natural disaster, human-caused emergencies, and technological incidents. It provides a framework for coordination of response and recovery efforts within the City and in coordination with local, state, and federal agencies. The plan establishes emergency organization staff to direct and control operations during a period of emergency by assigning responsibilities to specific personnel. The scope of the plan addresses earthquakes, hazardous materials emergencies, flooding, and wildfires. While the plan contact lists are regularly updated, the base plan is now dated and does not address all potential hazards in today's world.
- People living in Petaluma rely on the City for information related to how they can be better prepared for disaster. The City has substantial information currently on its website and available

at City offices and the public library. The content should be better consolidated and streamlined to make it easier to read and understand.

- The Petaluma Transit Yard does not currently have backup battery power. This constrains several functions of Petaluma Transit operations during power outages, most notably vehicle dispatch functions. This could negatively impact the City's ability to use its transit fleet to evacuate residents to and from Petaluma during evacuation or other emergency events.

6.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

6.10.1 Past Mitigation Action Status

The City of Petaluma completed a city-wide HMP in 2020 and did not participate in the 2021 Sonoma County HMP Update. Table 6-24 provides updates for the mitigation actions contained in the 2020 Petaluma HMP.

Table 6-24. Update on 2020 Mitigation Actions

Action Number	Action Title	2025 Update	Status
DI-1	Assess downstream impacts associated with dam incidents	The La Crema Winery reservoir seasonally holds irrigation water received from the City's Ellis Creek WWTP. The Dam Failure report identifies no adverse impact to the Ellis Creek WWTP as the water would not cross over the raised roadway improvements of Lakeville Highway and would drain into Ellis Creek, and between the treatment ponds and continues west to the Petaluma River. City owned Lawler Reservoir has been taken out of use as a potable water resource, as of 1992, and no longer receives diverted water from the headwaters of Adobe Creek located on City owned Lafferty Ranch. Water collected behind the Lawler Reservoir dam face is solely from rainwater within a sub-watershed of approximately 18 acres. A White Paper was drafted January 2025 to present Opportunities and Challenges with maintaining a reservoir with minimal water storage. The newly formed Water Resources & Utilities Department will manage the completion of the White Paper and provide a schedule for public input and decision making on the future use and maintenance of the reservoir. This should include collection of applicable downstream impact analysis of the remaining amount of water behind the dam directly affecting the City, particularly critical facilities, and develop a detailed Action Update for 2025 Local Hazard Mitigation Plan update process, to define activities to further reduce the now very limited holding capacity of the City-owned Lawler Reservoir. The Pinheiro Dam, located on the northwest corner of Stage Gulch Road and Adobe Road is privately held.	Preparation has begun for a Dam Failure Analysis Report and Inundation Map to define downstream impacts associated with a potential dam failure, even with very reduced limited storage, and will be completed in early 2026. The Plan will include recommendations for mitigating impacts affecting the City, particularly critical facilities and residential neighborhoods.; carried forward to 2026 Mitigation Strategy
DR-1	Groundwater supply augmentation for drought resiliency	The City continues to explore groundwater well options on the west side of Petaluma and is currently undergoing a siting study to evaluate additional sites and selection criteria. In addition, the operations division is evaluating well treatment options for its existing wells.	In Progress; carried forward to 2026 Mitigation Strategy
DR-2	Sustainable Groundwater Management Planning	Public Works and Water Resources & Utilities Departments will continue to participate in regional monitoring of groundwater resources within the detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy

Action Number	Action Title	2025 Update	Status
CT-1	Develop a Water Infrastructure Vulnerability Risk and Resilience Plan and Emergency Response Plan that addresses cyber sufficiency	Public Works and Water Resources & Utilities Departments will work with the City Information Technology team to develop a detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
E-1	Implement Seismic Retrofits at Petaluma Historic Library and Museum	A seismic evaluation was conducted of the Museum (along with other City properties) and included concept level retrofit designs and cost estimates. Total retrofit cost is estimated at $4.1M for this historic unreinforced masonry building.	Seismic Analysis completed, implementation in progress; carried forward to 2026 Mitigation Strategy
E-2	Seismic Retrofit Analysis of City buildings	Seismic analysis was completed for fourteen City buildings, the water distribution system, drinking water storage tanks, and pump stations. Minor seismic deficiencies were identified across several facilities, with more significant deficiencies identified for the Petaluma Museum (refer to E-1) and for City Hall. Seismic retrofit concepts and cost estimates were prepared for City Hall, totaling approximately $1.4M. PD continues to be in a joint public safety facility master plan process with the intent to transition to a new facility which includes a EOC in the near future. A ten year program outline for retrofits and resiliency measures were identified for the water system, with high priority items including: • Replacing brittle and aging pipe materials/improving resiliency to seismic liquefaction across 10 pipe segments ($11.7M) • Improving tank/pipe connections with flexible joints at tank sites ($210K) • Installing seismic anchorage at the Washington tank site (2 tanks, $1.13M total)	In Progress; carried forward to 2026 Mitigation Strategy
F-1	Enhance structural flood mitigation projects to reduce near annual floods on north end of City	Public Works and Water Resources & Utilities Departments has completed the conversion of the City's surface water management model to HEC-RAS 2D and undertaken climate change impact analysis modeling to understand the flood impacts associated with Sea Level Rise through the end of this century. The PW Department has initiated the work effort to update the City's FEMA Flood Insurance Rate Maps (FIRMs). Working with the Community Development Department the new modeling has facilitated the completion of a Draft Flood Resiliency Framework that will be incorporated into the General Plan Update, scheduled for completion in late 2025. The draft General Plan Update information will be incorporated into the 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy

Action Number	Action Title	2025 Update	Status
F-2	Floodplain property protection, acquisition, and relocation	Public Works and Utilities Department, using the tools of the studies referenced in F-1, is researching potential mitigation projects for inclusion in an Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
F-3	Continue annual stream and creek channel maintenance	Water Resources & Utilities has continued to monitor and maintain City-owned creek corridors. The WR&U Department is pursuing the necessary regulatory permits to conduct additional annual maintenance activities and will continue to coordinate the annual maintenance of creek corridors owned by the regional Sonoma Water agency. Annual reports will continue to be prepared defining the work undertaken and will be shared with the public through the City's participation in the FEMA National Flood Insurance Program, Community Rating System program. This process will be included in the 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
F-4	Higher Regulatory Standards for Flood Protection	The Flood Resiliency Framework, defined in Action F-1, above, includes higher regulatory standards such as higher freeboard for buildings within the 100-year and 500-year flood hazard areas, which will be included in the General Plan update and the subsequent updated development regulations. The Community Development Department, Building Division and the Public Works Department, office of the City Engineer and Floodplain Administration staff will incorporate or reference those standards within the 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
F-5	Improve National Flood Insurance Program Community Rating System Rating	Public Works Department continues to provide annual CRS recertification processes and has initiated expansion of several Activities with the CRS Program in anticipation of improving the City's current Category 6 classification in the NFIP CRS. This effort will be included in the detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
MH-1	Evacuation Planning	PD contributed to the General Plan update policy meetings including an emergency evacuation assessment completed by Fehrs and Peers.	In Progress; carried forward to 2026 Mitigation Strategy

Action Number	Action Title	2025 Update	Status
SLR-1	Explore natural protection with wetland enhancement, marshland protection, and restoration project implementation in the Petaluma River and San Pablo Bay transition zone	Public Works Department, Floodplain Administration team members are participating in the San Francisco Estuary Institute (SFEI) project to enhance and protect the City's wetlands and marshlands by redistributing sediment to offset sea level rise impacts. The progress of this project will be included in the detailed Action Update for 2025 Plan update process. With significant community involvement, the City adopted the Blueprint for Climate Action in November 2024, which contains actions to significantly reduce the City's climate pollution contribution. One cornerstone actions contained in the Blueprint is OSM-4 – Natural Open Space Management framework, which focuses on planning to protect, restore, and enhance riparian and wetland ecosystems as mitigation and adaptation to future sea level rise and flooding events. Blueprint action OSM-5: Identify priority natural open space areas and develop a program with a code of care of natural open space. This action specifically mentions "Explore opportunities for property acquisition and relocation sites for businesses in the floodplain and for repetitive loss areas of the 100-year floodplain consistent with the HMP".	In Progress; carried forward to 2026 Mitigation Strategy
SLR-2	Continue Petaluma River Dredging Program to enhance flood resilience	Public Works Department continues to work on sustaining long-term dredging activities for the Petaluma River and to maintaining the flood capacity of the City's flood reduction project in the Payran Reach of the River. These efforts will be reiterated in the 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
SLR-3	Open space preservation in areas prone to sea level rise along the Petaluma River	The City has completed an inventory of all creek and River corridors and open space, including their environmental and historic values. This information will be utilized by the Parks and Recreation Department, Public Works Department, and Community Development Department to incorporate the information into the General Plan Update process and to develop a detailed Action Update for 2025 Plan update process. The Blueprint for Climate Action (2024) acknowledges the increased likelihood of riparian flooding exacerbated by climate change and contains actions to protect, restore, and enhance riparian wetlands and open space.	In Progress; carried forward to 2026 Mitigation Strategy

Action Number	Action Title	2025 Update	Status
SLR-4	Map and assess vulnerability to sea level rise and integrate the information with the City GIS mapping capabilities to educate the community and help them gain awareness of the potential impacts and actions the City is taking to plan and adapt	This map and assessment work has been completed as part of the Actions F-1 and F-4, referenced above. Outreach to the community is being undertaken as part of the General Plan Update outreach efforts and will continue to occur during the FEMA FIRMs update, now underway by the Public Works Department. These work efforts will be incorporated and further defined within the 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
SLR-5	Assess sea level rise modelling for use in the HMP and how those projections can be routinely re-evaluated in subsequent climate adaptation planning efforts	See comments in SLR-4 above. These assessments have been completed and will be ongoing as the FEMA FIRMs are updated and utilized to develop new development regulations (e.g. zoning ordinance). This work effort will be included in the 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
SLR-6	Update City Implementing Zoning Ordinance (IZO) to manage development in high risk areas	This work effort will immediately follow the adoption of the General Plan Update, scheduled for late 2025. The timing of the Zoning Ordnance update will be included in the 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
SW-1	Replace aging generator and plan for severe weather by obtaining backup generators at City critical facilities, including the Communications Center	Public Works Department developing detailed Action Update for 2025 Plan update process. A contractor has been selected and work underway to examine backup generator options and renewable alternatives for public facilities. The planning effort is expected to be completed Q4 2025. PD- Currently has backup generators that support all PD, EOC and Communications operations. Plans to replace that generator have been postponed and are being incorporated in the Joint Public Safety Facility Master Plan project.	In Progress; carried forward to 2026 Mitigation Strategy
SW-2	Establish a resiliency hub at City Community Center to be used during severe weather events involving heat waves and wildfires	A grant-funded effort to examine the feasibility of establishing a resilience hub at the Community Center was completed in 2024. The Project Needs and Information Input final report detailed that the Community Center was inadequate to serve as a dedicated Resiliency Hub and recommended alternative sites, such as the Petaluma Fairgrounds. City Manager and Emergency Management program assessment process for Resilience Hub at the Petaluma Fairgrounds, Parks and Recreation Department, Public Works Department developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy

Action Number	Action Title	2025 Update	Status
SW-3	Enhance local building code to incorporate wind-resistant design features that address high wind hazards	Building Department developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
SW-4	Develop a PSPS toolkit for local businesses	Public Works Department, Economic Development Department and new City Emergency Management program developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
W-1	Defensible space funding Program	Fire Department developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
W-2	Develop a City-wide Fire Suppression Master Plan	Fire Department, Fire Prevention Bureau, Public Works Department developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
W-3	Evaluate the WUI Zone in the City Limits	Fire Department, Fire Prevention Bureau developing detailed Action Update for 2025 Plan update process.	Completed
W-4	Install Fire Protection System in all City facilities	Public Works Department, Fire Prevention Bureau, Building Department developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
W-5	Wildland Urban Interface Pre-Fire Plan	Fire Department developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
MH-1	Evacuation Alert and Warning System and Periodic Testing	The City continues to utilize both Nixle and SoCo Alert for alert and warning. The City worked with the County of Sonoma to gain functionality to issue appropriate local alerts via the SoCo Alert independently or in coordination with the County. The City is in the process of planning to conduct a local test and has been monitoring the County of Sonoma's testing in zones adjacent to the city.	In Progress; carried forward to 2026 Mitigation Strategy
MH-2	Periodically assess the need for new or relocated fire or police stations and other emergency facilities, changes in staffing levels, and need for supplies, equipment, technologies, and in-service training classes	Police and Fire are engaged in an ongoing Joint Public Safety Facility Master Planning project and are currently proceeding with a design build plan for new joint police, fire, and EOC facility centrally located in the city. Police would relocate to this facility and Fire would use the location as a 4th station supporting their ladder truck improving coverage and response times citywide. The modern facility will have enhanced EOC operations, be more resilient, and support increase staff and advanced technologies.	In Progress; carried forward to 2026 Mitigation Strategy

Action Number	Action Title	2025 Update	Status
MH-3	Develop and maintain a system of interoperable communications for first responders from local, state, and federal agencies	Police continues to maintain and support a county wide radio system in which the allied law enforcement agencies have interoperability to communicate with each other. The City made improvements to a mobile command vehicle upgrading its technology so that in the event of an emergency the mobile command vehicle could support a dispatcher and serve as a remote dispatching terminal will full access. Each site has no less than two paths to reach an adjacent site to ensure the greatest amount of redundancy. In the event of a major network failure on Channel 1, the radio system is designed to have PPD as the location for backup Repeater Operation. The Moducom console has a direct connection to this repeater and depending on the severity of the failure, the console may continue to control this repeater. In the event of a major network failure, the system is designed to have Petaluma Country Club (PCC) as the backup Repeater for Channel 3. The Moducom console may not have a connection to this repeater and the Harris desktop base radio in dispatch will be the only way to access this repeater. Channel 3 backup repeater will have coverage area advantages over Channel 1due to location and elevation. Hayes Lane Site, PPD and PCC is equipped with a backup generator with an automatic transfer switch to power the radio system. Uninterruptible Power Supply (UPS) serves as a backup for router and switches.	In Progress; carried forward to 2026 Mitigation Strategy
MH-4	Update the City Emergency Operations Plan	Fire Department developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
MH-5	Emergency Operations Center replacement and upgrades	Police and Fire are currently involved in a Public Safety Facility Master Planning process and are embarking on project to propose the development of a centrally located joint public safety facility with an emergency operations center.	In Progress; carried forward to 2026 Mitigation Strategy
MH-6	Expand Community Emergency Pre-Program	Fire Department developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy
MH-7	Community Emergency Preparedness Webpage	City Manager's Office and the Open Government team are developing detailed Action Update for 2025 Plan update process.	In Progress; carried forward to 2026 Mitigation Strategy

6.10.2 Proposed Hazard Mitigation Actions for the HMP Update

Petaluma participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that Petaluma would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 6-25 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 6-25. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X		X	X		X			X
Drought	X	X	X	X	X		X	X		X
Earthquake	X	X		X	X	X	X			X
Extreme Cold	X	X		X	X		X			X
Extreme Heat	X	X		X	X	X	X			X
Extreme Wind	X	X		X	X		X			X
Flooding	X	X	X	X	X	X	X	X	X	X
Landslide	X	X		X	X		X			X
Sea Level Rise	X	X	X	X	X	X	X	X	X	X
Tsunami	X	X		X	X		X			X
Wildfire	X	X	X	X	X	X	X	X		X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 6-26 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 6-26. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Implement Blueprint Plan	Medium	High	6	1-5 years	7.462	High
Lift Station Resiliency Improvements	High	High	3	1-5 years	6.231	Medium
Water Recycling Facility Hardening	High	High	3	1-5 years	6.231	Medium
Airport & Marina Flood Mitigation & Access Improvements	High	High	3	1-5 years	6.231	Medium
Structural Flood Mitigation Projects	High	High	2	1-5 years	6.154	Medium
Develop PSPS Toolkit	Low	Low	2	1-5 years	6.154	Medium
Historic Downtown Fire Hardening & Evacuation Upgrades	High	High	1	1-5 years	6.077	Medium
Wildfire Fuel Reduction & Defensible Infrastructure	High	High	1	1-5 years	6.077	Medium
Water Infrastructure Vulnerability Risk and Resilience Plan	Medium	Medium	1	1-5 years	6.077	Medium
Seismic Retrofits	High	High	1	1-5 years	6.077	Medium
Critical Facility Backup Power	Medium	Medium	1	1-5 years	6.077	Medium
Resiliency Hub	Medium	Medium	1	1-5 years	6.077	Medium
Fire Protection System	High	High	1	1-5 years	6.077	Medium
Evacuation Alert and Warning	Medium	Medium	1	1-5 years	6.077	Medium
Climate Awareness Action Program	Low	Low	6	1-10 years	5.462	Medium
Sea Level Rise Vulnerability	Medium	Low	3	1-5 years	5.231	Medium
Enhance Local Building Code	Medium	Low	2	1-5 years	5.154	Medium
City-Wide Emergency Alert & Low-Power FM Station Back-Up	High	Medium	1	1-5 years	5.077	Medium
Dam Incident Impacts	Medium	Low	1	1-5 years	5.077	Medium
Groundwater Supply Augmentation	High	Medium	1	1-5 years	5.077	Medium
Floodplain Property Protection, Acquisition, and Relocation	High	Medium	1	1-5 years	5.077	Medium
Annual Stream and Creek Channel Maintenance	High	Medium	1	1-5 years	5.077	Medium
Improve NFIP Rating	Medium	Low	1	1-5 years	5.077	Medium
Evacuation Planning	Medium	Low	1	1-5 years	5.077	Medium
Sea Level Rise Modeling	Medium	Low	1	1-5 years	5.077	Medium
Update City Implementing Zoning Ordinance	Medium	High	1	1-5 years	5.077	Medium
Defensible Space Funding Program	High	Medium	1	1-5 years	5.077	Medium
Wildland Urban Interface	Medium	Low	1	1-5 years	5.077	Medium
Interoperable Communications	Medium	Low	1	1-5 years	5.077	Medium
Emergency Operations Plan	Medium	Low	1	1-5 years	5.077	Medium
Community Emergency Prep Program	Medium	Low	1	1-5 years	5.077	Medium

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Community Emergency Preparedness Webpage	Medium	Low	1	1-5 years	5.077	Medium
Sustainable Groundwater Management Planning	High	Low	1	1-5 years	4.077	Low
Seismic Retrofit Analysis	High	Low	1	1-5 years	4.077	Low
Regulatory Standards for Flood Protection	High	Low	1	1-5 years	4.077	Low
Natural Protection	High	Low	1	1-5 years	4.077	Low
Petaluma River Dredging	High	Low	1	1-5 years	4.077	Low
Open Space Preservation	High	Low	1	1-5 years	4.077	Low
Fire Suppression Master Plan	High	Low	1	1-5 years	4.077	Low
WUI Pre-Fire Plan	High	Low	1	1-5 years	4.077	Low
Assess Fire and Police Stations	High	Low	1	1-5 years	4.077	Low
Emergency Operations Center	High	Low	1	1-5 years	4.077	Low

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-Petaluma-01. Implement Blueprint Plan

Lead Agency:	Planning Department
Supporting Entities:	All City Departments
Hazards of Concern:	All
Description of the Problem:	Rising sea levels, increased temperatures, and changing rainfall patterns are expected in increase the frequency and severity of natural hazards in Petaluma.
Description of the Solution:	Implement the City of Petaluma's Blueprint for Climate Action Plan, including but not limited to education and outreach programs about the impact of climate change on natural hazards, planning projects to reduce City risk from natural hazards, education and training about the impact of climate change on natural hazards, and hardening critical infrastructure against the impacts of natural hazards.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance
Implementation Timeline:	1 to 5 years
Objectives Met:	2, 4, 6, 8, 12, 13
Benefits:	High
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Hardening critical infrastructure against the impacts of natural hazards will have an immediate impact on the strength of the community lifelines in Petaluma.
Impact on Capabilities:	N/A
Climate Change Considerations:	The Blueprint for Climate Action Plan is focused on reducing greenhouse gas emissions and preventing further climate change.
Mitigation Category	Local Plans and Regulations; Education and Awareness Programs; Structure and Infrastructure Projects
CRS Category	Preventative Measures; Public Information
Priority	High

Action 2026-Petaluma-02. Climate Awareness Action Program

Lead Agency:	Department of Community Development
Supporting Entities:	All City Departments
Hazards of Concern:	All
Description of the Problem:	Rising sea levels, increased temperatures, and changing rainfall patterns are expected in increase the frequency and severity of natural hazards in Petaluma. These future conditions are a result of greenhouse gas emissions.
Description of the Solution:	Implement a robust, ongoing climate awareness and action program, focused on reduction of consumption-based emissions by residents, businesses, and contractors through educational events, media outreach, and other creative approaches. Components include: a. Encouraging Petalumans to estimate their carbon footprint on a web-based calculator. b. Highlighting a sustainable local business in every City newsletter. c. Exploring the possibility of creating special green certification “badges” (for businesses to signal they use salvaged or reused materials, refillable packaging, are all electric, etc.), and/or a “Circular Economy Opportunity Zone” incentive program for businesses that produce goods locally and with local materials. These measures can be implemented as an expansion of the existing Shop Petaluma program. d. Partnering with Cool Petaluma volunteers to conduct the community surveys needed to estimate consumption emissions. e. Providing information about sustainable local businesses and other consumption-related topics at relevant City counters and offices, such as the Planning and Economic Development. f. Partnering with an organization (such as the Downtown Association and/or Crafterino) to host a yearly “Tiny Footprint Festival” to showcase local goods and craftspeople. g. Partnering with other agencies to offer trainings for landscape contractors on using low carbon materials and electric equipment. h. Creating a module on the City’s Climate Ready 2030 webpage that highlights resources (i.e., local “buy nothing” groups, thrift stores, donation centers, etc.) and local businesses to help Petalumans reuse.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Assistance; Economic Development Administration Public Works and Economic Adjustment; Economic Development Administration Disaster Supplemental; Caltrans Sustainable Communities Grant Program; Caltrans Climate Adaptation Planning; US Department of Housing and Urban Development Community Development Block Grants; Governor’s Land Use and Climate Innovation Integrated Climate Adaptation and Resiliency Program; General Fund; Staff Time.
Implementation Timeline:	1 to 10 years
Objectives Met:	2, 4, 6, 8, 12, 13
Benefits:	Low
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A

Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	This action is focused on educating the public about climate change and the direct impact it will have on Petalumans.
Mitigation Category	Local Plans and Regulations; Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-Petaluma-03. Lift Station Resiliency Improvements

Lead Agency:	Department of Water Resources and Utilities
Supporting Entities:	All City Departments
Hazards of Concern:	Flood, power outage, Sea-Level Rise (for marina-adjacent sites)
Description of the Problem:	Sewer lift stations are at risk from power outages caused by natural hazards.
Description of the Solution:	Increase the capacity and level of protection of critical sewer lift stations with backup power generators, redundant pumps, and flood-proofing enclosures.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	3,6,10
Benefits:	Ensures continuous sewer system operation during outages and extreme weather, protecting public health and preventing spills. Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Water Systems lifeline.
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

Action 2026-Petaluma-04. Water Recycling Facility Hardening

Lead Agency:	Department of Water Resources and Utilities
Supporting Entities:	All City Departments
Hazards of Concern:	Earthquake, flood
Description of the Problem:	Water recycling facility is vulnerable to earthquakes and floods.
Description of the Solution:	Elevate electrical/motor controls, install on-site backup power (e.g., generators or VFDs), and implement secondary chemical storage containment at water recycling facility.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, General Fund, Staff Time, partnership with facility operator
Implementation Timeline:	1 to 5 years
Objectives Met:	2,3,6
Benefits:	Maintains safe disinfection processes during outages, avoids contamination, and ensures service continuity. Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Water Systems lifeline.
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	Medium

Action 2026-Petaluma-05. Historic Downtown Fire Hardening & Evacuation Upgrades

Lead Agency:	Fire department
Supporting Entities:	All City Departments
Hazards of Concern:	Wildfire, extreme heat
Description of the Problem:	Historic buildings are exposed to natural hazards.
Description of the Solution:	Retrofit historic buildings with ember-resistant roofing, ember-resistant venting, fire sprinklers where feasible, and upgrade evacuation signage and systems.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, Cal OES Fire Prevention Grants, Historic Preservation Office
Implementation Timeline:	1 to 5 years
Objectives Met:	3
Benefits:	Enhances safety of cultural assets, reduces structural vulnerability, and supports orderly evacuation. Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	Medium

Action 2026-Petaluma-06. Airport & Marina Flood Mitigation & Access Improvements

Lead Agency:	Department of Public Works
Supporting Entities:	All City Departments
Hazards of Concern:	Flooding, sea-level rise, storm surge
Description of the Problem:	Riverfront infrastructure is at risk from flooding.
Description of the Solution:	Elevate key infrastructure (e.g., fuel pumps, critical runway/taxiway electrical circuits), add tidal/flood gates at marina, and improve access roads for emergency vehicles.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, NOAA Coastal Resilience Grants, FAA grants; coordinate with Port Authority/Airport Ops
Implementation Timeline:	1 to 5 years
Objectives Met:	3,4,6
Benefits:	Keeps vital transportation assets functional during inundation and supports evacuation/emergency response. Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the transportation lifeline.
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Property Protection
Priority	Medium

Action 2026-Petaluma-07. City-Wide Emergency Alert & Low-Power FM Station Back-Up

Lead Agency:	Fire Department / Emergency Management
Supporting Entities:	All City Departments
Hazards of Concern:	Wildfire, earthquake
Description of the Problem:	City communications systems may need integration and back-up power.
Description of the Solution:	Install backup power and antenna protection at the low power FM station; integrate with city's emergency warning systems (e.g., WEA-compatible transmitters, NOAA radio mesh).
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	5
Benefits:	Maintains critical emergency communications channel when other systems fail. Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action benefits the Communications lifeline.
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-08. Wildfire Fuel Reduction & Defensible Infrastructure

Lead Agency:	Fire Department
Supporting Entities:	All City Departments
Hazards of Concern:	Wildfire
Description of the Problem:	Dry vegetation fuels wildfires and exacerbate their severity.
Description of the Solution:	Clear vegetation along evacuation routes and around critical facilities (downtown, water treatment, lift station zones), implement fuel breaks, support community chipping and propane conversion programs.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, CAL FIRE Vegetation Management grant, General Fund, Staff Time, coordination with Fire Safe Sonoma and ROW utilities
Implementation Timeline:	1 to 5 years
Objectives Met:	2
Benefits:	Reduces fire spread risk to critical infrastructure and boosts evacuation safety. Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-09. Dam Incident Impacts

Lead Agency:	Department of Water Resources and Utilities
Supporting Entities:	Dam Owners (e.g. La Crema Winery), Reclamation Districts, Sonoma County, California Department of Water Resources (DWR), all City Departments
Hazards of Concern:	Dam Failure
Description of the Problem:	There are three dams located upstream of the City: La Crema, Lawler, and Pinheiro. La Crema Winery dam is a high hazard dam that could impact the Ellis Creek WWTP. The City needs to work with the dam owners to conduct further analysis to understand the extent of dam inundation and the need for emergency planning efforts.
Description of the Solution:	Assess downstream impacts associated with dam incidents. Completion of this action would help the City attain a Class 5 rating in the NFIP CRS Program. Conduct a dam inundation study on Lawler Reservoir and implement mitigation measures, Work with the owner of Pinheiro Dam to understand the impacts, if any, to the urban area of Petaluma from a possible dam failure at this site.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, FEMA Rehabilitation of High Hazard Potential Dam, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	10
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-10. Groundwater Supply Augmentation

Lead Agency:	Department of Water Resources and Utilities
Supporting Entities:	All City Departments, Sonoma Water, California DWR, North Bay Water Reuse Program (NBWRP)
Hazards of Concern:	Drought
Description of the Problem:	According to the City's 2015 Urban Water Management Plan, the City does not rely on groundwater as a significant portion of supply due to yield and water quality limitations. Groundwater is only used for peak water demand needs or to minimize short-term supply cost impacts and only half of the City's existing wells are used due to low yields, poor water quality, and deteriorating well conditions. Instead, the City obtains the majority of its water supply from Russian River surface water deliveries from Sonoma Water. While the City currently relies on various groundwater management tools and studies are underway to better understand the groundwater basin, the City anticipates using more groundwater to meet demand during emergencies, when back-up supplies are necessary during drought conditions. As a result, the City of Petaluma has a 20 percent maximum daily demand peak water usage goal.
Description of the Solution:	The City intends to achieve this 20 percent goal by relying on City groundwater supply through the rehabilitation and installation of additional groundwater wells and by expanding the existing recycled water system. Over the years, the increased reliance on City groundwater has been the result of rehabilitated well sites and studies to determine the actual production capabilities in the event of emergency use. The City is in the process of expanding the groundwater well system. The City recently expanded the recycled water distribution system in the urban area. Another phase is planned with the Maria Drive reconstruction within the next year. Future phases may be constructed through 2040.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance
Implementation Timeline:	1 to 5 years
Objectives Met:	6
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Water Systems lifeline.
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Medium

Action 2026-Petaluma-11. Sustainable Groundwater Management Planning

Lead Agency:	Department of Water Resources and Utilities
Supporting Entities:	All City Departments, Sonoma Water, Sonoma County, Sonoma Resource Conservation District, North Bay Water District
Hazards of Concern:	Drought
Description of the Problem:	The 46,000-acre Petaluma Valley Groundwater Basin is located within the larger 93,440-acre Petaluma Valley watershed. The City of Petaluma relies on local groundwater to supplement imported Russian River surface water supplies from Sonoma Water. While studies are underway to evaluate groundwater conditions in Petaluma Valley Groundwater Basin, current conditions suggest that groundwater elevations are relatively stable in southern and central Petaluma Valley, but areas in the northwest have exhibited long-term declines. The Basin has historical occurrences of serious nitrate contamination in the western portion of the Basin and evidence of saltwater intrusion from the tidally influenced portion of the Petaluma River. Other degradation of water quality impacts and loss of storage capacity continue to be evaluated through the installation of new groundwater monitoring wells and technical guidance from the California DWR. The Sustainable Groundwater Management Act provides for the establishment of local Groundwater Sustainability Agencies (GSAs) to manage groundwater sustainability within groundwater subbasins. The City of Petaluma is a local agency (as defined by §10723 of the Water Code) which overlays the Petaluma Valley Groundwater Basin, and as such the City has become part of the local GSA. The Petaluma Valley GSA was required to develop and implement, no later than January 31, 2022, a Groundwater Sustainability Plan (GSP) to ensure a sustainable yield of groundwater, without causing undesirable results. The GSP is a 20-year plan to ensure that groundwater will be used sustainably in the groundwater basin.
Description of the Solution:	The Petaluma Valley GSA is a multi-agency GSP consisting of Sonoma Resource Conservation District, Sonoma Water, Sonoma County, North Bay Water District, and the City of Petaluma formed to develop the GSP and sustainably manage groundwater in Petaluma Valley. As of 2017, the City of Petaluma participates in the groundwater management planning process. The development of the Petaluma Valley GSA and the implementation of a GSP will allow the City to maintain sustainable groundwater supplies, coordinate with other water agencies and districts, while providing insurance and resilience against periods of long-term drought.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance
Implementation Timeline:	1 to 5 years
Objectives Met:	2
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Low

Action 2026-Petaluma-12. Water Infrastructure Vulnerability Risk and Resilience Plan

Lead Agency:	Department of Water Resources and Utilities
Supporting Entities:	All City Departments, Sonoma Water
Hazards of Concern:	Drought
Description of the Problem:	To secure the City water supply wells and pumps and implement appropriate site and cyber security measures, the City needs a coordinated strategy.
Description of the Solution:	The City will develop and update risk and resilience assessments to evaluate vulnerabilities, threats, and consequences to water infrastructure from potential natural hazards and malevolent acts. The assessment will also assess the resilience of water facility infrastructure (pipe, water sources of collection, treatment, storage, distribution and electronic and computer systems), monitoring practices, chemical storage and handling, and operation and maintenance activities. Emergency Response Plans (ERPs) include strategies and resources to improve resilience, including physical security and cybersecurity. ERPs also cover plans and procedures for responding to natural hazards or malevolent acts that threaten safe drinking water.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, US EPA America's Water Infrastructure Act, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-13. Seismic Retrofits

Lead Agency:	Community Development Department, Public Works Department
Supporting Entities:	All City Departments, Petaluma Museum Association
Hazards of Concern:	Earthquake
Description of the Problem:	As of early 2020, all of the buildings classified as highest risk in a 1992 seismic retrofit ordinance have been retrofitted with the exception of the Petaluma Historic Library and Museum located at 20 4th Street. The classification included 98 buildings within the City that needed to be retrofitted within the next 20 years.
Description of the Solution:	This action involves seismically retrofitting the historic library and museum for earthquake, fire, and public safety hazards. Seismic modifications to the library and museum must also take into consideration the architectural integrity of the building to avoid compromising the building's historical features.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	3
Benefits:	Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	Medium

Action 2026-Petaluma-14. Seismic Retrofit Analysis

Lead Agency:	Community Development Department, Public Works Department
Supporting Entities:	All City Departments
Hazards of Concern:	Earthquake
Description of the Problem:	The City of Petaluma adopted the 2016 California Building Code (CBC), which governs the design, construction, and maintenance of buildings. In California, most cities adopt model building codes maintained by the International Building Code and every few years the International Code Council publishes new editions of the codes. The CBC requires specific tests for masonry to ensure that structures can adequately resist seismic forces during earthquakes. The City of Petaluma has already identified unreinforced masonry properties in their jurisdiction that are vulnerable to seismic risk and have removed or retrofitted most of the City-owned buildings and facilities, with the exception of the City's historic museum and library. While most City-owned facilities have been seismically retrofitted, there are key critical facilities in the City where seismic retrofit analyses need to be conducted to better understand detailed vulnerabilities during major earthquakes. These buildings include the City police and fire stations, City Emergency Operations Center (EOC), and City's Emergency Communication Center. This can include bracing of non-structural items to reduce damage potential to building contents and reduce risk of injury, ensuring continuity of operations during an incident.
Description of the Solution:	An earthquake retrofit analysis would include a structural and nonstructural assessment of City buildings, as well as infrastructure, such as water tanks, sewer lines, bridges, and roads. Initial retrofitting analysis may involve a survey of the structural condition at critical facilities and prioritized surveys at buildings closer to major fault or liquefaction zones. Replacement and retrofits can then occur as funding becomes available. Various resources provided by FEMA and the American Society of Civil Engineers (ASCE) provide seismic retrofitting guidelines and techniques to strengthen the structural elements of buildings and better protect non-structural components.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	11
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Property Protection
Priority	Low

Action 2026-Petaluma-15. Structural Flood Mitigation Projects

Lead Agency:	Public Works Department
Supporting Entities:	All City Departments, U.S. Army Corps of Engineers, Sonoma Water, Conservation Corps of the North Bay
Hazards of Concern:	Flood, Sea Level Rise
Description of the Problem:	For over the past 15 years, the City of Petaluma has been proactive to mitigate flood hazards within the Petaluma watershed. The City has worked on the Petaluma River Flood Control Project, as part of the joint effort with the U.S. Army Corps of Engineers and has received state funding to implement four phases of the Petaluma River–Denman Reach flood mitigation project near the north end of the City along Industrial Avenue. Both projects help the City implement the 1996 Petaluma River Access and Enhancement Plan, General Plan 2025, and the 2015 FMP. The River Access and Enhancement Plan was readopted in 2008 as an appendix of the General Plan 2025 document. These past and current structural projects increase the capacity of the historic floodplain and alleviate flood impacts to neighboring residences and businesses. The Petaluma River Flood Control Project included channel widening, floodwalls along Washington Creek and the Petaluma River, a concrete transition weir, two new pump stations, replacement of the Payran Street Bridge and the Lakeville Street Bridge, replacement of the Lakeville Street railroad trestle, removal of a rail trestle downstream from Lakeville Street, and the creation of a U-shaped channel along one reach of the river. This project was completed in late 2015. The first three phases of the Petaluma River–Denman Reach project were completed from 2005 to 2020 with California DWR grant funds. The first phases involved acquiring vacant parcels, developing a permanent trail easement, opening the river channel and extending a flood terrace along the top of the bank, widening the eastern bank of the River within the lower portion of Denman Reach (between Petaluma Boulevard North and Corona Road), and creating wetlands and riparian habitat. The completed project lowered the flood elevation for the 100-year storm up to one foot in areas around Industrial Avenue and Corona Road.
Description of the Solution:	The City will continue to pursue and implement future structural flood control projects under this mitigation action, as they relate to new projects developed in the FMP update, and also to incorporate natural mitigation solutions, such as the creation of flood terraces and detention ponds, as appropriate and suitable for location and flood reduction benefits.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	3, 10
Benefits:	Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Structural Flood Control Projects
Priority	Medium

Action 2026-Petaluma-16. Floodplain Property Protection, Acquisition, and Relocation

Lead Agency:	Public Works Department
Supporting Entities:	All City Departments, FEMA, Cal OES, California DWR
Hazards of Concern:	Flood
Description of the Problem:	Consistent with the General Plan 2025 and the 2015 FMP goals and property protection activities, the City of Petaluma has successfully undertaken efforts to acquire and relocate 13 properties in the floodplain. The City will continue to explore opportunities for property protection, acquisition, and relocation consistent with the General Plan 2025 Policy 8P-37 and the 2015 FMP property protection activities. The City would seek acquisition and relocation funding using pre-disaster mitigation and flood mitigation assistance (FMA) program funding, with a focus on acquiring properties in the repetitive loss areas of the floodplain. These houses were part of the Petaluma River Flood Control Project. With the updating of the FEMA FIRMs, the area protected by the completed project will be amended from a designation of A-99 to Zone X. This will remove the majority of he City's Repetitive Loss properties from being located in a Special Flood Hazard Area.
Description of the Solution:	This action supports the preservation of open space and natural areas according to General Plan 2025 Policies 4-P-1 through 4-P-4 and the establishment of a 200-foot setback on both sides of the Petaluma River based on General Plan 2025 Policy 8-9-30. The action also involves exploring property protection projects and acquisitions in other portions of the floodplain and is further supports Mitigation Action SLR-2 focused on open space preservation.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, FEMA Flood Mitigation Assistance, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-17. Annual Stream and Creek Channel Maintenance

Lead Agency:	Department of Water Resources and Utilities
Supporting Entities:	All City Departments, Sonoma County, Sonoma Water
Hazards of Concern:	Flood
Description of the Problem:	The City has worked with Sonoma County and Sonoma Water since the December 11, 2014, flood event to clear channels and creeks of debris, sediment, and overgrown vegetation within the parameters of existing environmental permits. The City has pursued Stream Maintenance Permits from the State to allow work within our creek channels to build upon the permitting and process Sonoma Water currently holds for some reaches of the River and creeks within Petaluma. These permit approvals will greatly enhance the environmental enhancement of our creeks by removing dead and down debris, removal of non-native invasive plant species, and the restoration of the natural flow corridors.
Description of the Solution:	This action would support floodplain management goals to continue annual stream and creek channel maintenance in accordance with established City, County, and Sonoma Water requirements. Permitted creek and stream channel maintenance activities would occur throughout the City and include structural channel modification projects referenced in the 2015 FMP.
Estimated Cost:	High
Potential Funding Sources:	Sonoma Water funding, Urban Streams Restoration Program Grant (USRP), Proposition 1 Funding, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	2
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Medium

Action 2026-Petaluma-18. Regulatory Standards for Flood Protection

Lead Agency:	Community Development
Supporting Entities:	All City Departments
Hazards of Concern:	Flood
Description of the Problem:	Petaluma has prioritized floodplain management activities since joining the NFIP CRS Program in October 1996. Floodplain management activities were introduced in the 1987 General Plan and significantly strengthened in the General Plan 2025, adopted in 2008. The City participates in the CRS program as one of its efforts to reduce potential losses due to flooding, and the NFIP has conducted annual audits of the City's floodplain management efforts for three decades and awarded the City a Class 6 rating.
Description of the Solution:	As part of this action, the City of Petaluma will continue to implement preventative activities summarized in the 2015 FMP that involve enforcing standards that provide more flood protection than the NFIP's minimum requirements. These activities include: • Implement flood protection policies in the General Plan 2025; • Require two feet of freeboard for first floor elevations above the base flood elevation (General Plan 2025 Policy 8-P-37F); • Require foundation protection; • Require digital post-construction elevation certificates for new structures, additions and substantial improvements to structures in the floodplain to be organized into a GIS database; • Require zero net fill on all new developments in the floodplain; • Adhere to federal and state-mandated regulatory standards; and • Maintain adequate staffing in the City's Building Department to continue to enforce building codes for new construction and improvements in the floodplain through the City.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	10
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Low

Action 2026-Petaluma-19. Improve NFIP Rating

Lead Agency:	Public Works Department
Supporting Entities:	All City Departments,
Hazards of Concern:	Flood
Description of the Problem:	The City seeks to maximize the flood insurance discount offered to the people who own property in the City. The City is working toward achieving a Class 5 to improve the discount by another 5% to 25%.
Description of the Solution:	This action involves improving the NFIP CRS Rating for City. Subsequent steps will involve tracking credit opportunities associated with the HMP and completing the Activity Floodplain Coordinator Manual 510 steps and worksheets. This plan update is already aligned with the CRS planning process to maximize CRS points. Other opportunities to improve credits according to the latest CRS Coordinator's manual will be evaluated.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	10
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-20. Evacuation Planning

Lead Agency:	Fire Department
Supporting Entities:	All City Departments, Industrial Company
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, and Wildfire
Description of the Problem:	The City currently has several industrial sites that during an accident or disaster could release hazardous material that would negatively impact the health of persons in the community.
Description of the Solution:	It is important for those potentially affected to know, understand, and practice the best course of action, whether that be to shelter-in-place or evacuation procedures. Once initial action is taken, the community needs to understand the next steps and plan appropriately. This action can be implemented on a neighborhood-by-neighborhood level, and it would take into consideration socially vulnerable and disadvantaged populations in the City. For instance, additional and tailored outreach may be conducted to ensure socially vulnerable and disadvantaged populations in the City understand what actions need to occur during hazard events that may require shelter-in-place or evacuation procedures. The City will also participate in the ongoing 2025-26 Sonoma County Multi-Jurisdictional Emergency Transportation Plan creation process.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	5
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-Petaluma-21. Natural Protection

Lead Agency:	Public Works Department
Supporting Entities:	All City Departments
Hazards of Concern:	Flood, Sea Level Rise
Description of the Problem:	The Petaluma River stretches for approximately 6.5 miles through the City from the upstream freshwater reaches to the downstream tidally influenced portion of the river near San Pablo Bay, known as the “transition zone.” Natural protection of wetlands and marsh in the southern portion of the City's Planning Area near the confluence of Petaluma River and San Pablo Bay can help the City adapt to rising sea levels and tidal fluctuations in the Bay.
Description of the Solution:	Wetland protection would preserve undeveloped shorelines within San Pablo Bay and support ecosystem adaptation in areas where sea level rise may cause migration of species and habitat changes. Protecting the undeveloped shorelines along the Petaluma and San Pablo Bay transition zone would also maintain ecological values, provide increased flood protection, and support habitat resiliency.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	4
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Low

Action 2026-Petaluma-22. Petaluma River Dredging

Lead Agency:	Public Works Department
Supporting Entities:	All City Departments, U.S. Army Corps of Engineers Funding, California DWR Grant Funds
Hazards of Concern:	Flooding, Sea Level Rise
Description of the Problem:	Watershed runoff deposits silt within the waterway. The City recently completed a sediment solution study to address the challenges and opportunities to capture and reuse sediment flowing into the Petaluma River from the tributaries.
Description of the Solution:	Regular dredging is required to restore the original riverway capacity of Petaluma River to enhance floodwater carrying capacity and maintain adequate depth for boating. The upstream end of the Navigable Waterways of the United States is located in the heart of downtown Petaluma, terminating at the Turning Basin at the eastern end of Western Avenue. The dredging cycle to maintain river and storm flows typically ends at the Turning Basin; however, maintaining flood capacity is vital upstream of the Turning Basin through the completed Petaluma River Flood Control Project in the Payran Reach, upstream to the constriction weir. The constriction weir was constructed with the Flood Control Project to replicate the historic narrowing of the River through this reach to avoid exacerbating downstream flood impacts from the widening and deepening of the River with the Project.
Estimated Cost:	High
Potential Funding Sources:	General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	10
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Low

Action 2026-Petaluma-23. Open Space Preservation

Lead Agency:	Parks and Recreation Department
Supporting Entities:	City Engineer, Public Works Department, Building Department California Coastal Conservancy, Sonoma County Agricultural Preservation and Open Space, U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers, San Francisco Bay Regional Water Quality Control Board (RWQCB), San Francisco Bay Conservation and Development Commission (San Francisco BCDC), Sonoma Land Trust, State and federal conservancy agencies, Community-Based Organizations
Hazards of Concern:	Flooding, Sea Level Rise
Description of the Problem:	The City of Petaluma anticipates planning for and adapting to risk from increased flooding due to sea level rise and coastal storm events along the Petaluma River. A portion of the properties located near the tidally-influenced portions of the Petaluma River consist of open space and park lands that make up the City's greenbelt. Given the open space land use designation, development is not permitted within these low-elevation properties where tidal flooding is common. Although building codes are enforced on adjacent developed commercial properties and flood insurance is required, these developed properties are at risk to future flooding that could be exacerbated by sea level rise. Traditional land management controls, like land use zoning and open space preservation could be used to limit development. The City could also improve interagency cooperation related to ecological conservation efforts within the lands susceptible to flooding and sea level rise by focusing on property acquisition, protecting natural areas. and improving habitat resiliency. Interagency coordination would enhance the overall connectivity of different open space preservation and habitat restoration projects within the San Pablo Bay transition zone.
Description of the Solution:	The City plans to continue efforts to keep vacant and floodplain land designated as open space. The City also plans to pursue additional open space acquisition opportunities pursuant to General Plan 2025 goals and policies and the 2015 FMP open space preservation preventative activities. Given the recreational amenities present within these open space areas, this action may also involve ensuring trailheads, trails, and signage are maintained and upgraded to withstand future flooding and erosion that may be associated with sea level rise.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Low

Action 2026-Petaluma-24. Sea Level Rise Vulnerability

Lead Agency:	Public Works Department
Supporting Entities:	Sonoma County
Hazards of Concern:	Sea Level Rise, Flooding
Description of the Problem:	GIS is an effective tool that can identify where climate-change related effects are likely to occur now and in the future. Mapping and overlaying climate information, such as projected sea level rise projections with critical facilities, parcel, infrastructure, and building footprints can help communities understand the expected extent of sea level rise, and also where flooding, wildfires, and other natural hazards are more likely to occur based on climate change. The 2019 HMP included a preliminary sea level rise vulnerability assessment that analyzed three sea level rise scenarios: 25 centimeters (cm), 75 cm, and 200 cm sea level rise inundation datasets based on best available science from the CoSMos Version 2.1 Model applicable to the City of Petaluma (see Section 4.3.6 Sea Level Rise in Chapter 4). This dataset provided detailed projections of tidal inundation, also referred to the predicted average annual tidal inundation conditions. It also included detailed projections of coastal flood hazards, also referred to the 100-year coastal flood event that accounts for coastal wave and storm surge intervals,. The preliminary vulnerability assessment is consistent with the full spectrum of sea level rise (0 to 2 meters, 5 meters) and storms (daily to 100-year return) used on the outer Sonoma coast and storm events used inside the Bay were derived from the Global Climate Model. Given sea level rise projections linked to planning horizons can change with new scientific data, the preliminary sea level rise scenarios selected by the City are based on sea level rise elevation. The probabilistic projections based on the high emissions scenario (business as usual) for 2050 and 2070 translates to 1.1 foot by 2050 and 1.9 feet by 2070, both which have a 66 percent probability of occurrence. The conservative approach for 2050 and 2070 have a 0.5 percent probability of occurrence and translate to 1.9 feet by 2050 and 4.0 feet by 2070. The City HMP also considered one conservative scenario to assess potential future impacts to critical infrastructure. These projection recommendations roughly convert to the 25 cm (1 foot or 0.25 meters), 75 cm (2.7 feet or 0.75 meters), and 200 cm (6.6 feet or 2 meters) sea level rise datasets. These three elevations could apply to a range of sea level rise projections and associated planning years.
Description of the Solution:	This action considers the findings from the preliminary sea level rise vulnerability assessment included in the 2019 HMP and determines whether a more detailed vulnerability assessment and Climate Adaptation Plan (CAP) is warranted. As part of this action, the City would select a most likely sea level rise scenario to present to the Climate Action Commission and the community (or a range of scenarios), as part of climate change initiatives. While the City may choose to select all three scenarios considered in the 2019 HMP vulnerability assessment, the City could also select one scenario with the highest probability of occurrence within the current planning period (by 2030) and proceed with beginning outreach with the community regarding sea level rise science, scenarios, and adaptation planning. Outreach may include GIS mapping and the production of easily understandable maps to distribute within the community, as well as initiating discussions with the community on how to plan for and adapt to sea level rise.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time, Caltrans SB-1 Climate Adaptation Planning Grant, Sonoma County Transportation Authority (SCTA) Funding, ABAG Funding, California Ocean Protection Council Funding (from Prop 1 funds), California Resilience Challenge Grant Competition
Implementation Timeline:	1 to 5 years
Objectives Met:	1,4,12

Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-25. Sea Level Rise Modeling

Lead Agency:	Public Works, Water Resources and Utilities, and Planning Departments
Supporting Entities:	Sonoma County, SCTA
Hazards of Concern:	Sea level rise, flooding
Description of the Problem:	Sea level rise science continues to evolve and the best available science on sea level rise projections will change. The City is adapting to those potential changes through the Adaptation Framework.
Description of the Solution:	Given the uncertainty in the magnitude and timing of future sea level rise, the City should use scenario-based analysis to examine a range of possible shoreline changes and sea level risks. A similar approach to reviewing climate change scenarios as they relate to other natural hazards, such as extreme heat, flooding, and wildfire risk could also be part of the routine assessment Selection of sea level rise scenario modelling (current best available data for the City of Petaluma Planning Area includes 25 cm, 75 cm, 200 or 300 cm scenarios with and without 100-year coastal flood event) or scenarios based on planning horizons will help guide the City in sea level rise planning efforts. This action could also use sea level rise projections during routine review of applications for new development to ensure new development proposals incorporate adequate protection (e.g. setbacks, armoring) in site plans. The City of Petaluma's sea level rise (modeling and adaptation framework for its General Plan Update uses state-of-the-art flood modeling that incorporates terrain, anticipated rainfall/storm patterns, tidal influences, and projected sea level rise scenarios out to mid-century and end-of-century to map potential inundation and flood hazard areas around the Petaluma River. These models, including multiple sea level rise and storm-surge scenarios, are being used to inform land use planning and policy development in the General Plan and the Flood Resilience Policy Framework, which will embed goals, policies, and implementation actions for flood adaptation, resilience, and infrastructure protection; this effort is linked with ongoing floodplain mapping updates and future FEMA flood map revisions to align hazard data with planning decisions.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time, Caltrans SB-1 Climate Adaptation Planning Grant
Implementation Timeline:	1 to 5 years
Objectives Met:	4
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-26. Update City Implementing Zoning Ordinance

Lead Agency:	Planning and Public Works Departments, City Engineer, Floodplain Administrator
Supporting Entities:	N/A
Hazards of Concern:	Sea level rise, flooding
Description of the Problem:	The area around the river and larger streams are more prone to damage from flooding. Increased setbacks along the River have been in the General Plan since 2008 to set aside floodplain lands. In addition, the City has zero net fill standards in the most critical areas and requires a 2' freeboard for any development proposed.
Description of the Solution:	Sea level rise will increase the intensity and frequency of damage from flooding. Updating zoning tools in these areas can minimize flooding related disasters. The City of Petaluma would also consider updating the IZO and Municipal Code for consistency with the HMP and General Plan Health and Safety Element.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	High
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-27. Critical Facility Backup Power

Lead Agency:	Public Works Department
Supporting Entities:	Police Department, Parks and Recreation Department, Fire Department, City Manager
Hazards of Concern:	Extreme Wind, Extreme Heat, Earthquake, Wildfire
Description of the Problem:	Generator replacement can minimize the effects of power outages during earthquake, extreme heat, severe storms, wildfire, and high wind hazard events in the City, as they will supply back-up power during a power outage. City facilities will also need backup power during “planned” Public Safety Power Shutoffs. The City will need reliable emergency backup power when Pacific Gas & Electric (PG&E) power lines are affected by natural hazard events.
Description of the Solution:	This action would ensure the City obtains diesel powered generators in select locations at City critical facilities to ensure electrical power is provided for essential services, as well as the City’s primary evacuation shelter, the Petaluma Community Center. It would also ensure the City replaces aging generators at key locations, such as the City Police Department and Emergency Communications Center.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	6
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

Action 2026-Petaluma-28. Resiliency Hub

Lead Agency:	Parks and Recreation Department
Supporting Entities:	Public Works and Utilities Department, Sonoma County Department of Health Services Public Health Division, Sonoma County Homeless Services, Petaluma Valley Hospital
Hazards of Concern:	Extreme Heat
Description of the Problem:	Climate change is expected to result in longer droughts and longer days of extreme heat. Extreme heat can also disproportionately affect the health of vulnerable populations in the City of Petaluma.
Description of the Solution:	This action involves establishing the City Community Center and Petaluma Senior Center located at Lucchesi Park to function as a cooling center, or “resiliency hub” or “safe place” during severe weather events, involving heat waves, poor air quality, and wildfires. A resiliency hub would accommodate sensitive receptors that may be susceptible to poor air quality and respiratory illness. A central and well-used existing community-serving facility location for a cooling center or resiliency hub, such as the City Community Center and Petaluma Senior Center would ensure residents in the community can easily access the facility by public transit and alternative modes of transportation. The resiliency hub would also have other essential resources, such as food, water, ice, refrigeration, medical supplies, charging stations, and back-up power. Currently, neither of these facilities have back-up power and could not function as cooling centers during power outages; PSPS or actual power outages. This action would therefore also entail obtaining sufficient back-up power at each facility. This action involves associated outreach to ensure the vulnerable segments of the local population (e.g. people with disabilities, elderly, low-income) and the local homeless population are aware of the resiliency hub and are able to access it during extreme heat events. Outreach would specifically focus on making sure the public knows where to go to find relief from extreme heat events, poor air quality days, and wildfire events using social media, traditional media, and printed materials/handouts. This includes ensuring there is accessible transportation during extreme heat events, and an appropriate number of resiliency hubs in the City. The action would also involve coordination with local homeless services to ensure that the homeless population is aware of the City’s resiliency hub services. The City could work with Sonoma County Department of Health Services Public Health Division and Petaluma Valley Hospital to build outreach capacity to better engage vulnerable and disadvantaged segments of the City’s population that may need to rely on resiliency hubs or cooling centers and other facilities during extreme heat events.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time, Transformative Climate Communities Grant, Emergency Solutions Grants (ESG) Program (funds homeless and improves quality of emergency shelters for homeless), possible PG&E grant funds
Implementation Timeline:	1 to 5 years
Objectives Met:	13
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A

Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-29. Enhance Local Building Code

Lead Agency:	Building Department, Public Works Department (City Engineer and Floodplain Administrator)
Supporting Entities:	PG&E
Hazards of Concern:	Extreme Wind, Wildfire
Description of the Problem:	While the City has adopted the highest building code offered by the State, the Municipal Code goes above and beyond to project vulnerable areas of the community, and has obtained points through the CRS system for having “Higher Regulatory Standards”, the City seeks to enhance local building codes and ordinances to ensure that new structures and remodels or improvements to buildings and structures incorporate wind-resistant design features to withstand high winds and tornadoes. This action would prevent wind damage through revisions to the existing building code and adopting standards for residential construction in high-wind regions.
Description of the Solution:	Enhance local building codes and ordinances to ensure that new structures and remodels or improvements to buildings and structures incorporate wind-resistant design features to withstand high winds and tornadoes. This action would prevent wind damage through revisions to the existing building code and adopting standards for residential construction in high-wind regions. Construction techniques may include requiring structural bracing, straps and clips, anchor bolts, and impact-resistant glass, reinforced garage doors, window shutters, and interlocking roof shingles. Requiring tiedowns with anchors and ground anchors for manufactured homes may also be appropriate. There are also various site and building design standards that could be considered to minimize wind damage in new residential developments.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1, 11
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-30. Develop PSPS Toolkit

Lead Agency:	City Manager, Public Works Department, Open Government
Supporting Entities:	Economic Development, Chamber of Commerce, Petaluma Downtown Business Association, Petaluma Area Schools Districts
Hazards of Concern:	Extreme Wind, Wildfire
Description of the Problem:	The City of Petaluma has been proactive with sharing information on the City PSPS website providing tips for residents and visitors to prepare and make plans for their families. The City has opened community shelters, and coordinated with the school districts on school closures and which areas of the City are impacted. The City wants to expand the existing public information to provide resources and tips for local businesses to be able to continue business operations during PSPS events.
Description of the Solution:	The City of Petaluma has been proactive with sharing information on the City PSPS website providing tips for the public to prepare and make plans for their families. The City has opened community shelters, and coordinated with the school districts on school closures and which areas of the City are impacted. This action will expand the existing public information to provide resources and tips for local businesses to be able to continue business operations during PSPS events.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1,2
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-Petaluma-31. Defensible Space Funding Program

Lead Agency:	Fire Department
Supporting Entities:	Sonoma County, CAL FIRE
Hazards of Concern:	Wildfire
Description of the Problem:	While defensible space is a recognized standard for wildfire mitigation, private landowners often struggle to pay for the establishment of defensible space around structures.
Description of the Solution:	This action will establish a funding program for the City and the community to implement defensible space in the WUI and Fire Hazard Severity Zones. The program will include the identification of defensible space funding and grant opportunities, incentives for private landowners to conduct brush clearing and home hardening, project implementation tools (e.g. vegetation clearing), and a long-term management program for WUI areas around the City. The program will prioritize defensible space projects that may include brush removal and prescribed burns, while also working with the community to reduce fuel loads on private property. The City would also work with local fire protection agencies to promote structure hardening and retrofitting, and other mitigation techniques summarized in CAL FIRE's Wildfire Mitigation Program.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	6
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Medium

Action 2026-Petaluma-32. Fire Suppression Master Plan

Lead Agency:	Fire Department, Fire Prevention Bureau, Public Works Department
Supporting Entities:	Mutual Aid Providers, Sonoma County, California Department of Forestry and Fire (CAL FIRE)
Hazards of Concern:	Wildfire
Description of the Problem:	The City's fire suppression water system is an integral part of the Fire Department operations and Fire Prevention planning. There are several areas within the City's water system with low fire-flow. Currently, there is not a system, map, or other record retention system where the Fire Prevention Bureau or Fire Department staff can access fire flow data from each fire hydrant in the City.
Description of the Solution:	This action would involve the development of a comprehensive City-wide fire suppression water system Master Plan to assess fire flow water capacity and how to upgrade the water system to accommodate projected changes in water availability and provide adaptability. While the five-year updates to the Urban Water Management Plan address future conditions and community water demand, a City-wide Fire Suppression Master Plan would address water supply needs for fire suppression, assess water supply capacity for fire response within the City's Planning Area, and use the plan recommendations to upgrade the system to improve the City's water system's adaptability to urban fire and wildfire hazards. Appropriate retrofits to the City's water system, specific to fire suppression infrastructure can help the City and community be better prepared and ensure there is adequate water supply, suppression capabilities, and fewer disruptions to water services.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Low

Action 2026-Petaluma-33. Wildland Urban Interface

Lead Agency:	Fire Department | Fire Prevention Bureau
Supporting Entities:	Mutual Aid Providers, Sonoma County, CAL FIRE
Hazards of Concern:	Wildfire
Description of the Problem:	California has a long history of wildfire, and the destruction and effects are growing more intense, frequent, and developing into a year-round problem. Within the Petaluma city limits there is a designated WUI and high FHSZ. The City is also surrounded on the west side by a moderate FHSZ and hilly topography that consists of rural residential development, undeveloped hillsides, and open space.Wildland fires west of the City could be exacerbated by prevailing winds. This action acknowledges the pending CAL FIRE mapping of the SRA and land use distribution within very high FHSZs within the City limits. The California has implemented specific requirements for new buildings within the WUI and FHSZs and some jurisdictions throughout the State are implementing stricter codes and requirements specific to their jurisdiction. The City of Petaluma has minimally expanded those requirements, but there may be a benefit to substantially expanding those requirements further. Government Code Sections 65302 subdivision (g)(3) and 65302.5 subdivision (b) require the General Plan Safety Element to address the risk of fire for land classified as SRAs and land classified as very high FHSZ. Additionally, the limited staff and resources currently deployed in the Fire Prevention Bureau do not have the capacity for education, enforcement or assistance for the community to improve their defensible space. The Petaluma Fire Department wildland apparatus is limited to a Type VI pick-up mounted pumper. It may be beneficial to have more wildland specific equipment to avoid wildfire hazards within the WUI. As wildland fire characteristics continue to change, the capabilities, resources, policies and programs need to be re-evaluated to assure the community has the most appropriate protection.

Description of the Solution:	This action involves an evaluation of the WUI zone and high and very high FHSZs in the City limits and surrounding areas to develop a comprehensive plan to protect City buildings and infrastructure (building codes, Type 3 Fire engine, water supply, access roads). The evaluation of the extent of the WUI within the City limits and the surrounding unincorporated areas will allow the City to develop a comprehensive plan to protect people, property, and infrastructure. The evaluation would identify the potential for fires to occur within and surrounding new and existing development. The evaluation would address wildfire probability using metrics, such as fire history, fire threat, response time, proximity to the WUI, fuel reduction projects, and mutual aid coordination. The evaluation would also address building codes, the need for a Type 3 fire engine, water supplies, and road accessibility. This action acknowledges the pending CAL FIRE mapping of the SRA and land use distribution within very high FHSZs within the City limits. The action would also involve review of construction methods for new facilities in SRAs and very high FHSZs (if applicable), safe access for emergency response (street signs, water supply, and fire suppression), and identification of a minimum of two evacuation routes for neighborhoods in the City of Petaluma. Upon adoption of the HMP, the City shall align the General Plan Health and Safety Element (Chapter 10 of General Plan) with the HMP and Government Code Sections 65302 subdivisions (g)(3) and Section 65302.5 that address state legislation, such as SB 2911, SB 1241, and pending CAL FIRE FHSZ map updates. This state legislation requires additional fire safe building practices and fire safe design, and pending changes to the CAL FIRE FHSZ maps may impose additional requirements in areas prone to wildfire. The City Fire Department and Fire Prevention Bureau should review the updated maps and policies to ensure they align with the new legislation.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-34. Fire Protection System

Lead Agency:	Fire Department
Supporting Entities:	Public Works Department, Building Department
Hazards of Concern:	Wildfire
Description of the Problem:	Existing City facilities are not operating with a fire protection system that is updated to the highest level of protection, leaving them vulnerable to structure fires and wildfires.
Description of the Solution:	This action would provide funding for the installation of the required systems in all City-owned facilities. Fire system upgrades would first occur in designated critical facilities.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	3
Benefits:	Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Property Protection
Priority	Medium

Action 2026-Petaluma-35. WUI Pre-Fire Plan

Lead Agency:	Fire Department
Supporting Entities:	CAL FIRE
Hazards of Concern:	Wildfire
Description of the Problem:	As wildland fires spread more rapidly with a drier climate, increased heat days, drought and strong north winds, pre-planning hazard areas, access points, and locations to fight fire are important to ensure a more efficient response and deployment of resources.
Description of the Solution:	CAL FIRE has created “pre-fire plans” for other areas of Sonoma County which were used during 2017 and 2019 to better plan and organize responses and tactics. The development of a WUI Pre-Fire Plan will help the City better prepare for future wildfires.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time, CAL FIRE funding, Proposition 84 Wildfire Resiliency and Recovery Planning Grants (administered through California’s Strategic Growth Council, Office of Planning and Research, and Department of Conservation)
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Low

Action 2026-Petaluma-36. Evacuation Alert and Warning

Lead Agency:	Fire Department | Emergency Management
Supporting Entities:	Police Department, Sonoma County, Neighboring Jurisdictions, Community-Based Organizations
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	The City currently has few routes leading out of downtown Petaluma. During an accident or disaster impacts on these transportation routes could negatively impact the health of persons in our community. It is important to be able to notify the public when they need to take action to protect themselves, whether sheltering-in-place, or evacuating. Emergency notification systems are a critical type of communication that let people know of potential and impending disaster events. The installation of an alert warning system with outdoor sirens and coordinating their use with neighboring jurisdictions was a mitigation action included in the 2005 and 2010 HMP Annex. Previous studies showed that the City's warning systems are not an effective tool in Petaluma due to the nature of the natural disasters anticipated in the area. Sirens are a common warning device for coastal areas that have some, but little warning of a natural disaster, specifically with tsunamis. In Petaluma, the greatest major natural disaster threat: an earthquake has zero warning signs. Flood hazards usually have several days of warning notice. The City, however, has several other hazards that could result in regional disasters, as well as several industrial sites that during an accident or disaster could release hazardous material that would negatively impact the health of persons in the community and where an alert warning system would be beneficial. While the City currently notifies the public about how to best prepare for natural disasters before they occur through the radio, television, phone-based warning systems (i.e. Strategy #GOVT-b-22 in 2010 HMP Annex), and other media outlets, it is important to be able to notify the public when they need to take action to protect themselves, whether sheltering in-place or following evacuation procedures, and how they can make recovery easier.
Description of the Solution:	This action would consist of the installation of an evacuation alert and warning system that includes coordination with neighboring jurisdictions and effectively educating the community about the evacuation alert system. The evacuation and alert system would be designed and implemented so that it reaches the needs of segments of the community with functions needs, such as vision or hearing-related disabilities by ensuring there are alternative means for these people to receive information. Once installed, the alert and warning system would also involve conducting annual tests of the outdoor sirens (e.g. once per month). This periodic testing of the outdoor sirens was also part of a mitigation action included in the 2005 and 2010 HMP Annex (Strategy #GOVT-b-15).
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	5
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A

Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-37. Assess Fire and Police Stations

Lead Agency:	Public Works Department
Supporting Entities:	Police Department, Fire Department, Sonoma County
Hazards of Concern:	Flood, Earthquake, Wildfire, Sea Level Rise
Description of the Problem:	In order to be prepared for no-notice hazard events, the City will periodically assess the need for new or relocated fire or police stations and other emergency facilities, changes in staffing levels, and need for supplies, equipment, technologies, and in-service training classes.
Description of the Solution:	This action ensures the City periodically assess the need for new or relocated fire and police stations, as well as other emergency facilities. A new fire and police headquarters building (plus EOC) will be built at a site on the Petaluma Fairgrounds. The Public Safety Facility and Emergency Operations Center is being designed to Essential Facilities standards under the California Building Code, which are significantly more stringent than typical municipal construction and are intended to ensure post-disaster operability, particularly following major earthquakes. While largely code-driven, the project incorporates key resilience features (including modern seismic performance, hardened construction, on-site emergency power for at least 72 hours, secure site design, resilient communications infrastructure, and consolidated emergency functions) that collectively represent a substantial upgrade over the City's existing public safety facilities. Overall, the project meaningfully improves operational continuity, coordination, and emergency response capability. Funding for the Public Safety Facility and Emergency Operations Center is anticipated to come from a combination of local voter-approved sources, including Measure H and Measure U, supplemented by pursuit of state and federal resilience and hazard mitigation funding, such as FEMA's Hazard Mitigation Grant Program (HMPG) and other applicable public safety or disaster preparedness grants, as available.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time, Measure H
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Low

Action 2026-Petaluma-38. Interoperable Communications

Lead Agency:	Fire Department, Police Department
Supporting Entities:	Sonoma County, Neighboring Jurisdictions
Hazards of Concern:	Flood, Earthquake, Wildfire
Description of the Problem:	City staff who respond to emergencies do not have access to interoperable communications systems, leaving them vulnerable to communications blackouts when power or internet communications systems fail.
Description of the Solution:	Develop and maintain a system of interoperable communications for first responders from local, state, and federal agencies. This action involves developing and maintaining a system of interoperable communication for first responders to use to support disaster response and recovery efforts during disaster events. The communications system would be used by the EOC during disaster events and would be managed by the City's Fire Department.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	5
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-39. Emergency Operations Plan

Lead Agency:	Fire Department
Supporting Entities:	Sonoma County Neighboring Jurisdictions, Mutual Aid Providers
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, and Wildfire
Description of the Problem:	The City's EOP last underwent a full update in 2007. It includes a basic plan that addresses the City of Petaluma's responsibilities in emergencies associated with natural disaster, human-caused emergencies, and technological incidents. It provides a framework for coordination of response and recovery efforts within the City and in coordination with local, state, and federal agencies. The plan establishes emergency organization staff to direct and control operations during a period of emergency by assigning responsibilities to specific personnel. The scope of the plan addresses earthquakes, hazardous materials emergencies, flooding, and wildfires. While the plan contact lists are regularly updated, the base plan is now dated and does not address all potential hazards in today's world.
Description of the Solution:	A comprehensive update of the EOP would ensure it addresses all hazards covered in the General Plan 2025 Health and Safety Element and the 2019 HMP and provides a more user-friendly plan document for the City.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Pre-Disaster Mitigation, General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulation
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Petaluma-40. Emergency Operations Center

Lead Agency:	Fire Department
Supporting Entities:	Sonoma County Neighboring Jurisdictions, Mutual Aid Provider
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, and Wildfire
Description of the Problem:	The City's EOC currently utilizes the police briefing room and surrounding normally occupied offices. Technology, including phones and computers need to be set-up, tables moved, supplies moved from a small towable trailer in the parking lot to inside, and normal police operations changed in order to utilize the EOC
Description of the Solution:	The EOC needs to be in a more functional work-space that also has permanent phones, computers, and other technology. A new EOC is being designed as part of the Petaluma Public Safety Facility, to be co-located with new Fire and Police headquarters. The Public Safety Facility and Emergency Operations Center is being designed to Essential Facilities standards under the California Building Code, which are significantly more stringent than typical municipal construction and are intended to ensure post-disaster operability, particularly following major earthquakes. While largely code-driven, the project incorporates key resilience features (including modern seismic performance, hardened construction, on-site emergency power for at least 72 hours, secure site design, resilient communications infrastructure, and consolidated emergency functions) that collectively represent a substantial upgrade over the City's existing public safety facilities. Overall, the project meaningfully improves operational continuity, coordination, and emergency response capability. Funding for the Public Safety Facility and Emergency Operations Center is anticipated to come from a combination of local voter-approved sources, including Measure H and Measure U, supplemented by pursuit of state and federal resilience and hazard mitigation funding, such as FEMA's Hazard Mitigation Grant Program (HMPG) and other applicable public safety or disaster preparedness grants, as available.
Estimated Cost:	High
Potential Funding Sources:	General Fund, Staff Time, FEMA EOC Grant Program, Measure H
Implementation Timeline:	1 to 5 years
Objectives Met:	6
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Low

Action 2026-Petaluma-41. Community Emergency Prep Program

Lead Agency:	Fire Department
Supporting Entities:	Sonoma County Neighboring Jurisdictions, Mutual Aid Providers
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, and Wildfire
Description of the Problem:	The City began expanding its community disaster preparation outreach following the 2017 fires to include four quarterly educational sessions per year. The program Citizens Organized to Prepare for Emergencies (COPE) is to encourage residents, families, and neighborhoods to become and remain better prepared to respond to and recover from emergency situations. It is a current program at the City and includes developing individual response plans, maintaining individual emergency supply kits, and ensuring neighbors get to know and plan with other neighbors in their community.
Description of the Solution:	The community would like more educational sessions and has expressed interest in a Community Emergency Response Team (CERT) type program. The City has held discussions with other emergency coordinators and Sonoma County about a county-wide program. The initial theory is to train persons that could later be used as volunteers, coordinated through the county volunteer center, to assist in non-operational responses during disaster such as shelter set-up/staffing.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	1
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-Petaluma-42. Community Emergency Preparedness Webpage

Lead Agency:	Fire Department, Floodplain Administrator, Open Government
Supporting Entities:	Sonoma County, Neighboring Jurisdictions, Mutual Aid Providers, Community-Based Organizations, Community Foundation Sonoma County
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, and Wildfire
Description of the Problem:	People living in Petaluma rely on the City for information related to how they can be better prepared for disaster. The City has substantial information currently on its website and available at City offices and the public library. The content should be better consolidated and streamlined to make it easier to read and understand.
Description of the Solution:	The City should convey emergency preparedness information to a wide audience, including the business community, which means developing communication tools in many different formats and languages, if needed. Printed and digital material regarding all types of emergencies and disaster placed at important targeted sites in the City would help educate the community. The City would develop emergency preparedness outreach materials that address differences in adaptive capacity, as some community members in Petaluma may need financial assistance, or help accessing both printed and digital information. This action would involve developing an advisory group of community members who can address social equity issues and provide regular outreach within the community. It would also involve collaboration with regional partners that support resiliency through preparedness education and training.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund, Staff Time
Implementation Timeline:	1 to 5 years
Objectives Met:	13
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Program
CRS Category	Public Information
Priority	Medium

7. CITY OF ROHNERT PARK

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Rohnert Park with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the City. The annex presents a general overview of Rohnert Park, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

7.1 HAZARD MITIGATION PLANNING TEAM

The City of Rohnert Park identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Department of Public Safety represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group, and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The City officials who participated in the development of the annex are listed below and shown in Table 7-1. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Adam Strongman, Lieutenant

Address: 130 Avram Avenue, Rohnert Park, CA 94928

Phone Number: 707-588-3529

Email: astrongman@rpcity.org

Alternate Point of Contact: ~~Aaron Johnson~~, Deputy Chief

Address: 130 Avram Avenue, Rohnert Park, CA 94928

Phone Number: 707-588-3580

Email: ~~ajohnson@rpcity.org~~

NFIP Administrator:

Title: Marcela Piedra, City Manager

Address: 130 Avram Avenue, City Hall, Rohnert Park, CA 94928

Phone Number: 707-588-2223

Email: admin@rpcity.org

Table 7-1. Additional Contributor

Name	Department	Position	HMP Contribution
Aaron Johnson	Public Safety	Deputy Chief	Point of contact for County HMP team.
Adam Strongman	Public Safety	Lieutenant of Operations	Point of contact for County HMP team.
Alicia Giudice	Development Services	Director	Provided high-level oversight and guidance.
Mary Grace Pawson	Development Services	Planning Manager	Provided overall guidance and supervision for the team in 2024.
Christina Ratcliffe	Development Services	Interim Planning Manager	Provided overall guidance and supervision for the team from late 2024 through 2025.
Robert Curry	Development Services	Building Official	Technical advisor regarding building standards, assessment of city facilities and permit history.
Justin Brandt	Development Services	Deputy City Engineer	Consulted on infrastructure and engineering items, including floodplain information.
Elliott Pickett	Community Development	Associate Planner	Assisted with coordination and drafting content.
Parish Burns	Community Development	Planning Subconsultant	Jointly responsible for inter-department coordination to prepare technical information to Sonoma County.
Jahfer Aguirre	Community Development	GIS Analyst	Synthesized data for permit history and flood risk areas. Prepared maps and exhibits for outreach events,
Emily Quig	Community Development	Housing Services Coordinator	Supported equitable outreach process to nonprofits and vulnerable populations.
Cortney Bowser	Public Works	Management Analyst	Public Works liaison in cross-team coordination efforts. Provided data, reviewed draft documents, critical facilities assessment & analysis.
Alison Mattioli	City Administration	Public Communications	Administration liaison during project kick-off. Responsible for general community outreach including social media, newsletters, and general mailing list.
Desiree McGunagle	City Administration	Public Communications	Administration liaison during 2025 project period. Responsible for general community outreach including social media, newsletters, and general mailing list.

7.2 COMMUNITY PROFILE

Rohnert Park is Sonoma County's third largest city, located in Sonoma County’s southern central plan. Thoughtfully designed for families, it is one of the first planned communities in the United States, with each neighborhood designed around a park and elementary school (Sonoma EDC 2024)l.

According to the U.S. Census, the 2020 population for Rohnert Park was 44,390, an 8.0 percent increase from the 2010 Census. The 2023 American Community Survey (ACS) estimated that the 2023 population of Rohnert Park was 44,461; this estimate is used throughout the HMP.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the 2020 U.S. Census indicates that 6.0 percent of the population is 5 years of age or younger, 13.7 percent is 65 years of age or older, 3.3 percent is non-English speaking, 10.1 percent is below the poverty threshold, 11.0 percent is considered disabled, 1.9 percent are single parent households, and 7.3 percent have no vehicle access.

In 2024, the total homeless population in Rohnert Park was reported as 279 individuals, comprising 74 sheltered and 205 unsheltered persons (Sonoma County 2024).

7.2.1 Race and Ethnicity Data

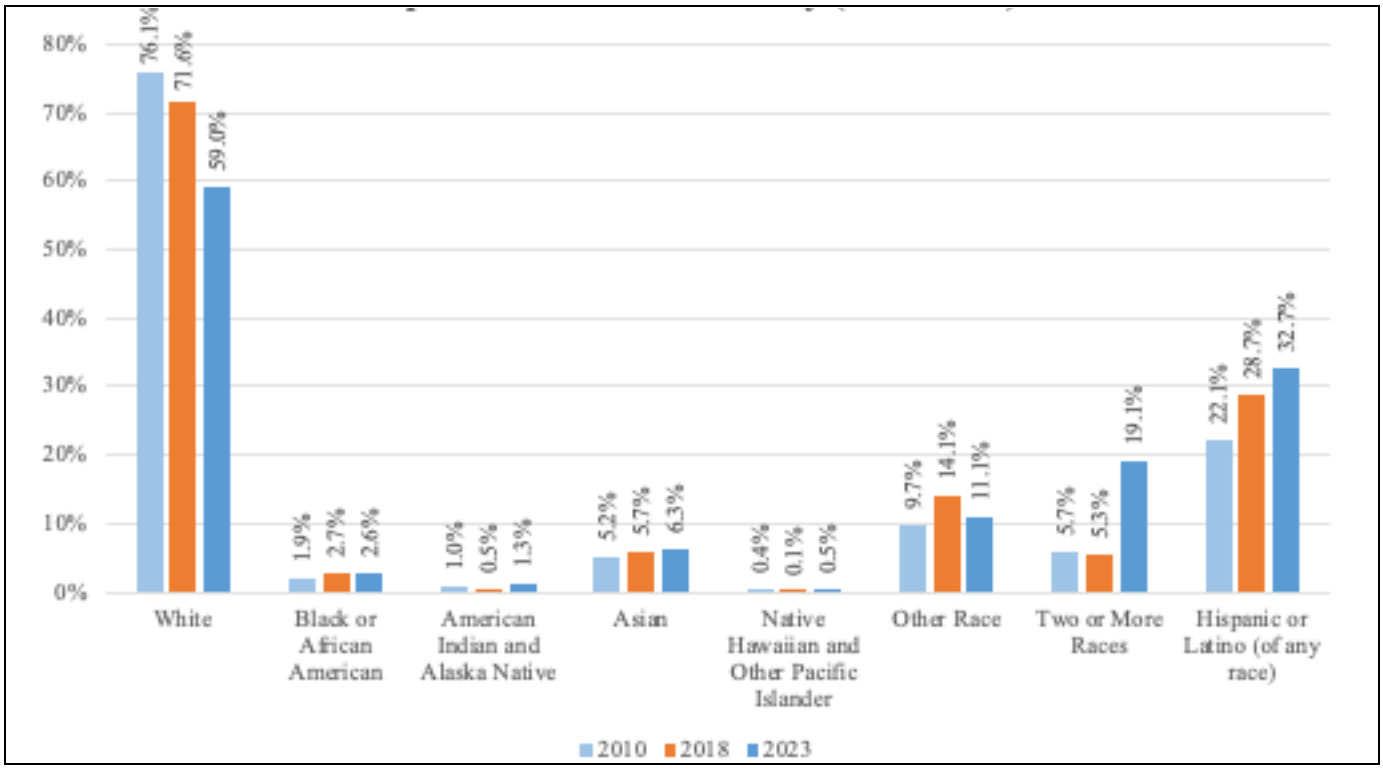
Census Bureau data shows that the racial and ethnic diversity of Rohnert Park's population is increasing over time. Although the racial representation of residents remains predominantly white (59 percent), the proportion of multi-racial residents increased by approximately 17 percent between 2010 and 2023. The shift is not a result of a substantial population increase isolated to a specific race. Rather, significantly more people representing two or more races are reflected in the current population. Only 5.7 percent of the population were in this category in 2010. The 2023 data estimates report 19.1 percent for this racial group. When considering ethnicity among these racial groups, the data shows a 10.6 percent increase in Hispanic or Latino heritage among racial categories between 2010 and 2023. Table 7-2 and Figure 7-1 illustrate these changes in racial and ethnic representation over time using the data points from 2010, 2018 and 2023.

Table 7-2. Rohnert Park Race and Ethnicity Data Comparison

Race and Ethnicity	2010	2018	2023
Race			
White	76.1%	71.6%	59.0%
Black or African American	1.9%	2.7%	2.6%
American Indian and Alaska Native	1.0%	0.5%	1.3%
Asian	5.2%	5.7%	6.3%
Native Hawaiian and Other Pacific Islander	0.4%	0.1%	0.5%
Other Race	9.7%	14.1%	11.1%
Two or More Races	5.7%	5.3%	19.1%
Ethnicity			
Hispanic or Latino (of any race)	22.1%	28.7%	32.7%

Source: U.S. Census Bureau 2010, American Community Survey 5-Year Estimates, 2018 & 2023

Figure 7-1. Rohnert Park Race & Ethnicity Comparison (2010 – 2023)



Sources: U.S. Census Bureau 2010, American Community Survey 5-Year Estimates, 2018 & 2023

7.2.2 Disabled Population

US Census data estimates that 11 percent of Rohnert Park's population (e.g. 4,893 people) have a disability. The disabilities vary between age groups and racial groups. However, most disabilities are among adults, ages 35 and older. While the total number of people with disabilities in the 35-64 year old age group (1,822) is similar to the number of people with disabilities aged 65 and older (1,891), the proportion of people with a disability over the age of 75 years is almost half (49.6 percent) the population in that age group. Table 7-3 reflects the prominence of the most common disability types within the Rohnert Park population. Please note that people may report more than one disability.

Table 7-3. Most Common Disability Types in the Rohnert Park Population

% of Disabled Population	Quantity	Disability Type
2.6%	1,163	Hearing Difficulty
1.5%	652	Vision Difficulty
4.6%	1,920	Cognitive Difficulty
5.5%	2,281	Ambulatory Difficulty
1.7%	709	Self-Care Difficulty
4.6%	1,627	Independent Living Difficulty

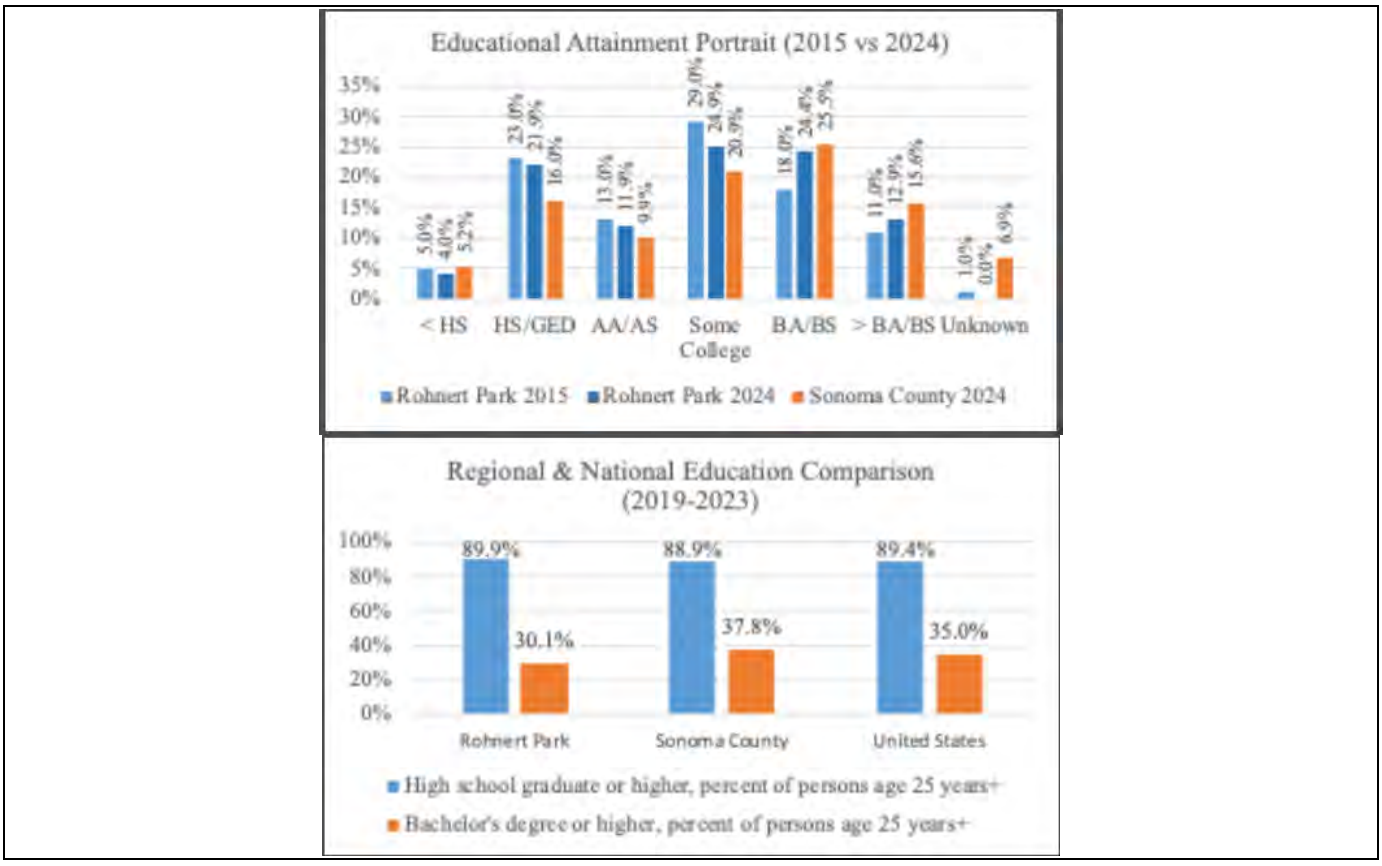
Sources: Disability Characteristics, Table S1810, U.S. Census Bureau, 2019-2023 American Community Survey 5-Year Estimates

7.2.3 Educational Attainment

Census Bureau data attained from the American Community Survey 2019-2023 5-yr estimate and the results of the Sonoma County Economic Development *2024 City Snapshot profiles* show that nearly 90 percent of Rohnert Park residents aged 25 or over have graduated high school, with 62 percent taking some college coursework or completing a degree at some point. This is a 3 percent increase from the same 2015 educational subcategories. The decrease in the proportion of people with some college course was offset by greater attainment of degrees in higher education. The percentage of people who obtained bachelor's degrees increased from 18 to 24.4 percent, while completion of graduate or professional degrees increased from 11 to almost 13 percent.

The Sonoma County 2024 City Snapshot data, shown in Figure 7-2, indicates that the high school graduation/GED rate of Rohnert Park residents (21.9 percent) is higher than Sonoma County (16 percent). The US Census 2019-2023 American Community Survey provides data for a regional and national perspective, in which Rohnert Park is approximately 1 to 1.5 percent above the County and Federal rates of population 25 years or older attaining high school graduation or higher levels of education. However, when isolating data for only the population that attained a bachelor's degree or higher, Rohnert Park trails with 30.1 percent of the population compared to County (37.8 percent) and Federal (35 percent) levels.

Figure 7-2. Educational Attainment Comparison



Source: 2024 City Snapshot, Sonoma County EDC; US Census Bureau, ACS 2019-2023 5-yr estimate

7.2.4 Economic Trends and Employment

Sonoma County is a region known as a world destination for tourism related to the wine and beer industry and its natural attractions of redwood forests and coastal fishing. The 2024 *City Snapshot*, a local economic report produced by the Sonoma County Economic Development Collaborative, identifies the top five industries by employment share in Rohnert Park Figure 7-3. Healthcare/social assistance is the largest employment sector in the City with 14.3 percent share. Retail trade (13 percent), construction (10.9 percent), accommodation/food service (10.2 percent) and educational services (8 percent) are the other top employment sectors. Labor force participation in Rohnert Park (71 percent) edges out the County rate (62.3 percent), though the unemployment rate (4.3 percent) is slightly higher than that of Sonoma County Figure 7-4.

Figure 7-3. Rohnert Park Top 5 Industry Employment Breakdown (2024)

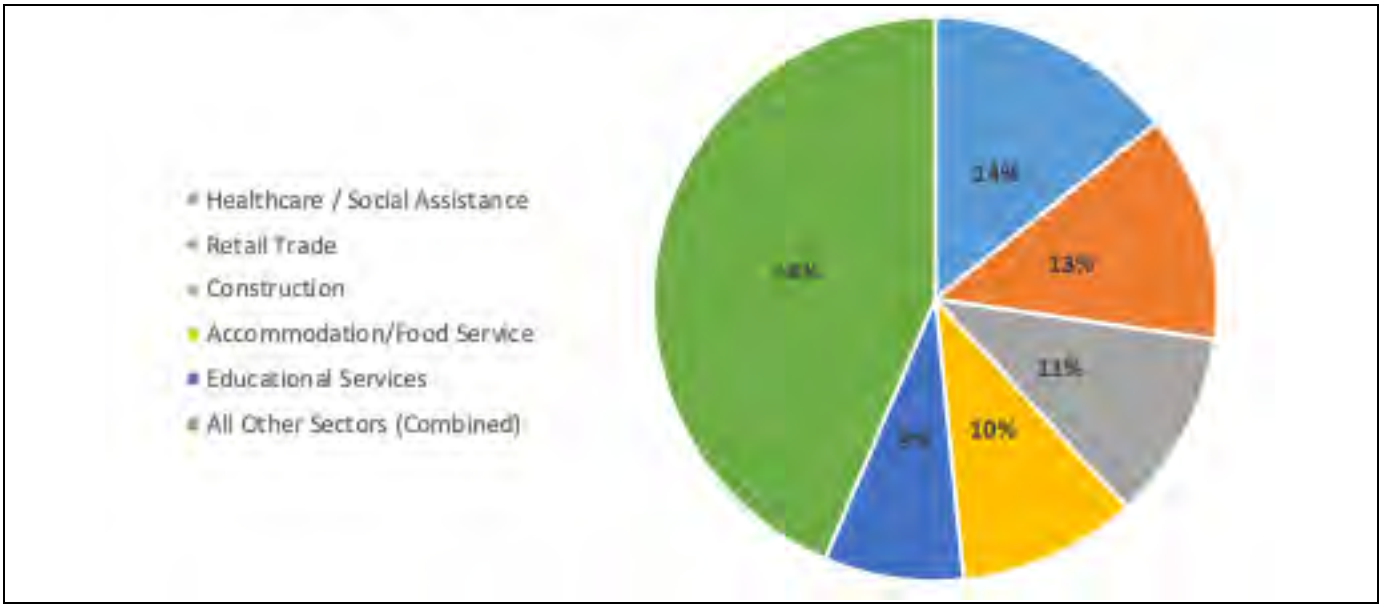


Figure 7-4. Employment Conditions, City & County



Although the 2024 economic data reflected a healthy economy, 2025 presents significant uncertainty due to policy changes at the federal level which contribute to economic volatility. The Sonoma County

Economic Development Collaborative released a First Quarter Economic Outlook report in March 2025 that states “The U.S. economy is showing signs of deceleration as growth slows, inflation picks up, and uncertainty rises.” GDP projections estimate a drop from the 3 percent growth observed last year to 2 percent growth this year. Surging consumer inflation, higher interest rates, disruptions from regional challenges such as avian flu and wildfires, and uncertainty related to tariffs have contributed to slowing growth and record indecision among businesses.

Amidst the national economic factors, Sonoma County projects steady but unremarkable economic growth, with tourism recovering and healthcare employment remaining strong. Interest rates will continue to moderate goods-producing industries such as manufacturing and construction. However, the County’s long-term outlook acknowledges growth will depend on “stabilizing housing affordability, policy clarity, and sustained strength in key industries like healthcare, manufacturing, and tourism (First Quarter Economic Outlook Report, Sonoma County Economic Development Collaborative, March 2025).”

7.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Rohnert Park completed specific activities to collect input on hazards and vulnerability from the people the City serves. Multiple opportunities for public participation were offered throughout the planning, draft preparation, and approval processes. Representative screenshots of these outreach efforts are provided below. Additional examples can be found in Appendix D (Outreach Documentation).

Team coordination and public outreach for hazard mitigation planning began in Summer 2024 with initial staff preparation meetings, outreach letters to potential stakeholders, and a community outreach event. In December 2024, the update process was presented at the Planning Commission with an opportunity for public comment.

Meetings and events were held on the following dates:

- July 29, 2024 – Team Meeting: Discussed HMP process and team member roles; began preparation of the public involvement campaign.
- August 6, 2024 – Outreach Event: Outreach tabling at National Night Out Event with information about the HMP update and an opportunity to provide input on risks, assets, and vulnerabilities.
- August 22, 2024 – Stakeholder Meeting: Discussed HMP and gathered insight on the needs and vulnerabilities of homeless and unsheltered populations from local service providers.
- September 5, 2024 – Team Meeting: Discussed identification of critical facilities and results of risk assessment.
- December 12, 2024 – Planning Commission Meeting: Staff presentation on the process and status of the plan update with an opportunity for the public and the commissioners to provide comments.

Digital outreach was conducted as follows:

- August 12, 2024 – Email Blast: Invite sent to business, non-profit and academic contacts encouraging participation.
- August 15, 2024 – E-newsletter feature in The Friendly Spotlight. Notified community of how to get involved.
- August 20, 2024 – E-newsletter feature in The Friendly Spotlight. Notified community of how to get involved.
- September 9, 2024 – Announced the start of the HMP update on the City's Facebook page.
- September 12, 2024 – E-newsletter feature in The Friendly Spotlight. Notified community of how to get involved.
- December 7, 2024 – For those signed up to receive information on Planning Commission meetings, a bilingual (Spanish/English) email notice was sent for the 12/12/24 Planning Commission presentation on the HMP update.

With the intent of demonstrating procedural equity, Rohnert Park sought an inclusive process that allowed for meaningful input from marginalized and vulnerable community members. The nonprofit organizations providing services to the homeless population were the most involved stakeholder group during early outreach. Ten representatives from local partner organizations that serve and advocate for unhoused and housing insecure residents attended a hazard mitigation stakeholder meeting on August 22, 2024. This meeting provided staff with insights on the varying needs and priorities of these populations under different hazard scenarios, such as flooding, earthquake and extreme heat weather events.

Hazard mitigation recommendations received at this meeting include:

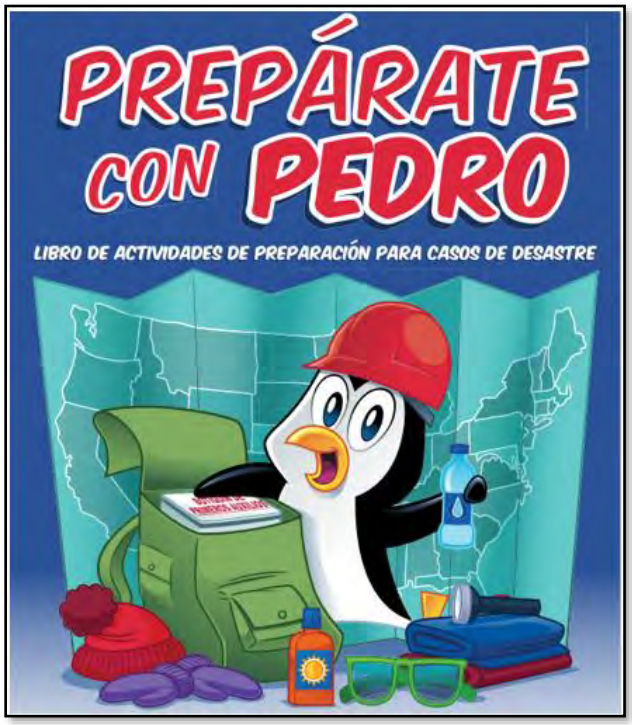
- The need for more effective, pre-wet season, early notification for flood events. Creek banks are common locations for camping.
- The importance of interagency coordination and communication between the City and County regarding identifying the location of encampments, especially along quickly rising creeks.
- Interim housing facilities need technologies to stay connected to lifelines during power and/or cell tower outages.
- Resources are needed to transport people to safe locations from interim housing or encampments when evacuations are necessary.
- For unsheltered residents, prolonged exposure to rain is a big risk, even if flooding is not present.
- Improve notice to unsheltered residents when mitigation services are available (ex. Cooling centers). Recommendations include flyer postings at frequently visited facilities, electronic billboards, mobile alerts and personal outreach to known individuals without a phone.
- Vehicles can serve as short-term sitting areas to escape extreme temperatures.
- Operating shelters in the four corners of the City will mitigate hazard risks.

7.3.1 Public Outreach and Events

National Night Out. The planning team hosted an outreach booth at the Public Safety National Night Out event on the Rohnert Park-Cotati Library Plaza on the afternoon and evening of August 6, 2024. This event provided a key opportunity for the planning team to engage with residents interested in public safety.

Historically, many opportunities for public input in government planning processes were not accessible for working families because events were held during times that conflicted with work schedules and childcare needs. The outreach events and engagement opportunities for this planning process were designed to minimize physical, social, and temporal barriers to participation. The outreach booth held at the City's National Night Out Event extended to evening hours, in a location with proximity to transit, and in a venue that allowed for children. In addition, the National Night Out event was designed specifically to be engaging for children, with disaster preparedness coloring and activity sheets provided in both English and Spanish (Figure 7-5).

Figure 7-5. Children's Activity Sheet – Spanish



Residents at this event expressed the most concern about wildfire, followed by extreme heat, earthquakes, and climate change. The national night out engagement opportunities are shown in Figure 7-6 and Table 7-4.

The Planning Team received specific feedback from residents on risks and vulnerabilities that should be addressed, including the following:

- Ensure elderly residents are considered in evacuation planning and communication methods.
- Consider the needs of disabled residents during evacuation events. Access to power for medical equipment and access to heating/cooling centers are important. The existing paratransit system is not considered user-friendly.
- Help enable the continuity of business; especially keeping small local businesses running after a disaster event.
- The vulnerability of existing buildings to fire and seismic hazards.
- The impact existing parking lots have in contributing to heat island effect.
- The vulnerability of the natural environment – such as trees - to hazards and the importance of keeping them safe and healthy.

Figure 7-6. National Night Out Engagement

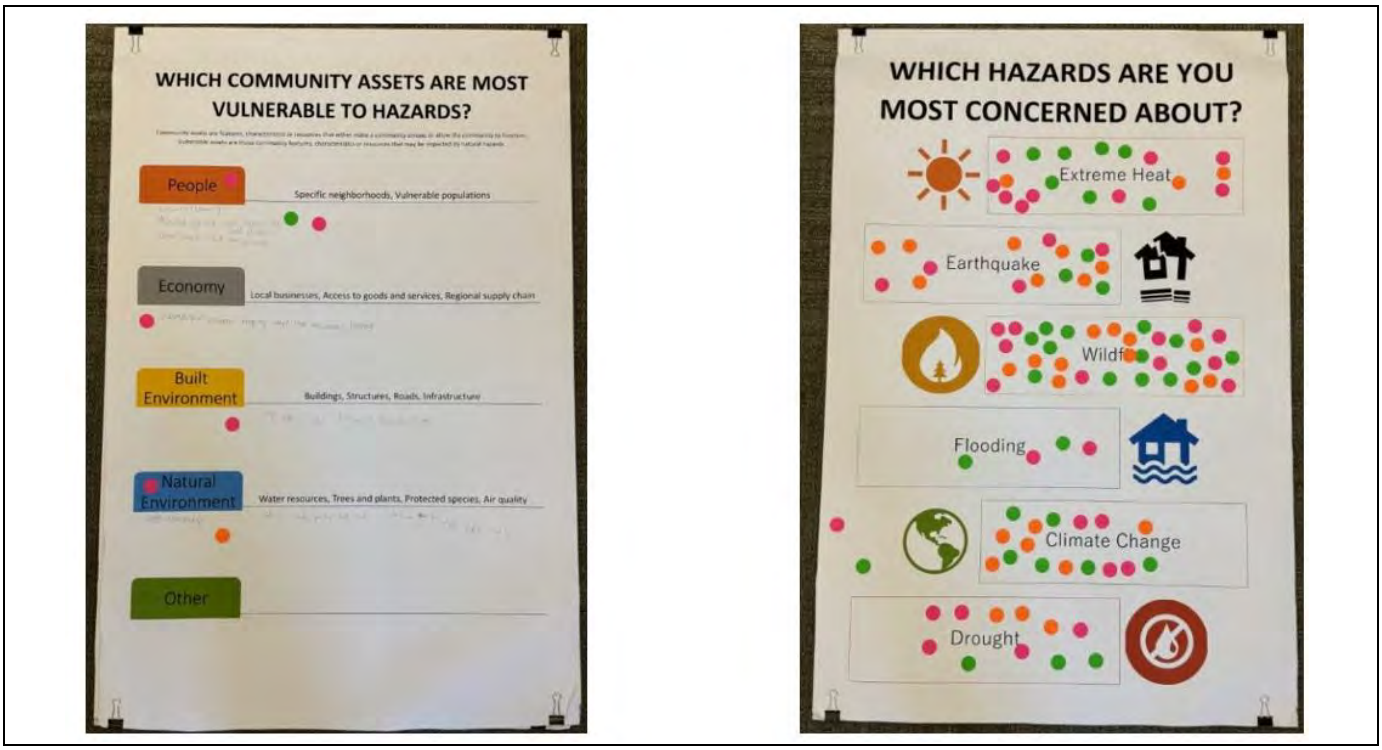


Table 7-4. National Night Out - Most Concerning Hazard

Hazard Type	Number of Responses
Wildfire	35
Extreme Heat	19
Earthquake	16
Climate Change	16
Drought	11
Flooding	4

Newsletters, Social Media, and Email Distribution List. Early in the HMP update process, the City released an informational article on the Plan in the City's bimonthly newsletter, *the Friendly City Spotlight (*Figure 7-7*),* and highlighted the update on social media (Figure 7-8). The City also maintained an email contact list which was used at key times throughout the update process, providing information about upcoming public meetings about the HMP and the availability of the public review draft. These digital outreach methods provided flexible opportunities for residents and stakeholders to contribute to the hazard mitigation plan process, based on their schedule availability.

Planning Commission Workshops. The HMP team presented the update process for the HMP at the Planning Commission Meeting on December 12, 2024. A bilingual Spanish/English meeting notice was prepared for public notification, shown in Figure 7-9. The meeting location was also located near public transit lines and allowed for children to attend.

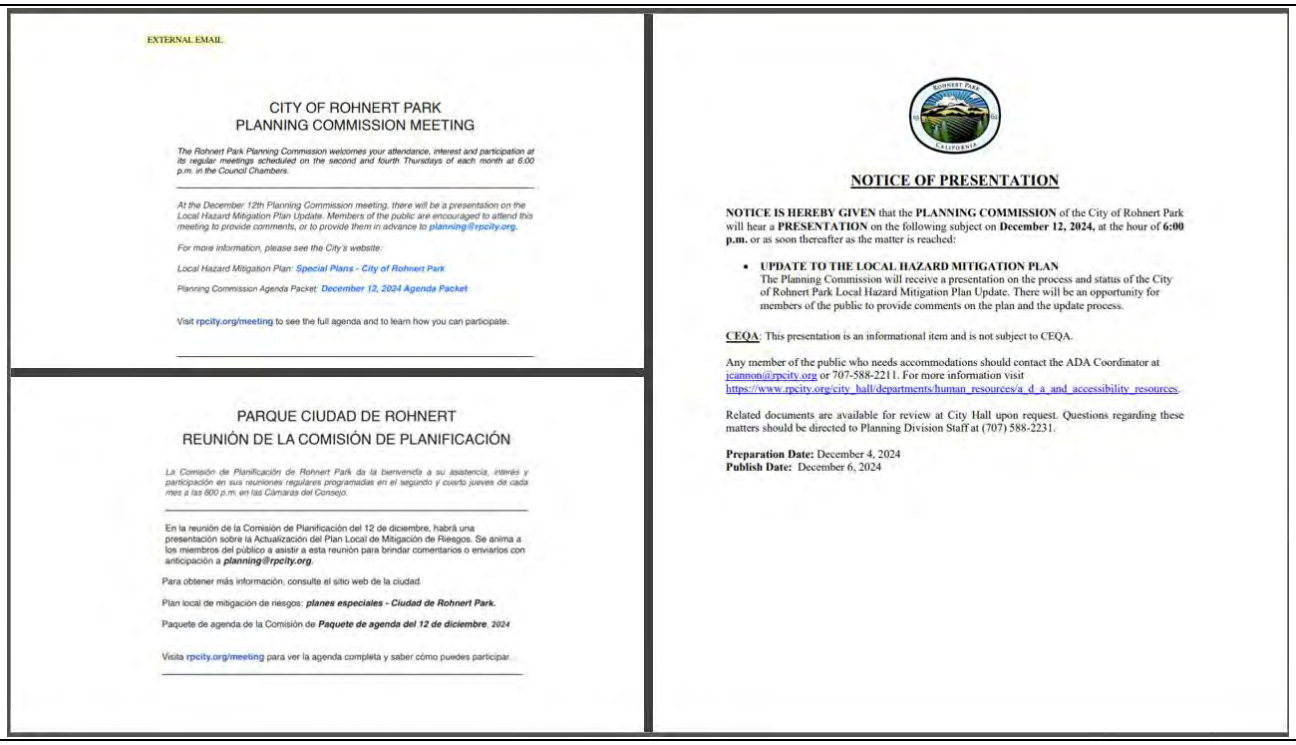
Figure 7-7. Newsletters



Figure 7-8. Social Media Post



Figure 7-9. Planning Commission Meeting



EXTERNAL EMAIL

CITY OF ROHNERT PARK
PLANNING COMMISSION MEETING

The Rohnert Park Planning Commission welcomes your attendance, interest and participation at its regular meetings scheduled on the second and fourth Thursdays of each month at 6:00 p.m. in the Council Chambers.

At the December 12th Planning Commission meeting, there will be a presentation on the Local Hazard Mitigation Plan Update. Members of the public are encouraged to attend this meeting to provide comments, or to provide them in advance to planning@rpcity.org.

For more information, please see the City's website:

Local Hazard Mitigation Plan: ***Special Plans - City of Rohnert Park***

Planning Commission Agenda Packet: ***December 12, 2024 Agenda Packet***

Visit rpcity.org/meeting to see the full agenda and to learn how you can participate.

PARQUE CIUDAD DE ROHNERT
REUNIÓN DE LA COMISIÓN DE PLANIFICACIÓN

La Comisión de Planificación de Rohnert Park da la bienvenida a su asistencia, interés y participación en sus reuniones regulares programadas en el segundo y cuarto jueves de cada mes a las 600 p.m. en las Cámaras del Consejo.

En la reunión de la Comisión de Planificación del 12 de diciembre, habrá una presentación sobre la Actualización del Plan Local de Mitigación de Riesgos. Se anima a los miembros del público a asistir a esta reunión para brindar comentarios o enviarlos con anticipación a ***planning@rpcity.org***.

Para obtener más información, consulte el sitio web de la ciudad.

Plan local de mitigación de riesgos: ***planes especiales - Ciudad de Rohnert Park.***

Paquete de agenda de la Comisión de ***Paquete de agenda del 12 de diciembre, 2024***

Visita rpcity.org/meeting para ver la agenda completa y saber cómo puedes participar.

NOTICE OF PRESENTATION

NOTICE IS HEREBY GIVEN that the **PLANNING COMMISSION** of the City of Rohnert Park will hear a **PRESENTATION** on the following subject on **December 12, 2024,** at the hour of **6:00 p.m.** or as soon thereafter as the matter is reached:

- **UPDATE TO THE LOCAL HAZARD MITIGATION PLAN**
  The Planning Commission will receive a presentation on the process and status of the City of Rohnert Park Local Hazard Mitigation Plan Update. There will be an opportunity for members of the public to provide comments on the plan and the update process.

CEQA: This presentation is an informational item and is not subject to CEQA.

Any member of the public who needs accommodations should contact the ADA Coordinator at jcannon@rpcity.org or 707-588-2211. For more information visit https://www.rpcity.org/city_hall/departments/human_resources/a_d_a_and_accessibility_resources.

Related documents are available for review at City Hall upon request. Questions regarding these matters should be directed to Planning Division Staff at (707) 588-2231.

Preparation Date: December 4, 2024
Publish Date: December 6, 2024

City Outreach Documentation. On October 21, 2025, the City published a Newsflash on its website announcing the HMP public comment period. This included an alert on the main landing page and a linked page with detailed information. Public meetings scheduled for October 27, 29, and 30 were also listed under the City's Events section, with individual event pages providing additional details. Similarly, the Development Services landing page featured these meetings on its upcoming calendar of events. All notices on the City website included an embedded Google Translate tool, allowing immediate translation into multiple languages.

Additional outreach efforts included social media posts on Facebook, Instagram, and LinkedIn, as well as hard-copy flyers in English and Spanish displayed on the City Hall bulletin board. On October 22, a Constant Contact email was sent to all individuals who signed up for project updates via the Interested Parties List.

Screenshots of all these efforts can be found in Appendix D (Outreach Documentation).

7.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Rohnert Park invited stakeholders relevant to their planning process to participate by attending an HMWG meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

7.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. Emergency management officials provided guidance on preparedness and response capabilities. Fire protection services and regional water agencies offered insights into wildfire risk, water infrastructure, and emergency response coordination. These agencies played a key role in shaping mitigation strategies and ensuring alignment with existing emergency plans.

- County of Sonoma Department of Health
- County of Sonoma Department of Emergency Management
- Rancho Adobe Fire Protection District
- Sonoma Water

7.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. Their involvement ensured that proposed actions were feasible and aligned with local codes and ordinances.

- Sonoma County Local Agency Formation Commission

7.4.3 Neighboring Communities

Rohnert Park has strong working relationships with neighboring agencies and has entered into cooperative agreement to mitigate hazards with Cotati and Santa Rosa. The City of Cotati partnership provides an alternate Emergency Operation Center (EOC) site at 203 West Sierra Avenue, in case of a disaster that renders Rohnert Park's EOC facility disabled. The police departments in Cotati and Rohnert Park also have cooperative working relationships assisting each other for emergencies. On April 15, 2025, the cities partnered in a joint EOC activation exercise, working together during a mock disaster scenario.

- City of Cotati
- City of Santa Rosa
- County of Sonoma
- Federated Indians of Graton Rancheria

7.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community and academic institutions. Local businesses contributed perspectives on economic resilience and infrastructure continuity. Academic institutions provided technical expertise and helped assess long-term risks. This diverse input helped ensure that the plan addressed the needs of the broader community and supported public-private collaboration in mitigation efforts.

- Sonoma State University
- Cotati-Rohnert Park Unified School District
- Rohnert Park Chamber of Commerce

7.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- Catholic Charities of the Diocese of Santa Rosa – HOST
- Unsheltered Friends Outreach
- HomeFirst
- Petaluma People Service Center – SAFE Team

7.5 CHANGE IN COMMUNITY PRIORITIES

Rohnert Park was not a participant in the 2021 HMP. It previously held its own single-jurisdiction HMP. The mitigation action priorities that are carried forward to the Sonoma County HMP are not significantly different. However, attention was given to developing new mitigation action items for extreme heat as a new hazard and considering the need to make cooling centers more accessible for the unhoused population.

7.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Rohnert Park performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Rohnert Park to identify opportunities for integrating mitigation concepts into ongoing City procedures.

7.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The sections below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained

during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 7-5 summarizes the codes, ordinances, and regulations available to the City of Rohnert Park.

Table 7-5. City of Rohnert Park Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	Rohnert Park Municipal Code Title 15 & Title 24 California Building Code Standards *Ord. No. 971, § 2, adopted Nov. 22, 2022*	The building code has provisions for earthquake safety, wind damage, and general life safety of building occupants. Title 24 contains energy conservation measures.	Local Title 15 State Title 24	Building Official Development Services Department
Zoning/Land Use Code	Rohnert Park Municipal Code Title 17, Ord. 695, 2003.	Includes regulations for creek protection zones, fire hazard standards, and undergrounding utilities. Tree preservation and protection (Chapter 17.15) and parking lot landscaping standards (17.16.100) protect against extreme heat. Findings for discretionary applications such as conditional use permits must be made related to public health, safety, and welfare.	Local	Planning Division Development Services Department
Subdivision Code	Title 16. Ord. 744, 2005	16.02.070 – Environmental impact: Requires environmental impact analysis for all parcel or tentative map applications. 16.02.080 – Grading and erosion control: Every map approved is conditioned on compliance with city grading ordinance.	Local	Development Services Director/Development services staff

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Stormwater Management Code	Title 13 – Water and Sewers Chapter 13.64 – Stormwater Discharge. Ord 714, 2004. Chapter 15.48 – Regulations in Flood Hazard Areas. Ord. 791, 2007. Chapter 16.26 - Copeland Creek Drainage Plan Ord. 744, 2005	Chapter 13.64 regarding stormwater discharge pertains primarily to protecting water entering the storm drain system from pollutants, especially from illegal discharge and spills. It is not currently integrated with natural hazard mitigation planning. Chapter 15.48 requires all development in floodplains to comply with flood hazard reduction measures. Chapter 16.26 requires payment of a fee for any new development or final subdivision map for the purpose of defraying the costs of constructing planned drainage facilities for the removal of surface and storm waters from the drainage area.	Local	Development Services City Manager / Engineering Division
Growth Management	RPMC Chapter 17.19 (Ord. 711 § 2 (part), 2004: Ord. 695 § 3, 2003)	If a residential growth cap were to be triggered by the growth cap, there are factors for prioritizing the allotment of permits. These include smart growth principles, maintenance of city services, and sustainability, all which could relate to hazard mitigation	Local	Development Services Department/Planning Division
Flood Damage Prevention Ordinance	Chapter 15.48 – Regulations in Flood Hazard Areas. Ord. 791, 2007. Title 16 - Subdivisions, Chapter 16.26 - Copeland Creek Drainage Plan. Ord. 744, 2005.	Chapter 15.48 requires all development in floodplains to comply with flood hazard reduction measures. Chapter 16.26 requires payment of a fee for any new development or final subdivision map for the purpose of defraying the costs of constructing planned drainage facilities for the removal of surface and storm waters from the drainage area.	Local	Development Services City Manager / Engineering Division
Wellhead Protection	Chapter 13.02.120 – Wellhead protection (Ord. No. 965, § 3, 5-10-2022)	This is currently a brief code section that outlines activities prohibited within 600 feet from any wellhead used by the city for water supply. There is no current integration with a HMP.	Local	Public Works and Engineering Divisions

Planning Documents

Table 7-6 summarizes the planning documents available to the City of Rohnert Park.

Table 7-6. City of Rohnert Park Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	Adopted and Draft update	Addresses environmental conservation, safety, and smart growth. Includes Open Space - Environmental Conservation District zone and community separator/urban growth boundary. Land use policies discourage development or redevelopment within natural hazard areas	Local	Development Services Dept/Planning Division
Capital Improvement Plan	Five-Year Capital Improvement Plan Budget FY 2023-24 through FY 2027-28	The Capital Improvement Plan captures projects related to some of the mitigation action items in the HMP. For example, seismic retrofitting for a water tank, the installation of fire watch cameras for fire risk areas, and building condition assessments.	Local	Public Works
Floodplain Management or Watershed Plan	No, alternative Urban Water Management Plan. Chapter 15.48 – Regulations in Flood Hazard Areas. Ord. 791, 2007. 2020 Urban Water Management Plan.	The City does not maintain a standalone floodplain or watershed management plan. Its 2020 Urban Water Management Plan includes infrastructure planning related to flooding and stormwater reliability, particularly in relation to drought and emergency scenarios. The City's participation under the Phase I MS4 Permit addresses flood-related risks through hydromodification controls and runoff management strategies.	Local	Engineering, Public Works

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Stormwater Management Plan	City's MS4 permit requires compliance with the City of Santa Rosa and County of Sonoma's 2017 LID Technical Design Manual. Revised manual, Dec 2020	Rohnert Park previously operated under a Stormwater Management Plan as part of the Phase II permit. After transitioning to the Phase I permit under the North Coast Regional Water Board, that plan was replaced with the required components of the Phase I program. We now follow all required elements including construction site controls, public outreach, municipal operations, and post-construction runoff reduction through participation in the regional Phase I program. The City also adopts and implements the Santa Rosa and County of Sonoma Low Impact Development (LID) Technical Design Manual, which establishes standards for post-construction control measures. This manual is referenced in our municipal code and required for development projects that meet LID thresholds. The LID approach helps reduce flood and pollutant risks from development and supports overall hazard mitigation goals. LID is intended to minimize the impact of development —our buildings, roads, parking lots, driveways— on our watersheds. LID correlates the relationship between storm water runoff and the land, including our built environment. LID techniques lessen the quantity of runoff and improve its quality by "slowing, spreading, or sinking" runoff on the site as much as possible. Slowing down storm water runoff keeps the water in the channels from rising too high and too fast and devastating communities downstream. Spreading does the same, helping to dissipate the storm water's power. This principal reduces flood risk during heavy precipitation events.	Local, County	Public Works and Engineering Divisions
Stormwater Pollution Prevention Plan	Site-Specific	The City maintains site-specific SWPPPs for municipal facilities where required under the Phase I MS4 Permit, such as the Corporation Yard. These plans identify pollutant sources and prescribe site-specific best management practices to reduce the risk of pollutant discharges during rain events, or other situations, supporting hazard mitigation by protecting downstream water quality. Construction SWPPPs are also required for development projects disturbing more than one acre under the Construction General Permit. These are submitted through the State Water Board's SMARTS system and must demonstrate compliance with erosion and sediment control standards.	Local	Engineering

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Open Space Plan	See Draft 2040 General Plan for open space planning goals and policies. 2025 Parks & Recreation Master Plan Update	The City does not have a distinct open space plan. However, Open Space planning is integrated into the Climate Change, Public Facilities and Services, and Resource Conservation Elements of the Rohnert Park General Plan. The Resource Conservation Element focuses on conserving and enhancing the city's natural and open space environment for present and future residents. Policies RC-7.1 through RC-7.7 outline preservation, maintenance, restoration and dedication of open space areas. Policy RSEJ-5.3 of the Racial, Social, and Environmental Justice Element seeks to identify gaps in access to natural open space areas. Policy CD-3.2 of the Community Development Element also strives to maximize resident's accessibility to open space. The Climate Change Element (Chapter 6) acknowledges the effects of climate change and the challenges it presents for preserving and maintaining the natural open space settings valued in Rohnert Park. Policies CC-7.3 through CC-7.4 call for measures to preserve open spaces, parks and creeks and integrate drought-tolerant, fire-resistant vegetation. This requirement for this type of vegetation is also reiterated in Resource Conservation Element Policy RC-6.1. The need for adoption of a flooding adaptation plan is presented in Policy CC-7.5. The Health and Safety Element (Chapter 9) identifies Policy HS-2.5 for creating defensible space to address fire mitigation in areas adjacent to agriculture or open space. The Resource Conservation Element contains Policy RC-6.5: Open Space Maintenance, which requires the City to develop measures to annually mow grass areas and cut back brush to reduce the risk of wildfire flood hazards. Policy RC-6.1 OPEN SPACE IN THE PARKS & RECREATION MASTER PLAN UPDATE The Parks & Recreation Master Plan does not provide an open space or trail-specific plan, nor does it assess the urban canopy. The City is working on developing an Urban Forest Management Plan to address urban canopy issues. The plan references many General Plan goals and policies related to open space initiatives, in an effort to acknowledge alignment with the Parks & Recreation Master Plan and the aim to further establish a well-connected park and open space network. The previous HMP was one of several documents considered as part of category prioritization for implementation.	Local	Development Services, Parks & Recreation, Public Works
Urban Water Management Plan	2020 Urban Water Management Plan	The 2020 Urban Water Management Plan includes infrastructure planning related to flooding and stormwater reliability, particularly in relation to drought and emergency scenarios. The City's participation under the Phase I MS4 Permit addresses flood-related risks through hydromodification controls and runoff management strategies.	Local	Engineering, Public Works

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Habitat Conservation Plan	Santa Rosa Plain Conservation Strategy	The City does not have a jurisdiction specific Habitat Conservation Plan. Project-level compliance with state and federal endangered species regulations is implemented through CEQA and permitting processes. The City is also within the Santa Rosa Plain Conservation Strategy authored by the US Fish and Wildlife Service in 2005.	Federal and State	Development Services
Economic Development Strategy	2020-2022 Strategic Plan Draft 2040 General Plan document	The City does not have a formal economic development strategy plan. The current sources that touch on economic development framework and goals are the 2020-2022 Strategic Plan and Element 5 of the Draft 2040 General Plan documents. Ideas are broadly introduced to support fiscal health, attract businesses, use land efficiently, and build upon existing assets. Once the 2040 General Plan is adopted, the Economic Development staff intends to create a detailed plan that expands on the General Plan framework and policies. Hazard mitigation is not currently specified in the framework or policies of the Economic Development Element of the 2040 Draft General Plan. The development of the Economic Development Plan provides an opportunity to consider natural hazard factors.	Local	Economic Development/City Admin
Community Wildfire Protection Plan	None			
Transportation Plan	None			
Climate Action/ Resilience/ Sustainability Plan	Included in Sonoma County's Climate Action 2020: Community Climate Action Plan	The plan identifies climate change hazards that could affect Sonoma County and acknowledges the complementary Hazard Mitigation Plan that is updated on 5-year cycles. The plan focuses on climate resilience measures with GHG reduction strategies such as energy conservation, vehicle trip reduction, renewable energy generation, and water conservation. The plan outlines Rohnert Park's existing actions to reduce GHG emissions and anticipates the City will achieve its reduction goal of 33% from BAU (e.g., 123,130 $MTCO_2e$) through a combination of state, regional, and local measures.	County	A variety of mechanisms across City programs and regulatory documents. Examples: Building, Public Works, Development Services, Engineering.

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Business/ Downtown Development/ Redevelopment Plan	2016 Rohnert Park Priority Development Area Plan,	The Priority Development Area Plan is the closest thing the City has to a Downtown Development Plan. It is the vision to create a downtown for the City, serving as the community's heart with mixed-use zones near the recently constructed Sonoma-Marin Area Rail Transit station. The plan outlines a vision for land uses, design guidelines, circulation and connectivity, infrastructure, and funding strategies. Flood modeling was considered in the planning process and no portion of any parcel in the PDA had FEMA floodplain designations. The construction of culverts, detention ponds and upstream detention basins were all recognized as potential mitigation for localized flooding risk along Copeland Creek.	Local	Public Works, Engineering, Development Services

Response and Recovery Planning Documents

Table 7-7 summarizes the response and recovery planning documents for the City of Rohnert Park.

Table 7-7. City of Rohnert Park Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	October 2021 Emergency Management Plan	The plans contains threat assessments for earthquakes, winter storms, floods, landslides, hazardous materials, and wildfires, among other unnatural disasters. This helps the City identify vulnerabilities and harness resources for improved emergency responses and communication.	Local	Public Safety
Public Health Plan	None			

7.6.2 Integration

Table 7-5 through Table 7-7 list the local planning mechanisms currently in place for the City of Rohnert Park. Several of these mechanisms such as the General Plan, Building Code, Zoning Code, and Capital Improvement Plan have already been integrated with the 2018 Rohnert Park Local Hazard Mitigation Plan. These documents incorporate hazard-related policies, including seismic safety standards, floodplain development restrictions, and growth management strategies. In addition, the 2018 LHMP was adopted by reference into the Safety Element of the General Plan to be compliant with California Assembly Bill 2140 and included as Annex A in the 2021 Emergency Operations Plan. The 2026 HMP will be integrated into these planning mechanisms in the same manner. Actions in the mitigation strategy requiring funding can be integrated into budget and capital improvement plans.

The HMP builds on these foundations by identifying mitigation actions that align with and support existing policies, ensuring that hazard mitigation is not treated as a standalone effort but as a coordinated component of broader community planning. As these local plans are updated, information from the HMP, such as risk assessments, vulnerability data, and prioritized projects can be incorporated to maintain consistency and reinforce long-term resilience goals.

This integration enhances the City's overall risk management framework and ensures that future HMP updates are informed by comprehensive, data-driven insights. By aligning planning efforts across departments and documents, the City strengthens its ability to mitigate risks and adapt to evolving environmental conditions.

7.6.3 Development and Permitting Capability

Table 7-8 summarizes the capabilities of Rohnert Park to oversee and track development.

Table 7-8. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Development Services Department
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	Permits are not tracked by hazard area, but we are able to collect information from different areas by mapping queries.
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	Yes	Housing Element contains inventory of land with capacity for housing development. Adopted General Plan has outdated vacant land inventory.
Describe the level of buildout in your jurisdiction.	N/A	Largely built out with opportunities for infill development and remaining development capacity at City outskirts.

7.6.4 Administrative and Technical Capability

Table 7-9 and Table 7-10 summarize potential staff and personnel resources available to Rohnert Park and their current responsibilities that contribute to hazard mitigation. To expand and improve these capabilities, the City could explore the creation of a mitigation planning, environmental, open space, or economic development committee or hiring staff who are familiar with benefit/cost analysis, environmental scientists, or a dedicated emergency manager.

7.6.5 Fiscal Capability

Table 7-11 summarizes financial resources available to Rohnert Park. To expand and improve these capabilities, the City could explore incurring debt through private activity bonds, withholding public expenditures in hazard-prone areas, or creating an open space acquisition program.

Table 7-9. Administrative Capabilities

Resources	Available?	Comment
Planning Board	Yes	Planning Commission – responsibilities include discretionary entitlement review, recommendations related to General Plan and Zoning Code
Zoning Board of Adjustment	No	-
Planning Department	Yes	Through development review process.
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Public Works
Construction/Building/Code Enforcement Department	Yes	Permit Review – checks compliance with building code seismic, floodplain, wind loads.
Emergency Management/Public Safety Department	Yes	EOC management and training, All city employees sworn in as Emergency Workers
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works handles on going stormwater and creek maintenance and monitors during storm events.
Mutual aid agreements	Yes	County and State agreements
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Civilian Fire Marshal, Fire Inspector, Director of Public Safety, Deputy Chief of Public Safety, Arborist, Public Safety Officers/Sergeants/Lieutenants., Environmental Coordinator, Environmental and Sustainability Manager, Support Services Manager, Director of Public Works, Director of Development Services
Other		

Table 7-10. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	-
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building Official Deputy Engineer
Planners or engineers with an understanding of natural hazards	Yes	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	Yes	Building inspectors trained in damage assessment of buildings; public works staff with support from outside consultants trained in damage assessment of infrastructure
Personnel skilled or trained in GIS and/or Hazus applications	Yes	In house GIS staff supported by other jurisdictions and consultants
Staff that work with socially vulnerable populations or underserved communities	Yes	Housing staff work with contracted teams to support unhoused populations
Environmental scientists familiar with natural hazards	No	-
Surveyors	Yes	The City uses outside consultants for surveying work
Emergency manager	No	-
Grant writers	Yes	Staff assigned to grant writing as needed.
Resilience Officer	Yes	-
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	N/A

Table 7-11. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes. As development occurs, developers must contribute to mitigating impacts of new development.
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No

Financial Resources	Accessible or Eligible to Use?
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes: Apportionments of revenues through voter-approved local/County sales taxes; funding through intergovernmental agreements / MOUs

7.6.6 Education and Outreach Capability

Table 7-12 summarizes the education and outreach resources available to Rohnert Park. To expand and improve these capabilities, the City could explore the creation of a citizen board or commission that addresses issues related to hazard mitigation.

Table 7-12. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Full-Time employee
Personnel skilled or trained in website development	Yes	-
Hazard mitigation information available on your website	Yes	2018 HMP available for review on website. The HMP will be added when draft and adopted plan are publicly available.
Social media for hazard mitigation education and outreach	Yes	The City utilizes Facebook for news and announcements.
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	High/Low Siren, Nixle, Social Media, Reverse 911
Natural disaster/safety programs in place for schools	Yes	Annual Safety Review
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	City staff is supported by city funded organizations. Homeless Outreach Services Team and Unsheltered Friends Outreach.
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Jurisdiction has mailing list from preparation of HMP

7.6.7 Community Classifications

Table 7-13 summarizes classifications for community programs available to Rohnert Park.

Table 7-13. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	ISO-2	2021
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	-	-

N/A = Not applicable; — = Unavailable

7.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 7-14 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 7-14. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flooding	Moderate

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

7.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 7.1 is responsible for maintaining this information.

The City has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the City on July 19, 2022. The City Manager is responsible for implementing the commitments and requirements of the NFIP by requiring permits for all development within SFHAs shown on the latest FIRM. The City Manager designates staff with appropriate expertise who review proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The City implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The local floodplain administrator uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

Table 7-15 provides a summary of NFIP compliance in Rohnert Park.

Table 7-15. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	The City Manager is responsible for floodplain management. This is implemented during engineering review under development permits.
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	The City's current storm drain master plan does not consider climate change. A plan update would be necessary to account for climate change. The Rohnert Park Draft 2040 General Plan Update contains a new climate change section that identifies flood risk areas already vulnerable to heavy rain events and acknowledges extreme precipitation events expected with climate change. City staff does not yet have technical information on expected depth or velocity of flood events under these situations.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	We need more training to better understand FEMA, NFIP, and CRS requirements.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Review permits to the Flood Plain ordinance, GIS, review SWLID. Past flooding has been mapped through GIS in addition to FEMA. FEMA layers are available to the public on our GIS.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	There have been no recent NFIP claims for staff to evaluate substantial improvement. Current staff is not acquainted with a standard process for making this determination.
What are the barriers to running an effective NFIP program in the community, if any?	Staffing and funding
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	Staff is not aware of any outstanding NFIP compliance violations.
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Current staff does not have knowledge of an existing Community Assistance Contact or the last time a Community Assistance Visit was conducted for the NFIP.
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 15.48 – Regulations of Development, Building and Improvement in Flood Hazard Areas Ordinance #791, 2007.
What is the date that your flood damage prevention ordinance was last amended?	2007
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	The Flood plain Ordinance in the Municode sets the requirements. Current staff does not know if the code exceeds minimum NFIP requirements.

Question	Comments
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	The various specific plans adopted by the City for new development require that flooding be addressed by the development. Chapter 15.48 of the Municipal Code requires all development in floodplains to comply with flood hazard reduction measures. Zoning Chapter 17.06 – Land Use Regulations – documents the requirement that plans identify hydrology, drainage and stormwater runoff conditions for development sites.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Rohnert Park does not participate in the voluntary CRS program. Staff has not received direction from City leadership to pursue the program currently.

7.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. According to the dataset, there are no repetitive loss or severe repetitive loss properties in the City of Rohnert Park.

7.7.2 Flood Vulnerability Summary

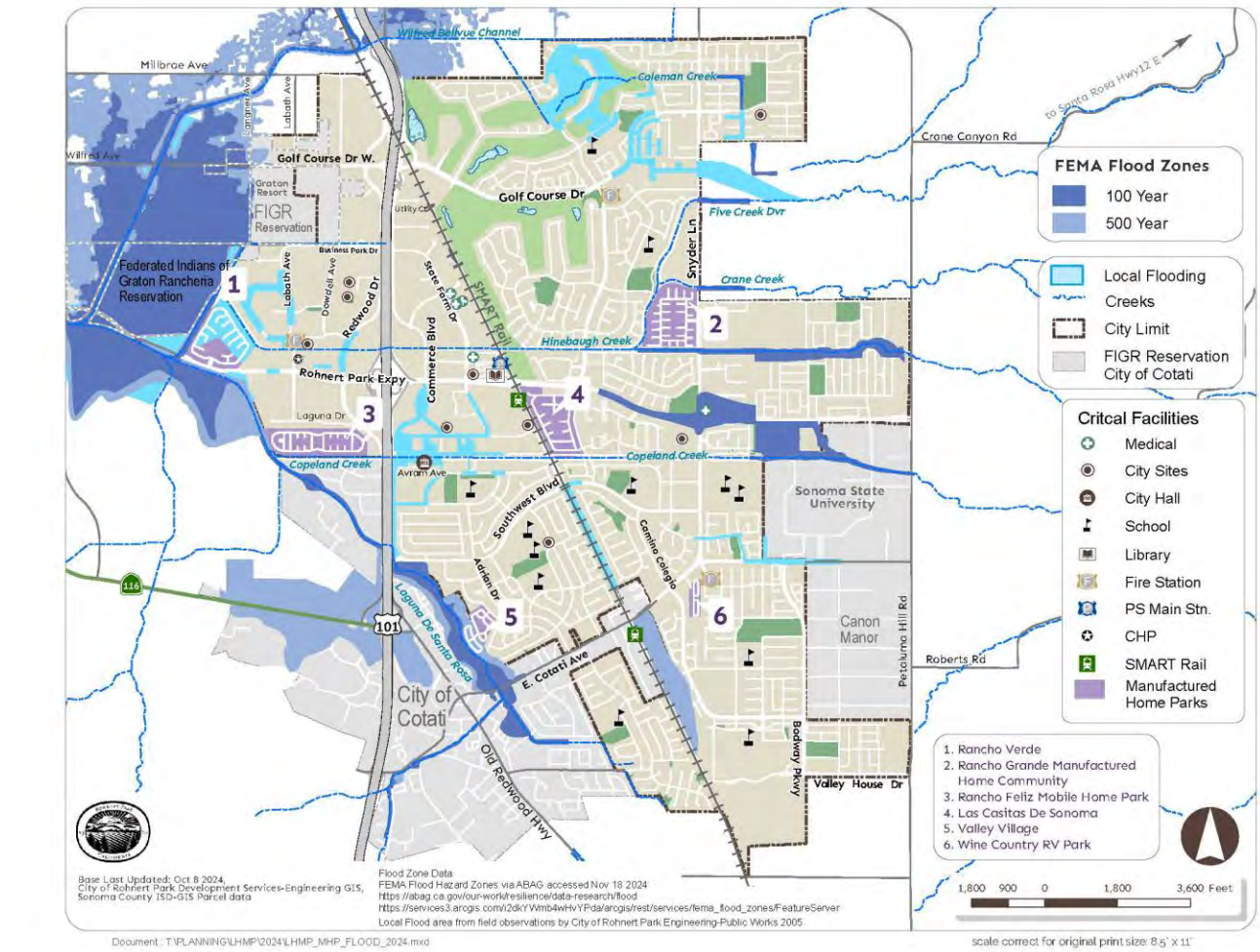
Table 7-16 provides a summary of flood vulnerability in Rohnert Park. Figure 7-10 shows the flood risk area for the City.

Table 7-16. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	Please see the Flood Risk Area map shown in Figure 7-10. Rohnert Park Flood Risk Area Map, developed by Rohnert Park GIS team. It combines areas in the 2023 FIRM map for the City with information on localized areas of flooding.
Do you maintain a list of properties that have been damaged by flooding?	Per the attached flood risk area map, the City tracks areas prone to flooding, but does not track individual properties.
Do you maintain a list of property owners interested in flood mitigation?	The City has had contact with property owners regarding flooding, but a formal list has never been maintained.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	The City does not have quantifying information for this item.
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	Staff is not aware of any current RiskMAP projects underway.
How do you make Substantial Damage determinations?	The City has not encountered significant floods with structure damage recently. The need to conduct a substantial damage determination has not arisen during the time of current building and engineering review staff.

NFIP Topic	Comments
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	There is no knowledge of NFIP claims in the past seven years.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? **If there are mitigation properties, how were the projects funded?**	The University District was mitigated through fill along Hinebaugh Creek and constructed a temporary Copeland Creek detention basin. University District submitted the LOMR.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? **If not, state why.**	Current FIRM map alone doesn't reflect all areas of flooding. Knowledge based on localized flooding from creeks and drainage channels are incorporated into the map, as well as localized flooding areas that developed as a result of changes to the landscape over time. The City roads flood, but there is currently no knowledge of loss of life or structure.

Figure 7-10. Rohnert Park Flood Risk Area Map



7.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 7-17 through Table 7-19.

Table 7-17. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2021 New Construction Permits Issued	242	5	0	247
2021 Permits Issued within SFHA	0	0	0	0
2022 New Construction Permits Issued	182	26	3	211
2022 Permits Issued within SFHA	0	0	0	0
2023 New Construction Permits Issued	89	0	1	90
2023 Permits Issued within SFHA	0	0	0	0
2024 New Construction Permits Issued	156	0	1	157
2024 Permits Issued within SFHA	0	0	0	0
2025 New Construction Permits Issued	22	0	0	22
2025 Permits Issued within SFHA	0	0	0	0

SFHA = Special Flood Hazard Area

Table 7-18. Recent Major Development and Infrastructure from 2021 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Stadium Lands Planned Development Area Projects: *Adega, Lathath Landing*, *Cambria Hotel* and *Westside Fire Station*	Multifamily residential & Institutional	Multifamily 249 units Institutional 30,731 SF	A 32.8-acre site located in the northwest corner of the city. It is bound by Business Park Drive to the north, Redwood Drive to the east, Hinebaugh Creek to the south, and Labath Avenue on the west side.	Moderate liquefaction susceptibility. Seismic hazard probability of severe shaking (MMI 8). EIR determined less than significant adverse effects from fault rupture, moderate liquefaction, moderate and seismic shaking after construction mitigation actions.	2008 PD Approval 2020 Most recent amendment Construction completed 2024. Construction since 2019 Includes the following projects: • Adega multifamily, 189 units • Labath Landing multifamily transitional housing /shelter, 60 units • Cambria Hotel • Westside Fire Station Construction completed prior to 2019 included 288 earlier multifamily units.
Central Rohnert Park Priority Development Area: *Bella Creek*	Mixed-Use	Multifamily 90 units The larger Priority Development Area will contain future commercial, office, industrial and institutional uses.	A 333-acre triangular development area bound by US Highway 101 on the west, the Smart Railroad and multiuse path on the east, and Avram Avenue/Santa Alicia Dr. to the south.	Moderate liquefaction susceptibility. Seismic hazard probability of severe shaking (MMI 8). Isolated areas of local flooding near Copeland Creek, south of Rohnert Park Expressway.	2016 Approval The Bella Creek multifamily project contained 90 units and received final inspection in 2023. No commercial, office, industrial, or institutional development yet.

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
University District Specific Plan Area projects: *Vast Oak, Redwoods*, and *Bristol*	Mixed-Use	Single-family 653 units Multifamily 218	300-acre site south of Keiser Avenue, west of Petaluma Hill Road, and north of Rohnert Park Expy.	Areas of moderate and high liquefaction susceptibility. Violent shaking (MMI 9) seismic hazard for all faults and severe shaking anticipated from Rogers Creek Fault shaking scenario. Contains areas mapped in 100-yr floodplain. EIR deemed less than significant impacts with the adoption of stormwater mitigation actions.	2006 Approval 2007 Annexation 2024 most recent amendment. Development projects constructed during this time period include: *Vast Oak* 611 Single-family Residential *Redwoods University District* 218 Multifamily Residential *Bristol* 42 Single-Family Residential
Southeast Specific Plan Area: *Willowglen*	Mixed-Use Residential	Single-family 239 units Multifamily 81 units Plan area envisioned with future commercial use as well.	80-acre site located northeast of Bodway Parkway and Valley House Drive.	Primarily moderate liquefaction susceptibility, w/ a small section of high susceptibility. Seismic hazard probability primarily severe shaking (MMI 8), with a small area of violent shaking (MMI 9). EIR determined less than significant impacts. Small portion of Phase 4 is within the CalFire Moderate Fire Hazard Severity Zone.	2011 Annexation 2023 Most recent amendment Willowglen 239 Single-family residential units completed. 36 Multifamily residential units completed as of June 2025, with additional 45 still under construction. No commercial development yet

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
SOMO Village	Mixed-Use	Single-family 116 units Multifamily (townhome) 32 units Plan area envisioned with additional future commercial, institutional and parks/open space uses as well.	Bounded by Camino Colegio, SMART ROW, Bodway Pkwy, City Limits	Moderate liquefaction susceptibility. Severe shaking (MMI 9) seismic hazard for all faults and severe shaking anticipated from Rogers Creek Fault shaking scenario. 500-yr flood zone and moderate FHSZ (LRA) overlap a small portion of the approved open space for this project. EIR determined less than significant seismic & flooding impacts with mitigations.	2010 Approval 2021 most recent amendment Single-family (thru 6/16/25) 74 units Multifamily (thru 6/16/25) 4 units Completion of remaining 42 single-family and 28 multifamily units expected by end of 2025. Tentative Maps in processing for following residential phases. See approved Final Development Plan. Includes some new park space and a basketball court area. No new commercial or institutional development yet.
Home2Suites Hotel		Commercial 153,405 SF	6490 Redwood Dr (143-391-022)	Moderate liquefaction susceptibility. Severe shaking (MMI 8) seismic hazard for all faults and severe shaking anticipated from Rogers Creek Fault shaking scenario.	Construction nearing completion (2025).

a. Only location-specific hazard zones or vulnerabilities identified.

Table 7-19. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
Central Rohnert Park Priority Development Area: ***Rohnert Park Downtown/Station Center***	Mixed-Use	50-acres within the Central Rohnert Park PDA. Downtown will include 300-500 residential units; food, beverage, and art destinations; a signature upscale 120-room hotel; 65,000 to 160,000 square feet of retail;	6400 State Farm Drive.	Moderate liquefaction susceptibility. Seismic hazard probability of severe shaking (MMI 8). Some localized flooding during storms is known to occur along State Farm Drive.	Site under exclusive negotiations. See Downtown - City of Rohnert Park for more info.
Central Rohnert Park Priority Development Area: ***415 City Center Mixed Use***	Mixed Use	Residential 31 units Commercial 1,000 SF	415 City Center	Moderate liquefaction susceptibility. Seismic hazard probability of severe shaking (MMI 8).	Design Review Application under review.
Holiday Inn Express	Hotel	93-key hotel and 2000 SF commercial	5354 Dowdell Ave	Moderate liquefaction susceptibility. Seismic hazard probability of severe shaking (MMI 8) from Rodgers Creek Fault and from all fault probability scenarios.	Entitled. Grading Permit under review
Redwood Crossings	Residential	105 townhome units	6.5-acre site located southeast of Business Park Dr. and Dowdell Ave. intersection.	Moderate liquefaction susceptibility. Seismic hazard probability of severe shaking (MMI 8) from Rodgers Creek Fault and from all fault probability scenarios.	Entitled, Grading and Building Permits under review.

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
Central Rohnert Park Priority Development Area: Pape Machinery	Light Industrial & Commercial	54,700 SF retail and service shop building, 6,000 SF storage and equipment wash building	5300 Commerce Blvd (APNs 143-021-015 and -006) Located within the Central Rohnert Park Priority Development Area.	Moderate liquefaction susceptibility. Seismic hazard probability of severe shaking (MMI 8). Some localized flooding during storms is known to occur along State Farm Drive.	Project entitled.

As noted above, there have been no permits issued in SFHAs over the past five years. New development in the City occurred in known liquefaction susceptibility areas; however, this is consistent with the rest of the City, which is located entirely on NEHRP Class D soil. Therefore, the vulnerability of the City has not increased since the previous MJHMP, and has remained the same.

7.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Rohnert Park's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

7.9.1 Hazard Area

Maps of probable hazard areas within the City are shown in Figure 7-11 through Figure 7-12. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Rohnert Park has significant exposure.

Figure 7-11. Rohnert Park Flood, Dam Failure, Tsunami and Sea level Rise Hazard Area

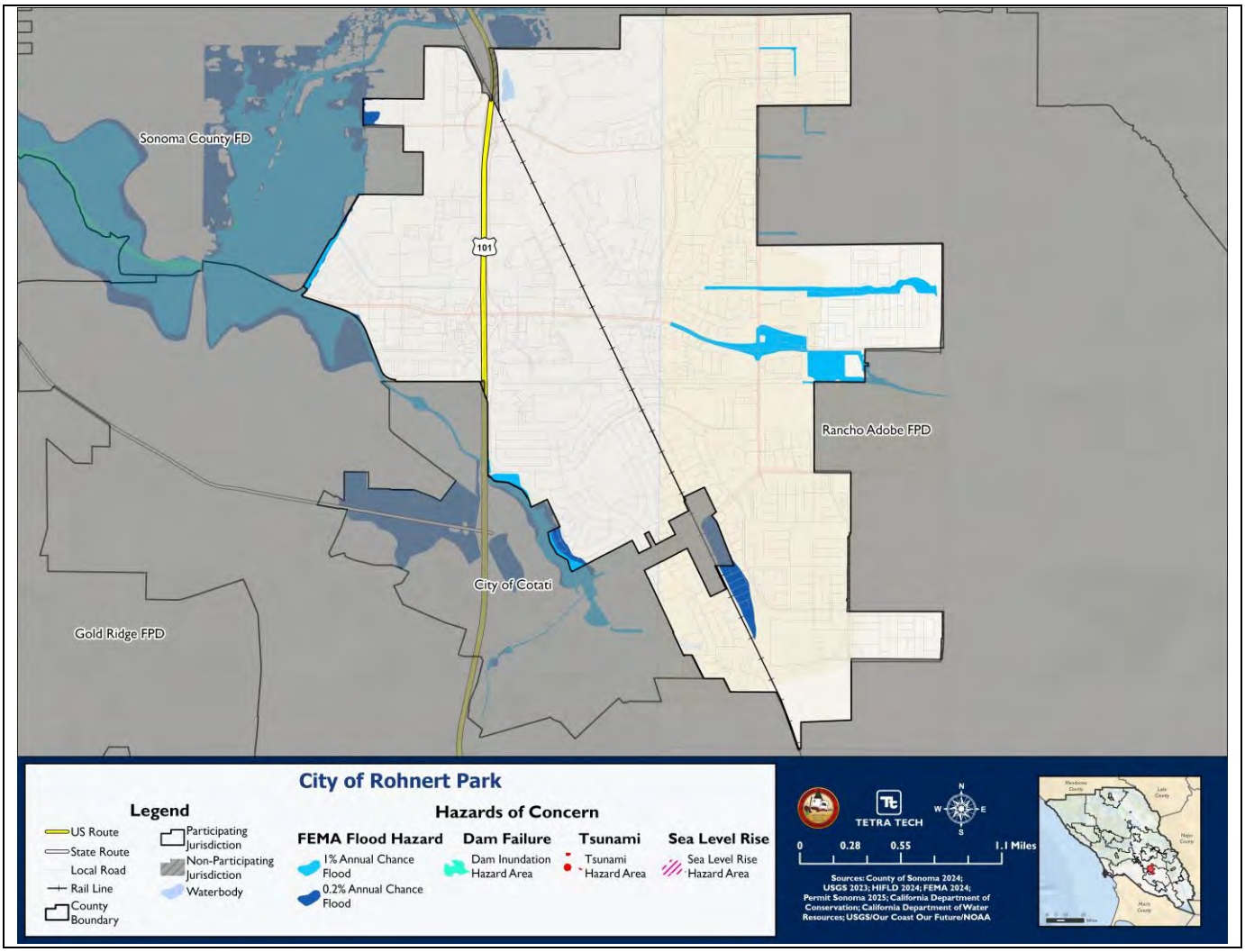
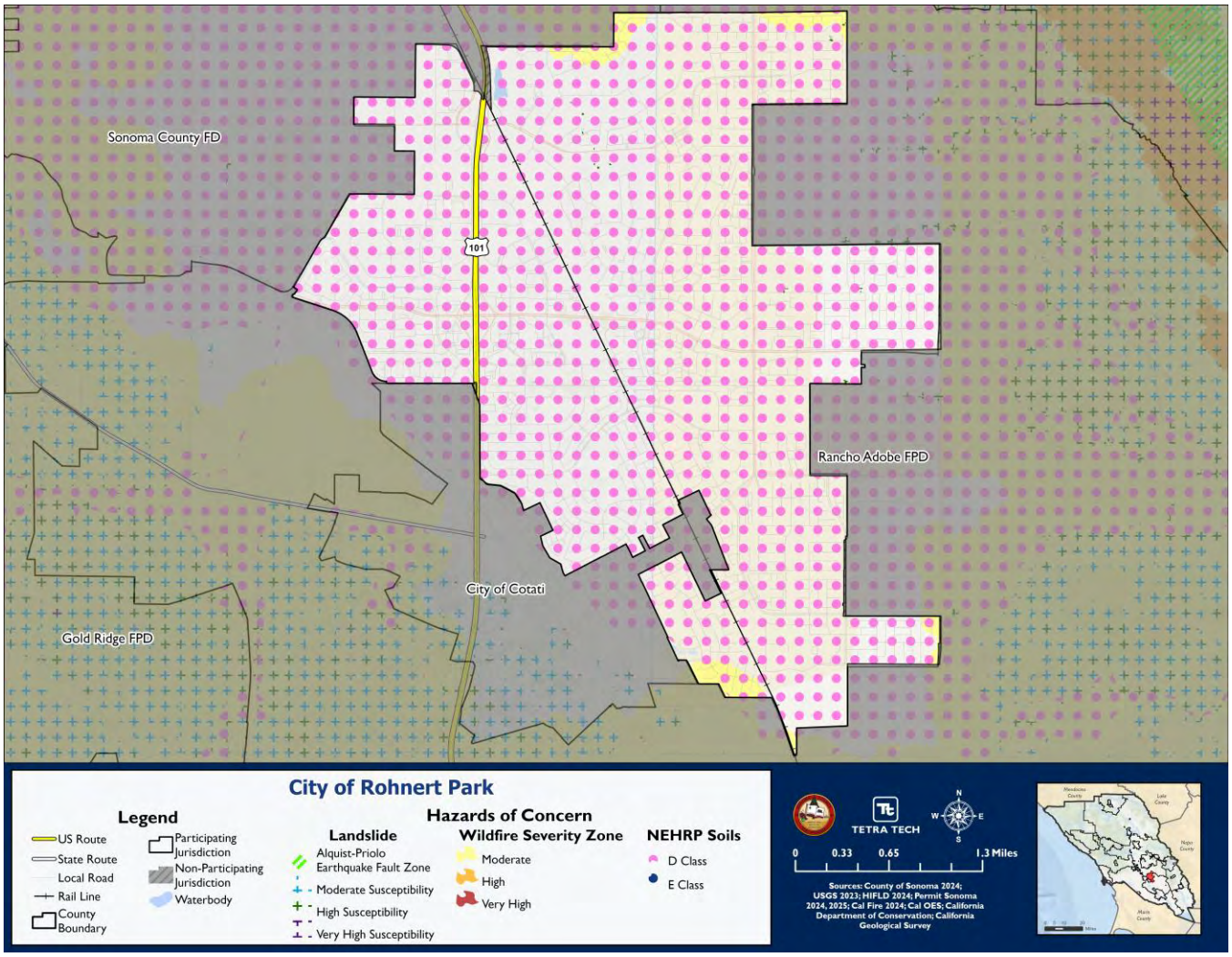


Figure 7-12. Rohnert Park Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



7.9.2 Hazard Event History

The history of natural and non-natural hazard events in Rohnert Park is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 7-20 provides details on loss and damage in Rohnert Park during hazard events since the last hazard mitigation plan update.

Table 7-20. Hazard Event History in Rohnert Park, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Rohnert Park
January 26-29, 2021	Flood and Debris Flow	N/A	A plume of moisture from the tropical Pacific brought an Atmospheric River to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	No Impact
March 10, 2021	Hail	N/A	A cold upper low moved through the region in early March bringing widespread showers and isolated thunderstorms to the Greater Bay Area. The Santa Rosa Fire Department reports multiple vehicle accidents on US-101 due to accumulating small hail.	No Impact
November 8, 2021	Flood	N/A	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	No Impact
December 13, 2021	Flood	N/A	A low-pressure system descended from the Gulf of Alaska southward along the entire Pacific Coast and tapped into sub-tropical moisture originating from the Central Pacific to drop heavy rain throughout the state. Heavy rain caused flooding on Labath Ave and the closure of SR 12 between Route 116 and 8th St.	No Impact
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton. A 43-year old woman from Ukiah was recovered on the 10th after her car got stuck in floodwaters.	Minor localized flooding
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical jet stream aided in advecting sub-tropical moisture plume from over the Central Pacific into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	Minor localized flooding

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Rohnert Park
January 21-22, 2024	Flood	N/A	A series of frontal systems with a weak subtropical tap led to widespread rainfall and nuisance flooding across the Bay Area. Westbound California Route 116 at Travis Road was reported flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road offramp from UIS Highway 101 Northbound was closed due to standing water on the roadway. The Arata Lane offramp from US Highway 101 Northbound was closed due to standing water on the roadway. Localized flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; three inches of water flooded a trailer in less than 20 minutes.	No Impact
January 31, 2024	Flood	N/A	A quick-moving cold front came through California on January 31, bringing widespread rain and high winds. A water rescue occurred on Mark West Station Road at Starr Road.	Minor localized flooding
February 4, 2024	Flood	N/A	A cold front caused minor flooding and gusty winds. A warm front then came through the region, followed by another cold front and associated thunderstorms. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two different spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road before and after Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound California Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. California Route 12 was closed until 8 AM due to flooding from Fremont Drive to Watmaugh Road. Creek flowing over Mark West Station Road after heavy rainfall. Mud, dirt, and rock blocking Los Alamos Road.	Minor localized flooding

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)
N/A = Not applicable

7.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Rohnert Park.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

The City of Rohnert Park reviewed the preliminary hazard ranking as described in Volume I to assess the relative risk of the hazards of concern to the community. The revised rankings account for the changes in community priorities described in Section 7.5 of this annex and in Volume I of this HMP.

Table 7-21 shows the City of Rohnert Park's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 7-21. Hazard Ranking

Hazard	Rank
Dam Failure	No exposure to this hazard

Hazard	Rank
Drought	Medium
Earthquake	High
Extreme Cold	Low
Extreme Heat	Medium
Extreme Wind	Low
Flood	Medium
Landslide	Low
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	Medium

Note: The scale is based on hazard rankings in Volume I, modified as appropriate based on review by the jurisdiction.

The dam failure inundation area for high and very high hazard dams does not occur within the City's boundaries; therefore, there is no exposure to the Dam Failure hazard. Because the city is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities in the city.

The City has updated its hazard rankings for extreme cold, extreme wind, and flooding as follows:

- **Extreme Cold**: The ranking was lowered from *medium* to *low* because extremely cold temperatures are rare in the City.
- **Extreme Wind**: The ranking was also reduced from *medium* to *low* due to the infrequency of wind-related damage in the area.
- **Flooding**: The ranking was increased to *medium* because Rohnert Park experiences localized flooding along roadways during heavy rains, even outside of FEMA-mapped 100-year floodplain boundaries.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to the City of Rohnert Park.

Table 7-22 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain Community Lifelines are susceptible to impact if water is unavailable, such as water systems and food, hydration and shelter. The Straus Family Creamery is identified as a critical facility in the City and is vulnerable to operational challenges if faced with a prolonged drought. In addition, the total population of the City (44,461 people) could be impacted by a drought if water rationing is implemented. In particular, the 279 persons experiencing homelessness in the City are vulnerable to dehydration in drought conditions.

Extreme heat is also unlikely to cause physical damage to buildings, facilities, or infrastructure. However, individuals who do not have access to air conditioning are vulnerable to health complications

during extreme heat episodes. In particular, the 6,104 adults above age 65 and 4,501 individuals living below the poverty line could be at risk for heat stroke, especially for individuals who fall into both categories. Similarly, extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gasses. Extreme cold also presents a risk to populations that do not have access to heating, such as persons experiencing homelessness or people living in poverty.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 4,893 people with disabilities or the 6,104 adults over age 65 may experience difficulty walking through strong gusts of wind.

Table 7-23 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Buildings located on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an earthquake. Buildings in Rohnert Park have significant exposure to NEHRP Class D and E soils. All Community Lifeline facilities identified for Rohnert Park are located on Class D and E soils. This includes daycares, local bridges, state highway bridges, fire stations, municipal halls, police stations, schools, emergency medical services, medical centers, veterinary offices, solar power facilities, banks, land mobile broadcast towers, microwave towers, and emergency shelters.

In contrast to earthquake vulnerability, there are no Community Lifeline facilities located in the moderate, high, or very high Fire Hazard Severity Zones in the City; however, 3.3 percent of the total buildings in the City are located in the moderate Fire Hazard Severity Zone.

The City has very low exposure to the landslide hazard. Of the 96 critical facilities located in the City, none are located in the moderate, high, or very high landslide susceptibility areas.

Table 7-22. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%
NEHRP D & E Soils	99.6%	99.8%	100.0%
1% Annual Chance Floodplain	0.7%	1.2%	3.1%
0.2% Annual Chance Floodplain	1.9%	1.9%	3.1%
Geologic Hazard Area	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	0.0%	0.0%	0.0%
High Landslide Susceptibility Area	0.2%	0.1%	0.0%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Tsunami	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	3.3%	2.4%	0.0%
High Fire Hazard Severity Zone	0.0%	0.0%	0.0%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain Community Lifelines are susceptible to impact if water is unavailable, such as water systems and food, hydration and shelter. The Straus Family Creamery is identified as a critical facility in the City and is vulnerable to operational challenges if faced with a prolonged drought. In addition, the total population of the City (44,461 people) could be impacted by a drought if water rationing is implemented. In particular, the 279 persons experiencing homelessness in the City are vulnerable to dehydration in drought conditions.

Extreme heat is also unlikely to cause physical damage to buildings, facilities, or infrastructure. However, individuals who do not have access to air conditioning are vulnerable to health complications during extreme heat episodes. In particular, the 6,104 adults above age 65 and 4,501 individuals living below the poverty line could be at risk for heat stroke, especially for individuals who fall into both categories. Similarly, extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gasses. Extreme cold also presents a risk to populations that do not have access to heating, such as persons experiencing homelessness or people living in poverty.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 4,893 people with disabilities or the 6,104 adults over age 65 may experience difficulty walking through strong gusts of wind.

Table 7-23. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NEHRP D & E Soils	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	99.5%	99.6%
1% Annual Chance Floodplain	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.4%
0.2% Annual Chance Floodplain	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.8%
Geologic Hazard Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Moderate Landslide Susceptibility Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Landslide Susceptibility Area	0.2%	0.2%	0.2%	0.1%	0.2%	0.2%	0.1%	0.0%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.5%	3.6%
High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

As noted above, almost the entire population of Rohnert Park live in NEHRP Class D and E soils, making them vulnerable to earthquakes. In addition, almost two percent of the City's population lives in the 0.2 percent floodplain, 3.6 percent of the City lives in the Moderate Fire Hazard Severity Zone, and 0.2 percent of the City lives in the High Landslide Susceptibility Area.

Potential Impacts from Hazards of Local Concern

Table 7-24 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. For all other hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City. Table 7-25 summarizes additional risks specific to the City. In the event of a 500-year earthquake, as many as 980 households could be displaced, 493 people may require shelter, 8.4 percent of the buildings in the City could be damaged, and almost 250,000 tons of debris could be generated. In the event of a 2,500-year earthquake, as many as 3,425 households could be displaced, 1,738 people may require shelter, 20.6 percent of the buildings in the City could be damaged, and more than 676,000 tons of debris could be generated.

Table 7-24. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	0 people	980 households	3,425 households	269 people
Population Requiring Shelter	0 people	493 people	1,738 people	157 people

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
General Building Damage as % of RCV	0.0%	8.4%	20.6%	<0.1%
Total Debris Generated (tons)	0	247,501	676,088	84

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 7-25 summarizes additional risks specific to the City. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City.

Table 7-25. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Drought	The City is susceptible to drought conditions that can significantly impact local water supply and agricultural activities.
Earthquake	Located within an active seismic region, the City is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the City's population and infrastructure.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources.
Extreme Wind	The City may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding is a concern due heavy rainfall events, potentially affecting homes, transportation routes and infrastructure.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity.
Wildfire	The City faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety.

Critical Facilities

Table 7-26 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 7-26. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
BRANCH OF FIVE CREEK	Local Bridge	X	X
CRANE CREEK (SNYDER)	Local Bridge	X	X
DS GORAYA DVM INC	Veterinary	X	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

7.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, he City of Rohnert Park identified the following risk-related issues within the community:

- Unreliable and unsecure communication systems reduce the effectiveness of disaster response and recovery efforts. Communication gaps during emergency can impact all segments of the community from first responder coordination to actionable public information and rapid assessment of damage. The current radio system utilized by Public Safety contains gaps in service coverage within the service area.
- The Redwood Drive bridge crossing over Hinebaugh Creek is a major arterial in the City which is impassable during heavy rain events or when typical storms coincide with high tide conditions. This roadway is an important part of the transportation network for emergency response vehicles and potential evacuation routes.
- Rohnert Park contains some residential and commercial buildings that were constructed prior to modern building code requirements for withstanding the general thresholds for seismic tolerance. The City is at risk of severe shaking during a seismic event. Unreinforced structures are particularly vulnerable to damage and collapse during earthquakes.
- Rohnert Park has existing planning documents and regulatory code language that are not updated to reflect best practices in climate change adaptation and resilience.
- Rohnert Park has an aging utility infrastructure system and must ensure facilities always remain available. The City needs to develop a contingency system for delivering water services that remains viable after the occurrence of an emergency/hazard event.
- It is essential for the City to have critical facilities that remain operational during emergencies and natural disasters. The City's 2022 Facility Condition Assessment report evaluated physical deficiencies of many assets such as pump stations, public buildings, and water tanks. However, the report analysis did not consider susceptibility to natural hazard events in its priority assessment for retrofit, relocation or replacement.
- It is essential for the City to have critical facilities that remain operational during emergencies and natural disasters. As a city with aging infrastructure, there are inevitably critical facilities vulnerable to substantial damage from natural disasters. Rohnert Park does not have a priority list established for retrofitting and replacing the essential critical facilities at risk or the professional analysis to prepare one.
- Rohnert Park has aging water service infrastructure that is susceptible to damage by seismic and wildfire events. The movement of the earth can damage the existing pump stations. However, the electrical mechanics of water pumping stations can be affected by wildfire.
- Some areas of the City, especially Sections H and G, have limited vehicle capacity on evacuation routes. This could cause congestion during an emergency evacuation event.
- While the City has an evacuation plan with major designated evacuation routes identified, there may exist unidentified gaps or deficiencies in those evacuation routes, as well as known gaps or deficiencies without planned solutions.

- The Public Works Division does not have a clear understanding of potential landslide and earthquake fault rupture impacts that exist for transportation, utility, and communications infrastructure that serve the City.
- Rohnert Park emergency planning documents may have inconsistencies with recently updated state and federal law, changing local conditions, and evolving best practices in science and technology.
- Public employees can be utilized as disaster service workers during a state of emergency. New staff members require initial training, while existing staff benefit from refresher training opportunities that may not be readily available.
- The City does not have a clear understanding of the immediate or long-term potential impacts created by water and soil contamination after wildfire events.
- The conditions at Copeland Creek present a flood risk for the community.
- The eastern edge of the City is susceptible to flooding when new development occurs. Upstream detention facilities are needed to mitigated flood risk. Due to increased construction costs over time, the previous FEMA grant awarded for this item did not fully cover the cost of construction, even with the City's fair share commitment.
- Vulnerable populations such as seniors, low-income residents, and unhoused people are often difficult to reach and most impacted by extreme heat and cold events.
- It is difficult to reach all impacted community members with information regarding closed roads and services during natural disaster events.
- Heavy rain events can cause the nearby Laguna de Santa Rosa wetland complex to flood Rohnert Park roadways. This results in stranded vehicles and closed roads. Some drivers proceed down roads, despite the presence of road closure signs.
- Hi-Lo sirens with auditory bilingual evacuation alerts were recently installed on all public safety patrol vehicles. However, many community members are unfamiliar with the purpose of this system and what to do in response.

7.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

7.10.1 Past Mitigation Action Status

Table 7-27 indicates progress on the City's mitigation strategy identified in the 2018 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 7-27. Status of 2018 Mitigation Actions for City of Rohnert Park

Mitigation Actions	Status
Project Number	1.1
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department
Mitigation Action Description	Continue to apply appropriate development conditions/restrictions for projects in higher hazards zones to reduce risks
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.2
Hazards Addressed	Multiple Hazards
Lead Agency	Administration, Public Safety, I.T.
Mitigation Action Description	Continue to analyze and improve emergency response communication. This strategy should include building redundant capacity into public safety alerting, and answering points as well as replacing or hardening communication systems. Use the City website and social media for community outreach purposes.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.3
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department, Public Safety, Public Works
Mitigation Action Description	Continue to assess critical facilities that are vulnerable to damage from natural disasters, including availability of backup power and sufficient supplies to maintain essential functions, and make recommendations for appropriate mitigation.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change

Mitigation Actions	Status
If discontinue, explain why	Not Applicable
Project Number	1.4
Hazards Addressed	Multiple Hazards
Lead Agency	Public Works
Mitigation Action Description	Retrofit, replace, or relocate critical facilities that are shown to be vulnerable to damage in natural disasters.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.5
Hazards Addressed	Multiple Hazards
Lead Agency	Public Safety
Mitigation Action Description	Continue to participate not only in general mutual-aid agreements, but also in agreements with adjoining jurisdictions and special districts for cooperative response to fires, floods, earthquakes, and other disasters.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.6
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department, Public Safety, Public Works
Mitigation Action Description	In accordance with the adaptation strategies of the Sonoma County Climate Action Plan (SCCAP) continue to regularly inform, and solicit feedback from City organizations on potential climate change risks, and hazards with all departments as relevant.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	1.7
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department
Mitigation Action Description	In accordance with the adaptation strategies of the SCCAP, revise Rohnert Park's General Plan, and other applicable documents to better integrate, and prioritize climate change issues, and best practices during required updates and as funding opportunities permit.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.8
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department
Mitigation Action Description	In accordance with the adaptation strategies of the SCCAP, integrate climate change adaptation into future updates of the Zoning Code and General Plan, and other related documents.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.9
Hazards Addressed	Multiple Hazards
Lead Agency	Public Safety
Mitigation Action Description	Continue to coordinate with Sonoma County, and surrounding jurisdictions on emergency notifications, including alerts of imminent threats or a need to evacuate.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.11
Hazards Addressed	Multiple Hazards

Mitigation Actions	Status
Lead Agency	Development Services Department
Mitigation Action Description	To the extent possible, avoid locating new critical facilities in areas of elevated hazard risks. Use extensive mitigation measures to reduce vulnerability if no suitable alternative site exists.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.12
Hazards Addressed	Multiple Hazards
Lead Agency	Public Safety, Public Works
Mitigation Action Description	Continue to work with regional companies and service agencies, including energy providers, telecommunications services, and transit operators, to maintain basic services as much as possible during emergency conditions and to restore services as quickly as possible following an emergency event.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.13
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department, Public Works
Mitigation Action Description	Work to improve estimates of potential casualties and property damage as a result of different emergency situations.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.14
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department, Public Works, Public Safety

Mitigation Actions	Status
Mitigation Action Description	Continue to update the City's emergency planning documents to ensure consistency with state and federal law, local conditions, best practices, and most recent science and technology.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.15
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department, Public Works, Public Safety
Mitigation Action Description	Continue to improve the reliability of the water supply for emergency response purposes through new water main connections and system improvements.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.16
Hazards Addressed	Multiple Hazards
Lead Agency	All Departments
Mitigation Action Description	Invest in continued training for City staff in emergency preparedness and response.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.17
Hazards Addressed	Multiple Hazards
Lead Agency	All Departments
Mitigation Action Description	Continue to make strategic investments in modern equipment for City staff.
Status	Not Complete

Mitigation Actions	Status
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.18 (labeled 1.17 in 2018 plan)
Hazards Addressed	Multiple Hazards
Lead Agency	Development Services Department, Public Works, Public Safety
Mitigation Action Description	Develop a siren network in Rohnert Park to alert the public on potential hazards.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	1.19
Hazards Addressed	Multiple Hazards
Lead Agency	All Departments
Mitigation Action Description	Continue to maintain and periodically update the LHMP.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	2.1
Hazards Addressed	Flooding
Lead Agency	Development Services Department, Public Works, Public Safey
Mitigation Action Description	Sustain the City's participation in FEMA's National Flood Insurance program (NFIP).
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	2.2

Mitigation Actions	Status
Hazards Addressed	Flooding
Lead Agency	Development Services Department, Public Works
Mitigation Action Description	When FEMA creates, updates, and publishes flood zone mapping of the 100year and 500-year floodplains, quickly integrate new information from the maps into the City's GIS, and use flood information in the development review and public project review process. In areas with high flood risk, continue to evaluate, and implement flood hazard mitigation projects to reduce potential for property damage, street flooding, and stream erosion.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	2.3
Hazards Addressed	Flooding
Lead Agency	Public Works
Mitigation Action Description	Continue to analyze pump station conditions, capacity, and upgrades when appropriate.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	2.4
Hazards Addressed	Flooding
Lead Agency	Public Works
Mitigation Action Description	Evaluate, monitor, and maintain the City's storm water drainage system to ensure it can effectively handle anticipated storm water volumes to the maximum extent possible, and make upgrades and repairs as needed. Coordinate with the Sonoma County Water Agency to clear debris, and remove vegetation and sediment in flood control channels within the City to protect flow capacity.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change

Mitigation Actions	Status
If discontinue, explain why	Not Applicable
Project Number	2.5
Hazards Addressed	Flooding
Lead Agency	Public Works, Development Services Department
Mitigation Action Description	Continue to pursue grant funding to complete creek restoration projects that result in bank stabilization, enhanced habitat, and flood capacity.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	2.6
Hazards Addressed	Flooding
Lead Agency	Public Works
Mitigation Action Description	Retrofit public areas, including plazas, sidewalks, and parking lots as feasible, to use permeable paving and other low impact development features that promote infiltration, and reduce storm water runoff.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	2.7
Hazards Addressed	Flooding
Lead Agency	Public Works, Development Services Department
Mitigation Action Description	Replace bridge at the crossroads of the Golf Course Dr. and Hinebaugh Creek.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Replace bridge at the crossroads of Redwood Drive and Hinebaugh Creek.
If discontinue, explain why	Not Applicable
Project Number	2.8

Mitigation Actions	Status
Hazards Addressed	Flooding
Lead Agency	Public Works, Development Services Department
Mitigation Action Description	Continue to pursue project to mitigate downstream flooding through the preservation, and construction of regional drainage basins.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	2.9
Hazards Addressed	Flooding
Lead Agency	Public Works
Mitigation Action Description	Construct a system of upstream storm water detention facilities on the eastern edge of the community to reduce flooding risk as new development occurs.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	3.1
Hazards Addressed	Seismic Hazards (Shaking)
Lead Agency	Development Services Department
Mitigation Action Description	Consider the development of funding mechanisms to assist building owners' affordability of retrofits to unreinforced or retrofitted structures.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	3.2
Hazards Addressed	Seismic Hazards (Shaking)
Lead Agency	Development Services Department

Mitigation Actions	Status
Mitigation Action Description	Require the retrofit of seismically vulnerable structures consistent with City Code at the time of major renovations or redevelopment. This program should include community education and outreach.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	3.3
Hazards Addressed	Seismic Hazards (Shaking)
Lead Agency	Public Works
Mitigation Action Description	Identify/analyze sewer and water lines that are determined to be structurally deficient, and retrofit and replace as per recommendation.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	3.4
Hazards Addressed	Seismic Hazards (Shaking)
Lead Agency	Development Services Department, Public Works
Mitigation Action Description	Conduct seismic evaluations of City-owned properties that contain critical facilities/operations to determine the need for upgrades/retrofitting.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	4.1
Hazards Addressed	Geologic Hazards (Liquefaction)
Lead Agency	Development Services Department
Mitigation Action Description	Require comprehensive geotechnical investigations prior to development approval, where applicable. Investigations shall include evaluation of liquefaction potential, settlement, seismically induced land-sliding, or weak and expansive soils.

Mitigation Actions	Status
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	4.2
Hazards Addressed	Geologic Hazards (Liquefaction)
Lead Agency	Development Services Department
Mitigation Action Description	Restrict development from areas where people might be adversely affected by natural or man-made geologic hazards, including unstable slopes, liquefiable or expansive soils, and poorly engineered fills, as determined by a California-registered geologist or engineer.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	4.3
Hazards Addressed	Geologic Hazards (Liquefaction)
Lead Agency	Development Services Department
Mitigation Action Description	Pursue implementation of regulatory requirements related to erosion and sediment control. As needed, adopt additional, mandatory, minimum sediment and erosion control measures for current properties, and those under construction that exhibit high erosion potential or have experience past erosion problems. Sediment and erosion control measures shall reduce soil erosion from primary erosional agents including wind, construction operations, and storm water runoff.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Add Public Works as a support agency
If discontinue, explain why	Not Applicable
Project Number	4.4
Hazards Addressed	Geologic Hazards (Liquefaction)
Lead Agency	Development Services Department

Mitigation Actions	Status
Mitigation Action Description	Identify grant programs, and other funding opportunities to retrofit soft-stories.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	5.1
Hazards Addressed	Hazardous Materials
Lead Agency	Public Works
Mitigation Action Description	Provide reliable water delivery, and wastewater collection during, and after disasters to reduce the risk to public health, and the environment.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	5.2
Hazards Addressed	Hazardous Materials
Lead Agency	Public Safety
Mitigation Action Description	Generate, and support public awareness, and participation in household waste management, control, and recycling.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Change agency to Public Works
If discontinue, explain why	Not Applicable
Project Number	5.3
Hazards Addressed	Hazardous Materials
Lead Agency	Public Safety
Mitigation Action Description	Continue to improve the capabilities of the Public Safety Department to respond to new hazardous material incidents/emergencies.
Status	Not Complete

Mitigation Actions	Status
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	5.4
Hazards Addressed	Hazardous Materials
Lead Agency	Public Safety
Mitigation Action Description	Update the HazMat Response Plan.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	5.5
Hazards Addressed	Hazardous Materials
Lead Agency	Public Safety, Public Works
Mitigation Action Description	Develop strategies to enhance protection of existing groundwater resources from hazardous material sites.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Add Public Works as a support agency
If discontinue, explain why	Not Applicable
Project Number	5.6
Hazards Addressed	Hazardous Materials
Lead Agency	Public Safety, Public Works
Mitigation Action Description	Continue to improve outreach to businesses that store, handle, and use hazardous materials over the state threshold or generate hazardous waste.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	6.1
Hazards Addressed	Drought
Lead Agency	Public Works
Mitigation Action Description	Continue to participate in the Russian River Watershed Association to provide water conservation guidance, encourage drought tolerant landscaping, and reduce the consumption of potable water.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	6.2
Hazards Addressed	Drought
Lead Agency	Development Services Department, Public Works
Mitigation Action Description	Continue to wisely use, where available, water resources from the recycled water system.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Change agency to Public Works
If discontinue, explain why	Not Applicable
Project Number	6.3
Hazards Addressed	Drought
Lead Agency	Public Works
Mitigation Action Description	Develop a plan for expediting the repair, and functional restoration of water, and wastewater systems through the stockpiling of materials, temporary pumps, surface pipelines, portable hydrants, and other supplies.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	6.4
Hazards Addressed	Drought

Mitigation Actions	Status
Lead Agency	Public Works
Mitigation Action Description	Host regular workshops, and classes on water conservation strategies, including drought-tolerant landscaping. Available rebates for water conservation, and water efficiency actions. Continue workshops, classes and other education efforts even in the absence of drought conditions.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	7.1
Hazards Addressed	Dam Inundation
Lead Agency	Public Works, Development Services Department
Mitigation Action Description	Utilize mapping tools to better understand potential impacts of dam failure on the recently annexed Northwest Specific Plan Area and areas along creeks west of Highway 101 that drain in to the Laguna de Santa Rosa.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Change agency to Public Works
If discontinue, explain why	Not Applicable
Project Number	8.1
Hazards Addressed	Landslides and Earthquake Faulting
Lead Agency	Public Works, Development Services Department
Mitigation Action Description	Prepare a report based on mapping activities documenting potential secondary impacts of landslides and earthquake fault ruptures on transportation infrastructure, utilities, and communications facilities that service Rohnert Park.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	8.2
Hazards Addressed	Landslides and Earthquake Faulting

Mitigation Actions	Status
Lead Agency	Public Works, Development Services Department
Mitigation Action Description	Assess the potential impact of fire damage triggered landslides and debris on property and streams within the City of Rohnert Park.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	9.1
Hazards Addressed	Wildland-Urban Interface Fire
Lead Agency	Public Safety, Development Services Department
Mitigation Action Description	Continue to monitor the Wildland-Urban Interface areas of the City, and develop maps and materials as a part of plan to mitigate exposure to current and future fire risks.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Change agency to Public Works
If discontinue, explain why	Not Applicable
Project Number	9.2
Hazards Addressed	Wildland-Urban Interface Fire
Lead Agency	Public Safety, Public Works, Development Services Department
Mitigation Action Description	Map properties that were impacted by the October 2017 fires, either directly, or through Emergency Operations activities, and assess needs and methods for future access and emergency response.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	This completion is reflected in Section 1.10.2 in the draft 2026 Rohnert Park Annex.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	No Applicable
If discontinue, explain why	Complete
Project Number	9.3
Hazards Addressed	Wildland-Urban Interface Fire
Lead Agency	Public Safety
Mitigation Action Description	Monitor weed growth and have bi-annual weed abatement inspections.

Mitigation Actions	Status
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Add Development Services Department as supporting agency
If discontinue, explain why	Not Applicable
Project Number	9.4
Hazards Addressed	Wildland-Urban Interface Fire
Lead Agency	Public Safety
Mitigation Action Description	Educate the public on emergency preparedness and fire risk. Provide training to most vulnerable to wildfires.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Change agency to Public Works
If discontinue, explain why	Not Applicable
Project Number	9.5
Hazards Addressed	Wildland-Urban Interface Fire
Lead Agency	Public Safety, Public Works
Mitigation Action Description	Place cameras on Taylor Mountain and Sonoma Mountain to monitor potential wildfires.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	This completion is reflected in Section 1.10.2 in the draft 2026 Rohnert Park Annex.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Complete
Project Number	9.6
Hazards Addressed	Wildland-Urban Interface Fire
Lead Agency	Public Safety, Public Works, Development Services Department
Mitigation Action Description	Develop defensible spaces and fuel breaks Wherever possible.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	9.7
Hazards Addressed	Wildland-Urban Interface Fire
Lead Agency	Administration, Public Safety, Public Works, Development Services Department
Mitigation Action Description	Assess what additional equipment, resources, or authority may be needed to mitigate the risk of future fire emergencies, and to respond effectively in the event one occurs.
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

7.10.2 Additional Mitigation Efforts

Rohnert Park identified the following recent mitigation efforts completed:

- Focused on improving emergency response communication, the City replaced a long-standing communications antenna with newer infrastructure on the Public Safety Building. A second antenna is in production and scheduled for installation on Sonoma Mountain in September 2025. The second antenna expands the City's communication capability, where weaker reception was identified, and serves as redundancy for county agencies, should they need the same frequency. Measure H funding supported this project. This project was associated with Mitigation Action 1.2 in the City's previous single-jurisdiction 2018 HMP.
- The installation of fire watch cameras on Taylor Mountain and Sonoma Mountain to monitor wildfires. This project completed Mitigation Action 9.5 in the City's previous single-jurisdiction 2018 HMP.
- Map properties impacted by the October 2017 wildfires and assess needs and methods for future access and emergency response. This task was associated with Mitigation Action 9.2 in the City's previous single-jurisdiction 2018 HMP.

7.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Rohnert Park participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Rohnert Park would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 7-28 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories.

Table 7-28. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X			X	X	X			X
Drought	X	X			X	X				X
Earthquake	X	X	X	X	X	X	X		X	X
Extreme Cold	X	X		X	X	X	X			X
Extreme Heat	X	X		X	X	X	X			X
Extreme Wind	X	X			X	X				X
Flood	X	X	X	X	X	X	X	X	X	X
Landslide	X	X	X		X	X	X			X
Sea Level Rise										
Tsunami										
Wildfire	X	X	X	X	X	X	X			X

Note: Mitigation category codes as follows: LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 7-29 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 7-29. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Hardening Emergency Communication Systems	Medium	High	3	1-5 years	7.231	High
Funding Mechanisms for Seismic Retrofits	Medium	High	2	1-5 years	7.154	High
Outreach for Warming and Cooling Centers	Low	High	2	1-10 years	7.154	High
Road Closure Equipment	Medium	High	3	1-5 years	7.231	High
Hi/Lo Siren Education	Low	High	2	1-5 years	8.154	High

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Hinebaugh Creek Bridge Replacement at Redwood Drive	High	High	4	1-5 years	6.308	Medium
Sonoma County Climate Action Plan Integration	High	Medium	4	1-5 years	5.308	Medium
Water System Improvements – Contingency System	High	Medium	3	1-5 years	5.231	Medium
Critical Facility Report Update - Hazard Considerations	High	Medium	5	1-5 years	5.385	Medium
Critical Facility Retrofit Prioritization	High	Medium	5	1-5 years	5.385	Medium
Emergency Response Water Main Improvements	High	High	2	1-5 years	6.154	Medium
Transit MOU For Evacuation Assistance	High	High	3	1-5 years	6.231	Medium
Hydrology/Hydraulics Study	High	Medium	7	1-5 years	5.539	Medium
Emergency Planning Document Updates	High	Medium	4	1-5 years	5.308	Medium
City Staff Hazard Response Training	Medium	Medium	2	1-10 years	5.154	Medium
Soil & Water Contamination	High	Medium	4	1-5 years	5.308	Medium
Copeland Creek Restoration Funding	Medium	Medium	3	1-5 years	6.231	Medium
Storm Detention Facilities	High	Medium	4	1-5 years	5.308	Medium
Community Alert Network	Low	Medium	2	1-10 years	6.154	Medium
Mapping Landslide & Earthquake Secondary Impacts	High	Medium	2	1-10 years	4.154	Low

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-Rohnert Park-01. Hardening Emergency Communication Systems

Lead Agency:	City of Rohnert Park Public Safety
Supporting Agencies:	Public Works
Hazards of Concern:	Earthquake, Extreme Cold, Extreme Heat, Flood, Landslide, Wildfire
Description of the Problem:	Unreliable and unsecure communication systems reduce the effectiveness of disaster response and recovery efforts. Communication gaps during emergency can impact all segments of the community from first responder coordination to actionable public information and rapid assessment of damage. The current radio system utilized by Public Safety contains gaps in service coverage within the service area.
Description of the Solution:	Continue to analyze and improve emergency response communication. This strategy should include building redundant capacity into public safety alerting and answering points as well as replacing or hardening communication systems. Use the City website and social media for community outreach and alerting purposes, while also enhancing the radio antenna infrastructure capabilities for Public Safety communications.
Estimated Cost:	High
Potential Funding Sources:	General Fund, HMGP, PDM, Cost Recovery, Other Grant Resources.
Implementation Timeline:	2026
Objectives Met:	5, 6, 13
Benefits:	Improves public awareness and supports timely evacuation, if applicable.
Impact on Socially Vulnerable Populations:	Develops more effective capacity to reach and respond to vulnerable populations at risk during emergency situations because of the utilization of a broad network of public media platforms and the improved range of communication infrastructure for emergency responders.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Strengthens public communication during disaster response and expands awareness of active hazard events.
Impact on Capabilities:	Strengthens long-term emergency response and equity capacity.
Climate Change Considerations:	Climate change brings an increased risk of extreme heat, heavy precipitation cycles, and drought. These conditions can lead to more frequent and severe wildfire and flooding conditions.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Public Information, Emergency Services
Priority	High

Action 2026-Rohnert Park-02. Hinebaugh Creek Bridge Replacement at Redwood Drive

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	-
Hazards of Concern:	Earthquake, Flood
Description of the Problem:	The Redwood Drive bridge crossing over Hinebaugh Creek is a major arterial in the City which is impassable during heavy rain events or when typical storms coincide with high tide conditions. This roadway is an important part of the transportation network for emergency response vehicles and potential evacuation routes.
Description of the Solution:	Replace the vehicular bridge at Redwood Drive and Hinebaugh Creek. Planning level project estimate is $10 million.
Estimated Cost:	High (> $100,000)
Potential Funding Sources:	General Fund, Other Grant Resources, transportation funding.
Implementation Timeline:	2030
Objectives Met:	3, 6, 10, 13
Benefits:	Maintains function of an essential bridge/roadway in rain events, enabling the continued use for emergency responders and resident evacuation, if needed.
Impact on Socially Vulnerable Populations:	This critical facility reduces the flood hazard impact for all residents, including socially vulnerable residents. Socially vulnerable residents may be more in need of assistance from emergency services during flooding events. This bridge maintains a key access route to quickly respond to emergency calls.
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	Maintains function of an essential bridge/roadway in rain events, enabling the continued use for emergency responders and resident evacuation, if needed. The new design will also create a more effective access route with improved safety and traffic flow.
Impact on Capabilities:	Creates a more resilient transportation network in the City, allowing for better preparedness and emergency response.
Climate Change Considerations:	Climate adaptation with flooding risk.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Structural Flood Control Projects, Emergency Services,
Priority	, High

Action 2026-Rohnert Park-03. Funding Mechanisms for Seismic Retrofits

Lead Agency:	City of Rohnert Park Development Services
Supporting Agencies:	-
Hazards of Concern:	Earthquake
Description of the Problem:	Rohnert Park contains some residential and commercial buildings that were constructed prior to modern building code requirements for withstanding the general thresholds for seismic tolerance. The City is at risk of severe shaking during a seismic event. Unreinforced structures are particularly vulnerable to damage and collapse during earthquakes.
Description of the Solution:	Retrofitting unreinforced structures can save lives and reduce damage during seismic events. • Identify funding mechanisms to assist building owners' affordability of retrofits to unreinforced or retrofitted structures. • Identify grant programs and other funding opportunities to retrofit soft-stories.
Estimated Cost:	Medium ($10,000-$100,000)
Potential Funding Sources:	General Fund, PDM, Other grant sources.
Implementation Timeline:	2030
Objectives Met:	3,13
Benefits:	Improve building resilience and reduce human casualties in a seismically active region. Facilitate the preservation of older structures, often utilized, as affordable housing stock or commercial business space.
Impact on Socially Vulnerable Populations:	The hazard risk of unreinforced buildings can have a disproportionate impact on low-income communities because these areas often have a higher concentration of older buildings that predate modern seismic codes, making them more vulnerable to earthquake damage. In addition, the cost burden of seismic retrofits can be prohibitive for residents and property owners in low-income communities. Improving the affordability of retrofits can enable the feasibility for strengthening more buildings in these areas and potentially preserving affordable housing stock provided by these buildings.
Impact on Future Development:	None. Future development is addressed by modern seismic building code.
Impact on Critical Facilities/Lifelines:	Older public facilities (e.g., buildings and infrastructure) that could be eligible for retrofit funding mechanisms can become more resilient in providing services and reducing disruption for emergency response teams.
Impact on Capabilities:	Similar to above, this action should improve capabilities by making public critical facilities and lifelines more resilient. By protecting more buildings in the communities, it reduces the overall volume of devastation emergency services must respond to after seismic events.
Climate Change Considerations:	No clear connection between climate change and earthquake at this point.
Mitigation Category	Education and Awareness Program
CRS Category	Property Protection, Emergency Services
Priority	High

Action 2026-Rohnert Park-04. Sonoma County Climate Action Plan Integration

Lead Agency:	City of Rohnert Park Development Services
Supporting Agencies:	Public Works-
Hazards of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Rohnert Park has existing planning documents and regulatory code language that are not updated to reflect best practices in climate change adaptation and resilience.
Description of the Solution:	In accordance with adaption strategies of the Sonoma County Climate Action Plan (SCCAP), update Rohnert Park's General Plan and Municipal Code to incorporate policies that address climate change best practices.
Estimated Cost:	High (> $100,000)
Potential Funding Sources:	General Fund, General Plan Maintenance Fees
Implementation Timeline:	2028
Objectives Met:	1,2, 4, 12
Benefits:	Improves community preparedness for climate change adaptation and resilience.
Impact on Socially Vulnerable Populations:	Adoption of climate change best practices helps improves conditions for all community members, especially vulnerable residents. Socially vulnerable populations – such as low-income people, those with chronic health issues or disabilities, and elderly residents – often face more barriers to accessing climate-resilient housing, healthcare and transportation.
Impact on Future Development:	Integrating best practices into planning documents and regulatory codes can help introduce more mitigation measures, steer development toward more resilient conditions and make structures safer for occupants.
Impact on Critical Facilities/Lifelines:	Improves awareness for susceptibilities of public facilities and lifelines. Encourages best practice decision-making for locating and constructing new development, planning for retrofits, and relocating infrastructure, when feasible.
Impact on Capabilities:	Improves the resiliency of the community in the midst of climate change conditions and provides the opportunity for adaptation to avoid a reduction in future capabilities.
Climate Change Considerations:	The entire nature of this action item is to consider and prepare for the impacts of climate change.
Mitigation Category	Local Plans and Regulation
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Rohnert Park-05. Water System Improvements – Contingency System

Lead Agency:	City of Rohnert Park Public Works Division
Supporting Agencies:	-
Hazards of Concern:	Drought, Earthquake
Description of the Problem:	Rohnert Park has an aging utility infrastructure system and must ensure facilities always remain available. The City needs to develop a contingency system for delivering water services that remains viable after the occurrence of an emergency/hazard event.
Description of the Solution:	Develop a plan for expediting the repair, and functional restoration of water, and wastewater and recycled water systems through the stockpiling of materials, temporary pumps, surface pipelines, portable hydrants, and other supplies.
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	General Fund, HMGP, PDM, Utility Funds (water, sewer & recycled water), CIP, Other Grant Sources.
Implementation Timeline:	2030
Objectives Met:	1,6,13
Benefits:	It seeks to preserve water service access – an essential resource/critical facility - by creating contingency forms of water delivery.
Impact on Socially Vulnerable Populations:	Lack of access to water can lead to disease outbreak, malnutrition and dehydration, and rising costs for a water supply. Low-income and other marginalized populations have a disproportionate risk of experiencing barriers to water access when there is a supply shortage.
Impact on Future Development:	None.
Impact on Critical Facilities/Lifelines:	It seeks to preserve water service access – an essential resource/critical facility - by creating contingency forms of water delivery.
Impact on Capabilities:	Seeks to enhance capabilities for a resilient community water supply.
Climate Change Considerations:	Anticipates climate-adaptive measures to address extreme drought impacts brought on by climate change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	Medium

Action 2026-Rohnert Park-06. Critical Facility Report Update - Hazard Considerations

Lead Agency:	City of Rohnert Park Public Works Division
Supporting Agencies:	-
Hazards of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	It is essential for the City to have critical facilities that remain operational during emergencies and natural disasters. The City's 2022 Facility Condition Assessment report evaluated physical deficiencies of many assets such as pump stations, public buildings, and water tanks. However, the report analysis did not consider susceptibility to natural hazard events in its priority assessment for retrofit, relocation or replacement.
Description of the Solution:	Prepare an update of the critical facilities report to clearly identify vulnerabilities for facility damage from natural disasters and provide recommendations for appropriate mitigation to maintain essential functions with sufficient supplies and power supply. The scope of assessment should include: • Power system vulnerabilities and viability of backup power systems at City Hall, emergency responder facilities, utility systems and other essential infrastructure. • Pump station conditions, capacity, and upgrades, when appropriate. • Water main connections and system improvements. • Storm water drainage system to ensure it can effectively handle anticipated storm water volumes to the maximum extent possible, and make upgrades and repairs as needed. • Identify/analyze sewer and water lines that are determined to be structurally deficient, and retrofit and replace as per recommendation
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	General Fund, HMPG, PDM, Utility Fund, Other Grant Sources
Implementation Timeline:	2030
Objectives Met:	1, 3, 4, 6, 12
Benefits:	This action takes steps to improve the resilience of critical facilities, so that the City is better positioned to continue services and speed up recovery after a hazard event.
Impact on Socially Vulnerable Populations:	As previously mentioned, socially vulnerable populations – such as low-income people, those with chronic health issues or disabilities, and elderly residents – often face more barriers to accessing climate-resilient housing, healthcare and transportation. These disadvantages can create a higher reliance or need for access to critical facilities as services such as hospitals, fire stations, police stations, and emergency shelters after a hazard event. The more facilities that are operational, the greater recovery assistance will be available to serve this population.
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	Improves knowledge of what facilities are most at risk to natural hazards and prioritizes retrofit/replacement projects with consideration of those events.
Impact on Capabilities:	Improves knowledge of what facilities are most at risk to natural hazards and prioritizes retrofit/replacement projects with consideration of those events. The more facilities that are operational, the greater recovery assistance will be available to serve the community.

Climate Change Considerations:	This item is based on the knowledge that natural disasters will become more frequent and intense as a result of climate change and attempts to implement adaptive measures.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection, Emergency Services
Priority	Medium

Action 2026-Rohnert Park-07. Critical Facility Retrofit Prioritization

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	Public Safety
Hazards of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Flood, Landslide, Wildfire
Description of the Problem:	It is essential for the City to have critical facilities that remain operational during emergencies and natural disasters. As a city with aging infrastructure, there are inevitably critical facilities vulnerable to substantial damage from natural disasters. Rohnert Park does not have a priority list established for retrofitting and replacing the essential critical facilities at risk or the professional analysis to prepare one.
Description of the Solution:	Once an update to the 2022 Critical Facilities Report is revised to analyze for potential natural hazard impacts, Public Works and Public Safety can determine the most vulnerable critical facilities. Based on the findings, staff can develop a prioritized list of items to address in the Capital Improvements Budget and begin repair, retrofit and replacement the most essential critical facilities.
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	General Fund, HMGP, PDM, Cost Recovery, CIP, Sewer/Water Utility.
Implementation Timeline:	2030
Objectives Met:	1, 3, 4, 6, 12
Benefits:	This action takes steps to improve the resilience of critical facilities, so that the City is better positioned to continue services and speed up recovery after a hazard event.
Impact on Socially Vulnerable Populations:	As previously mentioned, socially vulnerable populations – such as low-income people, those with chronic health issues or disabilities, and elderly residents – often face more barriers to accessing climate-resilient housing, healthcare and transportation. These disadvantages can create a higher reliance or need for access to critical facilities as services such as hospitals, fire stations, police stations, and emergency shelters after a hazard event. The more facilities that are operational, the greater recovery assistance will be available to serve this population.
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	Improves knowledge of what facilities are most at risk to natural hazards and prioritizes retrofit/replacement projects with consideration of those events.
Impact on Capabilities:	Improves knowledge of what facilities are most at risk to natural hazards and prioritizes retrofit/replacement projects with consideration of those events. The more facilities that are operational, the greater recovery assistance will be available to serve the community.
Climate Change Considerations:	This item is based on the knowledge that natural disasters will become more frequent and intense because of climate change and attempts to implement adaptive measures.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection, Emergency Services
Priority	Medium

Action 2026-Rohnert Park-08. Emergency Response Water Main Improvements

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	Public Safety, Development Services
Hazards of Concern:	Earthquake, Wildfire
Description of the Problem:	Rohnert Park has aging water service infrastructure that is susceptible to damage by seismic and wildfire events. The movement of the earth can damage the existing pump stations. However, the electrical mechanics of water pumping stations can be affected by wildfire.
Description of the Solution:	Improve the reliability of the water supply for emergency response purposes through new water main connections and system improvements.
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	General Fund, FEMA grant, Water Utility, Cost Recovery, Other Grant Sources
Implementation Timeline:	2030
Objectives Met:	3, 6
Benefits:	The action strives to ensure water facilities are reliably operational for life safety to access in emergency response situations.
Impact on Socially Vulnerable Populations:	Low-income and other marginalized populations have a disproportionate risk of experiencing barriers to evacuation during emergency events. Reliable access to water sources for fighting fires ignited as secondary earthquake damage or as wildfires will better protect those who are unable to evacuate timely from burning areas.
Impact on Future Development:	Impacts the project list for Capital Improvements.
Impact on Critical Facilities/Lifelines:	Creates a more resilient water infrastructure for emergency response activities.
Impact on Capabilities:	Creates a more resilient water infrastructure for emergency response activities, improving emergency response efforts in the community.
Climate Change Considerations:	The effort to create more resilient water infrastructure given the increased risk to wildfire from climate change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection, Emergency Services
Priority	Medium

Action 2026-Rohnert Park-09. Transit MOU For Evacuation Assistance

Lead Agency:	City of Rohnert Park Public Safety
Supporting Agencies:	Public Works
Hazards of Concern:	Earthquake, Extreme Heat, Extreme wind, Flood, Landslide, Wildfire
Description of the Problem:	Some areas of the City, especially Sections H and G, have limited vehicle capacity on evacuation routes. This could cause congestion during an emergency evacuation event.
Description of the Solution:	Receiving evacuation assistance from transportation partners can help evacuate large groups of people in a manner that minimizes roadway congestion. Pursue coordination efforts and the development of a Memorandum of Understanding (MOU) with local/regional transit agencies to provide transportation assistance during evacuation events. The MOUs should secure commitments on the use of fleet vehicles, operational staff, and other useful resources from transportation partners.
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	General Fund, PDM, HMGP
Implementation Timeline:	2030
Objectives Met:	2, 13, 6
Benefits:	Increases potential effectiveness of evacuation capabilities by reducing roadway congestion and reducing transportation barriers for all residents, including those which might have limitations in transit access.
Impact on Socially Vulnerable Populations:	Provides evacuation resources, including those who might have barriers to accessing private vehicle transportation.
Impact on Future Development:	Creates awareness for the importance of street design and connections when expanding the transportation network in the City with new development.
Impact on Critical Facilities/Lifelines:	Strives to reduce congestion on roadways in emergency situations and enable passage of emergency response vehicles on constrained areas.
Impact on Capabilities:	Strives to reduce congestion on roadways in emergency situations and enable passage of emergency response vehicles within constrained areas.
Climate Change Considerations:	Preparation for anticipated evacuation events with the reality of climate change.
Mitigation Category	Local Plans and Regulations
CRS Category	Emergency Services
Priority	Medium

Action 2026-Rohnert Park-10. Hydrology/Hydraulics Study

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	-
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	While the City has an evacuation plan with major designated evacuation routes identified, there may exist unidentified gaps or deficiencies in those evacuation routes, as well as known gaps or deficiencies without planned solutions.
Description of the Solution:	Complete a comprehensive hydrology/hydraulics study to inform a Durable Master Plan update that can clearly identify system deficiencies and propose strategies for supporting the future Capital Improvements Program. Within the overall comprehensive study, deficiencies in Citywide evacuation routes will be reviewed, including: • Insufficient existing evacuation routes, with consideration for gaps in the street network and lack of alternate routes. • The vulnerability for impassable obstructions or disruptions along existing routes during an emergency event; especially with regard to hazard vulnerabilities - such as flooding, wildfires and earthquakes - which can serve as the impetus for the evacuation. • Accessibility challenges: Evacuation routes may not be designed to accommodate the diverse needs of all community members, particularly those with disabilities or access and functional needs. • A lack of transportation resources: Many residents, including those without personal vehicles or those requiring specialized transportation, may not have the means to evacuate safely.
Estimated Cost:	High), $800,000
Potential Funding Sources:	General Fund, FEMA programs (HMGP, PDM), Other grants through state programs.
Implementation Timeline:	2028
Objectives Met:	1,3,4,6, 10, 12, 13
Benefits:	Increases potential effectiveness of evacuation capabilities by improving the roadway network and conditions.
Impact on Socially Vulnerable Populations:	This action strives to reduce transportation barriers for all residents, including those which might have limitations with mobility and transportation access.
Impact on Future Development:	Considers the potential to address identified vulnerabilities and gaps of roadway connectivity when expanding road infrastructure with new development.
Impact on Critical Facilities/Lifelines:	Strives to reduce improve roadway resilience and performance during emergency situations, enabling the passage of emergency response vehicles and residents through constrained areas.
Impact on Capabilities:	Improves emergency response timing and increases the speed of evacuation efforts.
Climate Change Considerations:	Preparation for anticipated evacuation events with the reality of climate change.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Projects
CRS Category	Preventative Measures, Emergency Services
Priority	High

Action 2026-Rohnert Park-11. Mapping Landslide & Earthquake Secondary Impacts

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	-
Hazards of Concern:	Earthquake, Landslide
Description of the Problem:	The Public Works Division does not have a clear understanding of potential landslide and earthquake fault rupture impacts that exist for transportation, utility, and communications infrastructure that serve the City.
Description of the Solution:	Prepare a report based on mapping activities documenting potential secondary impacts of landslides and earthquake fault ruptures on transportation infrastructure, utilities, and communications facilities that service Rohnert Park.
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	General Fund
Implementation Timeline:	2031
Objectives Met:	6, 12
Benefits:	Helps the City become more informed about vulnerabilities of critical facilities and lifelines from secondary impacts and directs decision-making for the prioritization of retrofits, replacement or relocation of susceptible critical infrastructure.
Impact on Socially Vulnerable Populations:	Low-income and other marginalized populations have a disproportionate risk of experiencing barriers to evacuation during emergency events. Reliable access to transportation, communication, and water/sewer services improves health outcomes for people sheltering in place or waiting for assistance to evacuate.
Impact on Future Development:	Influences project in the Capital Improvements Budget.
Impact on Critical Facilities/Lifelines:	Informs decision-making and allocation of funds for the prioritization of retrofits, replacement or relocation of susceptible critical infrastructure.
Impact on Capabilities:	Strives for functional essential services and maintaining emergency response capabilities after a natural hazard event.
Climate Change Considerations:	Climate adaptation efforts with an understanding that the frequency of heavy precipitation and wildfire events will increase in the future, creating soil conditions that could increase landslide activity.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Projects
CRS Category	Preventative Measures, Emergency Services
Priority	Low

Action 2026-Rohnert Park-12. Emergency Planning Document Updates

Lead Agency:	City of Rohnert Park Development Services
Supporting Agencies:	Public Works, Public Safety
Hazards of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Rohnert Park emergency planning documents may have inconsistencies with recently updated state and federal law, changing local conditions, and evolving best practices in science and technology.
Description of the Solution:	Update the City's emergency planning documents to ensure consistency with state and federal law, local conditions, best practices, and most recent science and technology. Ensure all the natural hazards identified as relevant to Rohnert Park in the Sonoma County Multijurisdictional Plan are addressed in the planning document updates.
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	General Fund, PDM, HMGP
Implementation Timeline:	2030
Objectives Met:	1, 4, 10, 12
Benefits:	Strives for consistency and effectiveness of plans through periodic updates which adopt best practices while remaining compliant with local, regional, state and federal regulations.
Impact on Socially Vulnerable Populations:	Improves equitable access to hazard mitigation resources and protections.
Impact on Future Development:	Encourages coordinated land use planning to reduce hazard impacts.
Impact on Critical Facilities/Lifelines:	Provides better opportunities for considering the needs for developing more resilient critical infrastructure through coordinated planning and assessment efforts.
Impact on Capabilities:	Strengthens emergency response capabilities when planning documents are aligned to comply with priorities, regulatory requirements, and best practices.
Climate Change Considerations:	High
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures, Emergency Services
Priority	Medium

Action 2026-Rohnert Park-13. City Staff Hazard Response Training

Lead Agency:	City of Rohnert Park Administration
Supporting Agencies:	All Departments
Hazards of Concern:	Earthquake, Extreme Cold, Extreme Heat, Flood, Wildfire
Description of the Problem:	Public employees can be utilized as disaster service workers during a state of emergency. New staff members require initial training, while existing staff benefit from refresher training opportunities that may not be readily available.
Description of the Solution:	Continue to enhance strategic hazard response training for all City staff.
Estimated Cost:	Medium (Between $10,000-$100,000)
Potential Funding Sources:	General Fund, Other Grant Sources
Implementation Timeline:	Ongoing
Objectives Met:	6, 13
Benefits:	Increases the expertise of the city workforce for emergency response.
Impact on Socially Vulnerable Populations:	Enhances the resources the city has for assisting vulnerable populations in emergency situations.
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	Strengthens the network of people the City can employ to assist with the operation of critical facility and lifeline services.
Impact on Capabilities:	Improves effectiveness and capacity for emergency response preparedness.
Climate Change Considerations:	Anticipates the need to utilize public service workers for increased risk of natural disasters with climate change.
Mitigation Category	Education and Awareness Program
CRS Category	Emergency Services
Priority	Medium

Action 2026-Rohnert Park-14. Soil & Water Contamination

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	Public Safety
Hazards of Concern:	Earthquake, Landslide, Wildfire
Description of the Problem:	The City does not have a clear understanding of the immediate or long-term potential impacts created by water and soil contamination after wildfire events.
Description of the Solution:	Assess the potential impact of fire damage triggered landslides and debris on property and streams within the City of Rohnert Park.
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	General Fund
Implementation Timeline:	2030
Objectives Met:	9, 10, 12, 13
Benefits:	Develop an understanding of community risk for post-wildfire water and soil contamination. Identify mitigation actions to protect the community.
Impact on Socially Vulnerable Populations:	Reduce soil and water contamination risks for vulnerable populations.
Impact on Future Development:	Unknown at this time. The results might influence soil remediation in future development areas.
Impact on Critical Facilities/Lifelines:	Assessment can inform decisions on how to best protect water supply from potential contamination after these hazard events.
Impact on Capabilities:	Increase resilience for maintaining or purifying water supplies for the City.
Climate Change Considerations:	The risk of contamination increases with the impacts of climate change causing more extreme weather events and anticipated wildfire events.
Mitigation Category	Natural Systems Protection, Education and Awareness
CRS Category	Preventative Measures, property Protection, Emergency Services
Priority	Medium

Action 2026-Rohnert Park-15. Copeland Creek Restoration Funding

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	
Hazards of Concern:	Flood
Description of the Problem:	The conditions at Copeland Creek present a flood risk for the community.
Description of the Solution:	Apply for grants to complete restoration work within Copeland Creek that result in bank stabilization, enhanced habitat, and flood capacity.
Estimated Cost:	Medium (Between $10,000-$100,000)
Potential Funding Sources:	Other Grant Sources
Implementation Timeline:	2030
Objectives Met:	4, 10, 13
Benefits:	Reduce flood risk and restore habitat along the creek.
Impact on Socially Vulnerable Populations:	Reduces flooding impacts and occurrences along the creek, nearby where City Hall and a manufactured housing development are located.
Impact on Future Development:	The flood capacity of the water channel and known history of localized flooding can impact considerations for requiring mitigations measures with new development.
Impact on Critical Facilities/Lifelines:	By increasing flood capacity through the restoration work, neighborhood flooding is reduced, which decreases the demand for emergency response calls. It also supports maintaining full operation of City Hall during heavy rain events, when localized flooding is known to occur around the building.
Impact on Capabilities:	Reduces the demand for emergency response services and disruption of City Hall operations.
Climate Change Considerations:	The risk of increased flood events is anticipated with more frequent heavy precipitation events projected with climate change.
Mitigation Category	Natural Systems Protection, Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Natural Resource Protection, Structural Flood Control Projects
Priority	Medium

Action 2026-Rohnert Park-16. Storm Detention Facilities

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	-
Hazards of Concern:	Flood
Description of the Problem:	The eastern edge of the City is susceptible to flooding when new development occurs. Upstream detention facilities are needed to mitigateflood risk. Due to increased construction costs over time, the previous FEMA grant awarded for this item did not fully cover the cost of construction, even with the City's fair share commitment.
Description of the Solution:	Re-apply for and obtain new grant funds to construct a system of upstream storm water detention facilities on the eastern edge of the community to reduce flooding risk as new development occurs. Project estimate developed for large upstream detention basin in 2023 was $25 million.
Estimated Cost:	High (>$100,000)
Potential Funding Sources:	CIP, Development Fees, FEMA grant, Other grant resources.
Implementation Timeline:	2030
Objectives Met:	1, 3, 7, 10
Benefits:	Mitigate flood risk for new development in an area with susceptibility.
Impact on Socially Vulnerable Populations:	Climate adaptation in action to mitigate flood risks for all residents in the area, including vulnerable populations who are disproportionally impacted by hazard events.
Impact on Future Development:	Requires the construction of detention facilities to mitigate flood risk for new development.
Impact on Critical Facilities/Lifelines:	Reduces the frequency of disruptions or closures to roadways in this area.
Impact on Capabilities:	Reduces flooding risk to transportation networks in the development area, lessening disruptions for emergency response services and evacuation routes.
Climate Change Considerations:	Climate adaptation in anticipation of more extreme precipitation events that develop into flooding hazards.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection, Structural Flood Control Projects
Priority	Medium

Action 2026-Rohnert Park-17. Outreach for Warming and Cooling Centers

Lead Agency:	City of Rohnert Park Administration
Supporting Agencies:	Public Works, Community Services, Public Safety
Hazards of Concern:	Extreme Cold, Extreme Heat
Description of the Problem:	Vulnerable populations such as seniors, low-income residents, and unhoused people are often difficult to reach and most impacted by extreme heat and cold events.
Description of the Solution:	Identify the location of City and/or County warming and cooling centers in advance of extreme weather events. Disseminate facility location, operating hours, and transportation access via the City website and social media accounts. This will inform both the public and service partners who support vulnerable groups, enabling faster mobilization.
Estimated Cost:	Low (<$10,000) Medium
Potential Funding Sources:	General Fund.
Implementation Timeline:	Ongoing
Objectives Met:	5, 13
Benefits:	Gives more people access to safe, climate-controlled environments during times of extreme heat and cold events.
Impact on Socially Vulnerable Populations:	Enables more effective outreach to socially vulnerable populations, creating more equitable use of facilities.
Impact on Future Development:	None.
Impact on Critical Facilities/Lifelines:	Provides advance notice of severe heat and cold weather events so people can make preparations to withstand the impacts, access safe places, and reduce the number of emergency response calls.
Impact on Capabilities:	Improves the City’s ability to serve the people who need access to climate-controlled environments during extreme temperature events.
Climate Change Considerations:	Plans for the need to provide warming and cooling center access with the anticipated increase in extreme heat and cold events.
Mitigation Category	Education and Awareness
CRS Category	Public Information
Priority	High

Action 2026-Rohnert Park-18. Community Alert Network

Lead Agency:	City of Rohnert Park Public Admin
Supporting Agencies:	Public Works, Public Safety
Hazards of Concern:	Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	It is difficult to reach all impacted community members with information regarding closed roads and services during natural disaster events.
Description of the Solution:	Maintain a presence at local events to encourage people to sign up for Public Safety alerts. Utilize the City website and social media accounts to provide community alerts for registrants.
Estimated Cost:	Low (<$10,000)
Potential Funding Sources:	General Fund
Implementation Timeline:	Ongoing
Objectives Met:	5, 13
Benefits:	Creates a broader reach with communication in the community.
Impact on Socially Vulnerable Populations:	Vulnerable populations are part of the wider network this item seeks to establish using an expansive variety of communication platforms.
Impact on Future Development:	None.
Impact on Critical Facilities/Lifelines:	Helps direct people toward the most appropriate and functional critical facilities for the circumstance.
Impact on Capabilities:	Improves safety as a result of expanding outreach capabilities. By interfacing with the community at events and developing a more extensive list of registrants to reach with alerts, the City achieves greater success in keeping community members informed.
Climate Change Considerations:	With an expectation that hazards will occur more frequently, this action recognizes the need to have successful channels of communication to keep the community informed.
Mitigation Category	Education and Awareness Program
CRS Category	Public Information
Priority	Medium

Action 2026-Rohnert Park-19. Road Closure Equipment

Lead Agency:	City of Rohnert Park Public Works
Supporting Agencies:	-
Hazards of Concern:	Flood
Description of the Problem:	Heavy rain events can cause the nearby Laguna de Santa Rosa wetland complex to flood Rohnert Park roadways. This results in stranded vehicles and closed roads. Some drivers proceed down roads, despite the presence of road closure signs.
Description of the Solution:	Develop a more robust method of road closure equipment during heavy rain events that prevent vehicle access on closed roads.
Estimated Cost:	Medium (Between $10,000-$100,000), High $200,000
Potential Funding Sources:	General Fund
Implementation Timeline:	2027
Objectives Met:	5, 10, 13
Benefits:	Reduces the ability of drivers to proceed down the roadway in situations that result in stalled or abandoned vehicles.
Impact on Socially Vulnerable Populations:	Strives to protect all people from unsafe roadways, including vulnerable populations where the loss or damage of a vehicle can be financially devastating.
Impact on Future Development:	Assumed irrelevant, unless “development” consists of the installation of temporary roadway closure equipment that prevents the passing of vehicles.
Impact on Critical Facilities/Lifelines:	The City will need to evaluate whether installing more restrictive road closure equipment would hinder emergency vehicles and whether it would be safe for those types of vehicles to still access the roadway in a closure situation for the general public. If not, the action itself does not anticipate an impact on critical facilities alone. The rain itself impacts road and emergency access by the nature of the road closure on its own.
Impact on Capabilities:	Preventing cars from traveling on unsafe flooded roads reduces the number of incidents public safety and other emergency services must respond to during a hazard event, allowing them to focus on less preventable emergencies.
Climate Change Considerations:	More frequent extreme precipitation events are anticipated with climate change, which will likely result in more numerous and frequent flooding that causes road closures.
Mitigation Category	Structure and Infrastructure Project, Education and Awareness Program
CRS Category	Public Information, Emergency Services
Priority	High

Action 2026-Rohnert Park-20. Hi/Lo Siren Education

Lead Agency:	City of Rohnert Park Public Safety
Supporting Agencies:	Public Works
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	Hi-Lo sirens with auditory bilingual evacuation alerts were recently installed on all public safety patrol vehicles. However, many community members are unfamiliar with the purpose of this system and what to do in response.
Description of the Solution:	Continue to develop opportunities to educate the public on the purpose of the early warning sirens through social media and community outreach events. Expose the community to this early warning system through annual drill exercises. Develop methods to reach people who do not have social media accounts.
Estimated Cost:	Low (<$10,000)
Potential Funding Sources:	General Fund
Implementation Timeline:	2026
Objectives Met:	5, 13
Benefits:	The community is educated on a new system to help alert people when there is a need to evacuate. Use of a siren system has the benefit of quickly reaching people in the most targeted, appropriate areas.
Impact on Socially Vulnerable Populations:	The audible siren is widely detected by the public, with the exception of the hearing impaired. The form of communication alert doesn't require access to news sources, social media, or written information. This tool has the capability to reach socially vulnerable populations more extensively. However, the initial challenge is education on the purpose of the siren.
Impact on Future Development:	None.
Impact on Critical Facilities/Lifelines:	Hi-Lo sirens are installed on existing patrol vehicles, adding more value/capability to the vehicle fleet.
Impact on Capabilities:	As a tool, the siren provides immense mobility in alerting the community. With sufficient public education on the purpose and call to action when Hi-Lo sirens are used, it has the potential to alert community members much more quickly than electronic and social media messages.
Climate Change Considerations:	Extreme weather events are expected more frequently because of climate change, which can result in more frequent evacuation orders. The Hi-Lo sirens help prepare Public Safety with early warning technology.
Mitigation Category	Education and Awareness program
CRS Category	Public Information, Emergency Services
Priority	High

8. CITY OF SANTA ROSA

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Santa Rosa with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the City. The annex presents a general overview of Santa Rosa, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

8.1 HAZARD MITIGATION PLANNING TEAM

The City of Santa Rosa identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Santa Rosa Fire Department represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The City officials who participated in the development of the annex are listed below and shown in Table 8-1. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Neil Bregman, Emergency Preparedness Manager

Address: 2373 Circadian Way, Santa Rosa, CA 95407

Phone Number: 707-543-3525

Email: nbregman@srcity.org

Alternate Point of Contact: Conor McKay, Planner

Address: 100 Santa Rosa Avenue, Santa Rosa, CA 95404

Phone Number: 707-543-4351

Email: ctmckay@srcity.org

NFIP Administrator: Jimmy Bliss

Title: Chief Building Official

Address: 100 Santa Rosa Avenue, Room 3, Santa Rosa, CA 95404

Phone Number: 707-543-3207

Email: JBliss@srcity.org

Table 8-1. Additional Contributors

Name	Department	Position	HMP Contribution
Adam Able	City Attorney	Assistant City Attorney	Participated in the planning process.
Neil Bregman	Fire	Emergency Preparedness Manager	Provided information on worksheets, and participated in meetings, and planning process.
Kemplen Robbins	Fire	Assistant Fire Marshal	Participated in the planning process.
Paul Lowenthal	Fire	Division Chief Fire Marshal	Participated in the planning process.
Michael Guerrero	Housing & Community Services	Program Specialist I	Participated in the planning process.
Chris Greene	IT	GIS Analyst	Participated in the planning process.
Mike Hargraves	IT	GIS Analyst	Participated in the planning process.
Matt Stull	IT	GIS Coordinator	Participated in the planning process.
Conor McKay	PED	Senior Planner	Provided information on worksheets and participated in the planning process.
Amy Nicholson	PED	Supervising Planner	Provided information on worksheets and participated in the planning process.
Jimmy Bliss	PED	Chief Building Official	Participated in the planning process.
Dave Avila	Public Works	Street Maintenance Superintend	Participated in the planning process.
Doug Williams	Public Works	Facilities Maintenance Coordinator	Participated in the planning process.
Jeremy Gundy	Public Works	Deputy Director, Field Services	Participated in the planning process.
Jen Santos	Parks	Deputy Director, Parks	Participated in the planning process.
Nick Vinh	Risk/HR	Risk Manager	Participated in the planning process.
Pamela Lorence	SRPD	ASO	Participated in the planning process.
Joe Schiavone	Water	Deputy Director Water & Sewer Operations	Participated in the planning process.
Andy Allen	Water	Supervising Engineer	Participated in the planning process.
Lori Urbanek	Water	Dep Dir Engineering Resources	Participated in the planning process.
Mike Prinz	Water	Dep Dir Regional Water Reuse Ops (LTP)	Participated in the planning process.
Liz Hanley	Water	Supervising Engineer	Participated in the planning process.

8.2 COMMUNITY PROFILE

The City of Santa Rosa has a deep cultural heritage, originally inhabited by Native American tribes such as the Pomo, Miwok, and Wappo for over 7,000 years. Spanish settlement began in the early 1800s, with the first land grant issued in 1841. The Gold Rush and California's statehood spurred early

growth, leading to the establishment of a town square in the 1850s. Santa Rosa was incorporated in 1868 and became the county seat of Sonoma County.

By 1870, it was among California's largest cities, though its growth slowed compared to other urban centers. The 1906 earthquake and the Great Depression hindered economic development, but post-WWII growth surged, especially between 1950 and 2000, driven by suburban expansion. Growth slowed after 2010, and the population declined slightly between 2017 and 2020.

Wildfires have significantly impacted the city. The 2017 Tubbs and Nuns fires destroyed about 5 percent of homes, with rebuilding still ongoing as of 2020. The 2020 Glass Fire caused additional residential damage in eastern Santa Rosa

Santa Rosa is in central Sonoma County, located approximately 55-miles north of San Francisco along US Highway 101 and 20 air miles from the Pacific Ocean. Santa Rosa is bisected by US Highway 101, which runs north to south through the City and State Route (SR) 12 which runs east to west across the City, roughly dividing Santa Rosa into quadrants. Santa Rosa is bordered by unincorporated Sonoma County on most sides. Sebastopol is to the southwest of the City and Rohnert Park is located approximately eight-miles due south. Prominent terrain features east of the City include Bennett Peak, Mount Hood, and Sonoma and Taylor Mountains. Santa Rosa is the largest city in Sonoma County with an urban growth boundary (UGB) that spans 42.81-square-miles.

According to the U.S. Census, the 2020 population for Santa Rosa was 178,127, a 6.0 percent increase from the 2010 Census. The 2023 American Community Survey (ACS) estimated that the 2023 population of Santa Rosa was 177,216; this estimate is used throughout the HMP.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the U.S. Census 2023 American Community Survey (ACS) indicates that 4.9 percent of the population is 5 years of age or younger, 18.6 percent is 65 years of age or older, 5.5 percent is non-English speaking, 9.4 percent is below the poverty threshold, 12.6 percent is considered disabled, 2.4 percent are a single parent household, and 6.1 percent have no vehicle access.

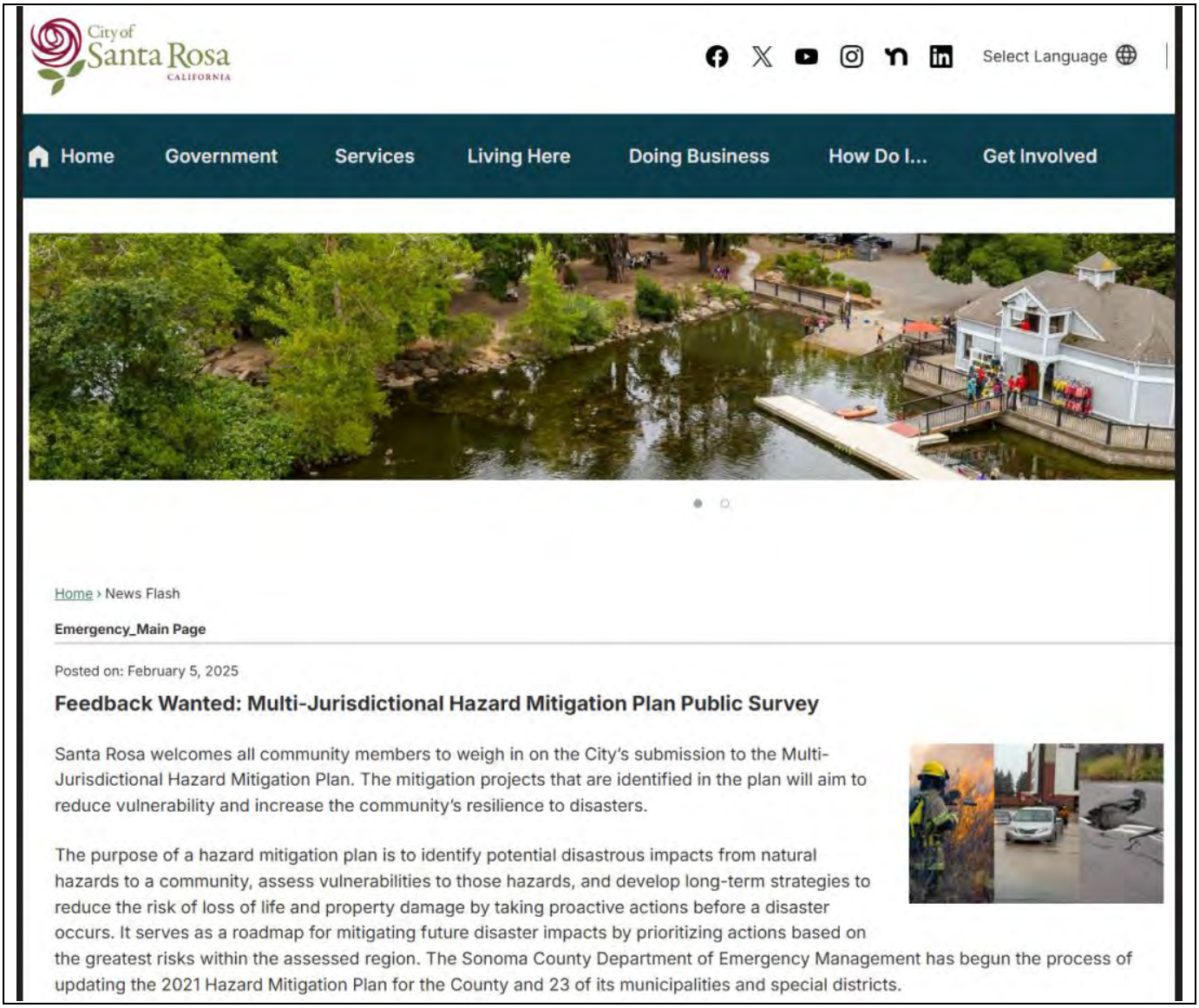
In 2024, the total homeless population in the City of Santa Rosa was reported as 1,365 individuals, including 664 sheltered and 701 unsheltered persons (Sonoma County 2024).

8.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In 2025, the City of Santa Rosa undertook a series of public outreach efforts to support the development and update of the HMP. These initiatives were designed to gather input from residents and stakeholders to inform the City's approach to risk reduction and community resilience.

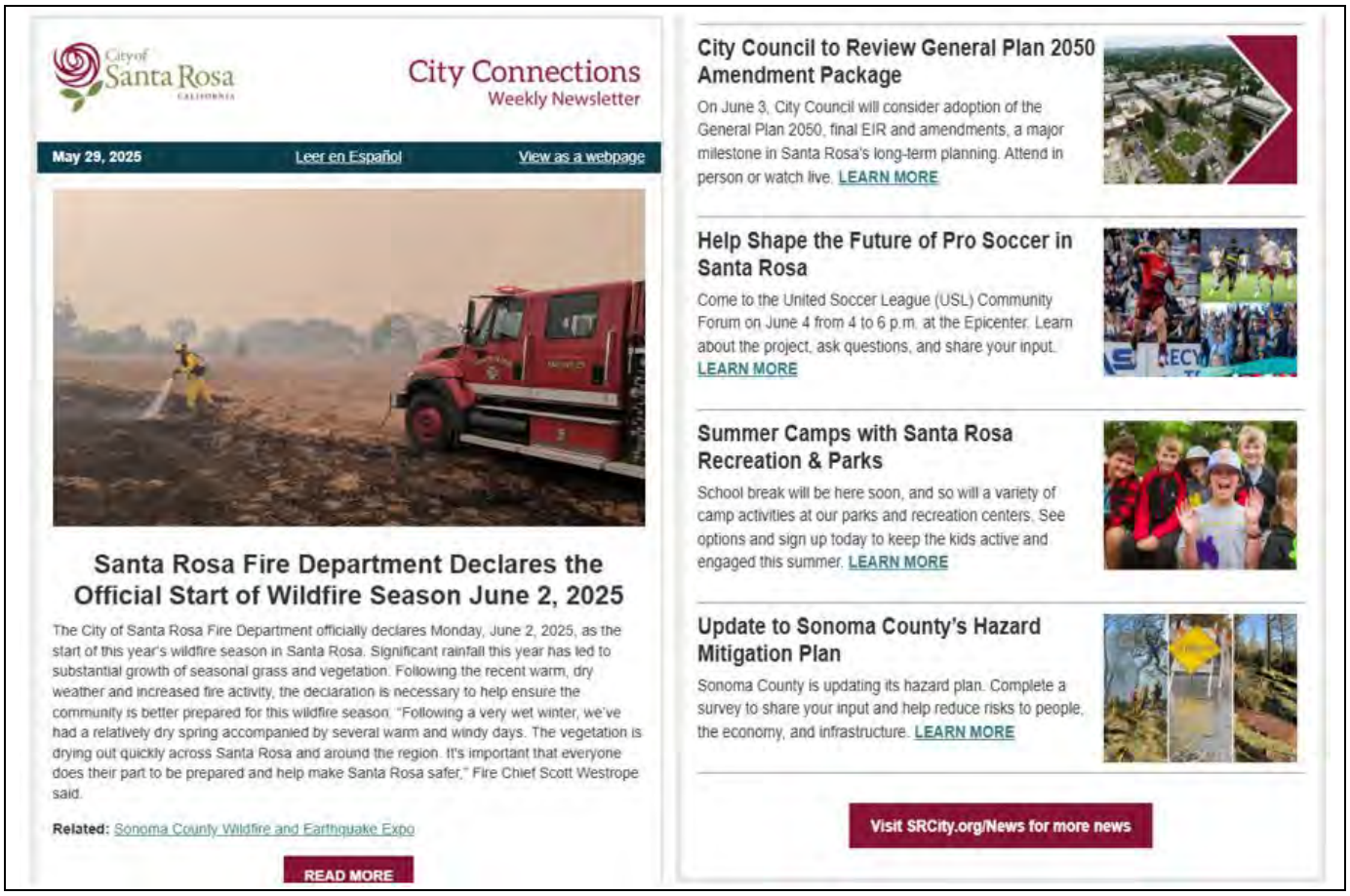
On February 5, 2025, the City published a newsletter in the News Flash section of its official website (Figure 8-1), inviting all community members to participate in the Hazard Mitigation Plan Public Survey. This survey aimed to collect feedback on perceived hazards and mitigation priorities across the jurisdiction.

Figure 8-1. City of Santa Rosa Newsletter – Website



Subsequently, on May 29, 2025, the City distributed a second survey through its City Connections weekly newsletter (Figure 8-2), seeking additional public input specifically for the 2026 update of the HMP. This step was part of a broader effort to ensure that the planning process reflects a wide range of community perspectives.

Figure 8-2. City of Santa Rosa – City Connections Newsletter



City of Santa Rosa

City Connections
Weekly Newsletter

May 29, 2025 | Leer en Español | View as a webpage

Santa Rosa Fire Department Declares the Official Start of Wildfire Season June 2, 2025

The City of Santa Rosa Fire Department officially declares Monday, June 2, 2025, as the start of this year's wildfire season in Santa Rosa. Significant rainfall this year has led to substantial growth of seasonal grass and vegetation. Following the recent warm, dry weather and increased fire activity, the declaration is necessary to help ensure the community is better prepared for this wildfire season. "Following a very wet winter, we've had a relatively dry spring accompanied by several warm and windy days. The vegetation is drying out quickly across Santa Rosa and around the region. It's important that everyone does their part to be prepared and help make Santa Rosa safer," Fire Chief Scott Westrope said.

Related: Sonoma County Wildfire and Earthquake Expo

READ MORE

City Council to Review General Plan 2050 Amendment Package

On June 3, City Council will consider adoption of the General Plan 2050, final EIR and amendments, a major milestone in Santa Rosa's long-term planning. Attend in person or watch live. LEARN MORE

Help Shape the Future of Pro Soccer in Santa Rosa

Come to the United Soccer League (USL) Community Forum on June 4 from 4 to 6 p.m. at the Epicenter. Learn about the project, ask questions, and share your input. LEARN MORE

Summer Camps with Santa Rosa Recreation & Parks

School break will be here soon, and so will a variety of camp activities at our parks and recreation centers. See options and sign up today to keep the kids active and engaged this summer. LEARN MORE

Update to Sonoma County's Hazard Mitigation Plan

Sonoma County is updating its hazard plan. Complete a survey to share your input and help reduce risks to people, the economy, and infrastructure. LEARN MORE

Visit SRCity.org/News for more news

The following targeted outreach was made to underserved communities and vulnerable populations:

- Low-income individuals and families
- Racial or ethnic groups experiencing disparate health outcomes
- Seniors, children, youth, and young adults
- Individuals with disabilities
- Immigrants and refugees
- Individuals who have limited English proficiency
- Unhoused people

In order to invite underserved and vulnerable populations to be involved in the process, the City of Santa Rosa leveraged relationships with non-governmental organizations including Latino Service Providers, Catholic Charities, and Redwood Empire Foodbank, as well as governmental organizations such as the Council on Aging, Disability Services and Legal Center, Sonoma County Secure Families Collaborative, and Santa Rosa City School District. Approaches varied based on the populations but often included direct contact with these organizations to distribute flyers inviting individuals to attend community workshops or participate in online surveys. The City also conducted focused small group discussions as appropriate and/or attended pop-up events.

8.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Santa Rosa invited stakeholders relevant to their planning process to participate by attending an HMWG meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

8.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. These agencies played a key role in shaping mitigation strategies and ensuring alignment with existing emergency plans.

- Sonoma County Department of Emergency Management
- Sonoma Water
- CAL FIRE
- Sonoma County Fire District
- Sonoma County COAD
- County of Sonoma
- City of Cloverdale
- City of Cotati
- City of Healdsburg
- City of Petaluma
- City of Rohnert Park
- City of Sebastopol
- City of Sonoma
- Town of Windsor
- Sonoma County Department of Health Services
- Metropolitan Transportation Commission (MTC)
- Cal OES
- Caltrans
- California Department of Water Resources (DWR)
- FEMA Region 9
- NWS Forecast Office San Francisco, Bay Area
- U.S. Army Corps of Engineers

- Fire Safe Sonoma
- American Red Cross
- Catholic Charities of Santa Rosa
- Salvation Army
- Sonoma County Office of Education
- Sonoma Resource Conversation District
- Northern Sonoma County Fire Protection District
- Cloverdale Fire Protection District
- Gold Ridge Preservation District
- Sonoma County Agricultural Preservation & Open Space District
- Rancho Adobe Fire
- Timber Cove Fire Protection District
- North Sonoma Coast Fire Protection District

8.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. Their involvement ensured that proposed actions were feasible and aligned with local codes and ordinances.

- Permit Sonoma
- Sonoma County Board of Supervisors
- City of Santa Rosa
- Santa Rosa City Council
- California Coastal Commission
- California Department of Transportation (Caltrans)
- California Department of Fish and Wildlife (CDFW)
- Cloverdale Rancheria of Pomo Indians
- Dry Creek Rancheria Band of Pomo Indians
- Federated Indians of the Graton Rancheria
- Kashia Band of Pomo Indians of the Stewarts Point Reservation
- Lytton Rancheria Band of Pomo Indians
- North Coast Regional Water Quality Control Board

8.4.3 Neighboring Communities

Neighboring jurisdictions and institutions were invited to participate in the planning process to promote regional coordination and address shared risks. Their involvement helped identify interdependencies,

such as shared infrastructure and emergency services, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- Sonoma Valley Groundwater Sustainability Agency
- Petaluma Valley Groundwater Sustainability Agency
- Santa Rosa Plain Groundwater Sustainability Agency

8.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team collaborated with local businesses and academic institutions within the incorporated limits of Santa Rosa on public safety and mitigation efforts in general. Their ongoing input on economic resilience, infrastructure continuity, and long-term risk assessment supports all of the city's emergency management planning, including this plan at a high level. This collaboration helps ensure the needs of the Santa Rosa community are addressed and encourages strong public-private partnerships in mitigation. We meet regularly with academic institutions, including their superintendents, safety officers, and facilities staff, to discuss these issues and gather their input on public safety and mitigation priorities.

- Santa Rosa Chamber of Commerce
- Bellevue Union Elementary School District
- Bennet Valley Union Elementary School District
- Santa Rosa Chamber of Commerce
- Piner/Olivet Union Elementary School District
- Rincon Valley Union Elementary School District
- Roseland Elementary School District
- Santa Rosa City Elementary School District
- Wright Elementary School District
- Santa Rosa City High School District
- Santa Rosa Junior College

8.4.5 Nonprofit Organizations and Community-Based Organizations

The City of Santa Rosa works closely with the organizations listed below through ongoing Emergency Management and other collaborative meetings and efforts. Together, we focus on improving public safety, developing mitigation measures that engage the community, and making the city safer every day. Our staff regularly meets with these partners at a variety of meeting to discuss mitigation actions and ways to strengthen the community.

Many of the hazard mitigation actions reflect input from these ongoing collaborations, incorporating feedback from community members, stakeholders, and partner organizations. Nonprofit and community-based organizations play a key role in ensuring the needs of vulnerable populations and

individuals with access and functional needs are addressed. Their involvement provides critical insight into outreach, emergency support services, and equity considerations, helping shape inclusive and accessible mitigation strategies. We actively engage with many of these groups through the Sonoma County COAD and other large-scale nonprofit coalition meetings, where they serve as key stakeholders. These forums provide valuable opportunities to collaborate, share expertise, and align efforts to strengthen community resilience and advance public safety and mitigation priorities.

- Los Cien
- Health Action Together
- Generation Housing
- AAPIC North Bay
- NAACP Santa Rosa
- Latino Service Providers
- South Park Coalition
- Council on Aging
- Redwood Empire Food Bank
- Food for Thought
- Catholic Charities
- St. Vincent de Paul
- Disability Services and Legal Center
- Sonoma County Secure Families Collaborative

8.5 CHANGES IN COMMUNITY PRIORITIES

The City of Santa Rosa has had no change in priorities since the last approval of the mitigation plan.

8.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Santa Rosa performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs

- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Santa Rosa to identify opportunities for integrating mitigation concepts into ongoing City procedures.

8.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The sections below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 8-2 summarizes the codes, ordinances, and regulations available to the City of Santa Rosa.

Table 8-2. City of Santa Rosa Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	2022 California Code (Title 24) with local amendments adopted by City Council; Ordinance No. 2022-015—effective January 1, 2023.	The building code has provisions to hold construction to a minimum standard to withstand hazardous forces (wind, seismic, rain, flood, etc.). There are building codes in place that meet or exceed those outlined in the National Flood Insurance Program's guidelines for safe building practices.	Municipal	Building Division / Planning and Economic Development Department
Zoning/Land Use Code	Title 20 of the Santa Rosa City Code adopted by City Council Ordinance No. 3677 on August 3, 2004—effective September 3, 2004 and as subsequently amended.	The Zoning Code establishes a larger setback for new development that is located in the vicinity of creeks. Permitting requirements for specific land uses are reduced in areas designated as Priority Development Areas, which are areas of the City that are generally less prone to natural disasters.	Municipal	Planning Division / Planning and Economic Development Department

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Subdivision Code	Title 19 of the Santa Rosa City Code adopted by City Council Ordinance No. 2622 on August 11, 1987—effective September 11, 1987 and as subsequently amended.	Title 19 of the Santa Rosa City Code provides grounds for denial of a Tentative Map for the subdivision of land that results in a risk to public health and safety. Subdivisions shall be designed to provide for future passive or natural heating or cooling opportunities.	Municipal	Engineering Development Services
Stormwater Management Code	Local jurisdiction in the Storm Water Ordinance (City Code Chapter 17-12) adopted by City Council Ordinance No. 3272 in 1996 and as subsequently amended.	The City has provided design guidelines for permanent storm water features in a series of manuals since July 13, 2005. The most recent Low Impact Development Technical Design Manual is dated May 3, 2017, revised April 11, 2022. Federally mandated Clean Water Act requirements are enacted by State Water Resources Control Board.	Municipal	CA State Water Resources Control Board/PED/Water
Post-Disaster Recovery/ Reconstruction Code	2022 California Code (Title 24) with local amendments adopted by City Council; Ordinance No. 2022-015—effective January 1, 2023.	We have a plan for emergency operations center activation during hazardous events and natural disasters. The emergency operations center is designed to provide post-disaster recovery support to the community. Building codes are in place to help reduce the risks associated with hazardous events and natural disasters and promote safe reconstruction thereafter.	Municipal (others as needed)	Multiple Departments
Real Estate Disclosure	CA State Civil Code 1102 requires full disclosure on natural hazard exposure of the sale/re-sale of all real property.	California State Civil Code 1102 reduces risk by ensuring that buyers and sellers of real property are fully informed about natural hazard exposure during the sale or resale process. The law mandates that sellers disclose any known risks related to hazards such as earthquakes, floods, wildfires, and landslides. This transparency allows potential buyers to make informed decisions, enabling them to assess and prepare for the risks associated with the property. By providing critical information upfront, the law helps reduce financial, safety, and liability risks for both buyers and sellers, and encourages property owners to take appropriate mitigation measures.	State	State of California
Growth Management	Chapter 21-03 of the Santa Rosa City Code adopted by City Council Ordinance No. 29060 on June 9, 1992, was removed as part of the General Plan update and subsequent municipal code amendments in 2025.	The Growth Management Ordinance has been removed from the City's Municipal Code. Therefore, this is not applicable.	Municipal	Planning and Economic Development Department

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Environmental Protection Ordinance	Title 17 of the Santa Rosa City Code adopted by City Council Ordinance No. 2587. The City complies with CEQA, Clean Air Act, Clean Water Act, Endangered Species Act and other State and Federal Laws for public and private development.	Title 17 of the Santa Rosa City Code, adopted by City Council Ordinance No. 2587, reduces risk by ensuring that public and private development projects comply with key environmental regulations such as CEQA, the Clean Air Act, the Clean Water Act, and the Endangered Species Act. Compliance with these laws requires thorough environmental assessments and mitigation measures, addressing potential risks to air quality, water resources, and biodiversity. By enforcing these standards, the city helps minimize environmental hazards, such as pollution, habitat destruction, and resource depletion, thereby promoting long-term sustainability, public health, and resilience to climate change and other environmental risks.	Municipal	Planning and Economic Development Department
Flood Damage Prevention Ordinance	Local jurisdiction in the Storm Water Ordinance (City Code Chapter 17-12) adopted by City Council Ordinance No. 3272 in 1996 and as subsequently amended. Also 2022 California Code (Title 24) with local amendments adopted by City Council; Ordinance No. 2022-015—effective January 1, 2023.	City crews maintain storm drain system and some creeks for flood capacity. Sonoma Water manages the Central Sonoma Watershed Project with includes four flood attenuation reservoirs and enhanced capacity flood control channels.	Municipal	Planning and Economic Development Department
Emergency Management Ordinance	City of Santa Rosa Code of Ordinances, Chapter 2 – 24 Emergency Organizations and Functions, adopted June 4th, 2024.	Chapter 2-24 of the City of Santa Rosa Code of Ordinances reduces risk by establishing a framework for disaster preparedness, response, and recovery. It defines emergency powers, roles, and responsibilities, ensuring coordinated actions during emergencies. The ordinance supports proactive risk reduction through hazard mitigation, emergency planning, and community education while promoting collaboration with other agencies. It enables rapid response through emergency declarations and measures, mandates regular updates and training, and engages the community in preparedness efforts. Additionally, it facilitates long-term recovery to minimize disruption and enhance resilience to disasters.	Municipal	Planning and Economic Development Department

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Climate Change Ordinance	City Council adopted a Declaration of a Climate Emergency and Immediate Emergency Mobilization to Restore a Safe Climate, Resolution Number 2020-002, January 14, 2020.	The resolution commits the City to contributing to the development of a countywide 2030 Climate Emergency Mobilization Strategy that will include a short list of the most impactful local policies that will drive systems change and identify the key areas for state level advocacy.	Municipal	Planning and Economic Development Department

Planning Documents

Table 8-3 summarizes the planning documents available to the City of Santa Rosa.

Table 8-3. City of Santa Rosa Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	The City's General Plan 2050 was adopted by the City Council on June 3, 2025.	The updated General Plan incorporates Open Space, Greenhouse Gas Reduction, Safety, Climate Resilience, Noise, and Public Services & Facilities. These elements address existing conditions and include goals and policies that address existing issues and improve the City's regulations related to general hazards. The Safety Element is compliant with AB 2140 because it includes a current, FEMA-approved Local Hazard Mitigation Plan. In addition, to comply with the requirements of California AB 747, the City has contracted with a consultant to provide evacuation analysis that will include the identification of evacuation routes and their capacity, safety, and viability under a range of emergency scenarios. The recommendations from this analysis will be incorporated into the Safety Element of the General Plan 2050 in late 2026 or early 2027. **Is the plan compliant with Assembly Bill 2140?** Yes	Municipal	Planning and Economic Development Department

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Capital Improvement Plan	The City's Capital Improvement Plan is a five-year plan which is updated annually.	The Capital Improvement Plan (CIP) reduces risk by addressing infrastructure needs that directly enhance the city's ability to withstand and recover from natural hazards. Key projects in Santa Rosa's CIP may include upgrading water systems to ensure reliable supply during droughts or wildfires, improving stormwater management to reduce flooding, reinforcing roads and bridges to withstand earthquakes, and investing in energy systems to maintain power during outages. By focusing on the city's most vulnerable infrastructure, the CIP helps mitigate risks related to climate change, seismic activity, and other natural disasters, thereby protecting public safety, reducing financial losses, and improving the city's resilience in the face of emergencies. The plan is updated annually.	Municipal	Planning and Economic Development Department
Disaster Debris Management Plan	State debris removal program Debris Removal Guidance on Website	During the semi-recent wildfires, we developed disaster debris management support for victims available on our website directing them to support from multiple government agencies and providing needed forms to assist in clean-up efforts. Application process can be found here.	Municipal and State	Planning and Economic Development Department
Urban Water Management Plan	City of Santa Rosa's Urban Water Management Plan Update in progress in 2021	The City of Santa Rosa's Urban Water Management Plan (UWMP) reduces risk by ensuring a reliable, sustainable water supply even during droughts, population growth, or emergencies. The plan diversifies water sources, including groundwater, recycled water, and imported water, to minimize reliance on a single source. It includes drought resilience strategies, such as water conservation programs and infrastructure upgrades, to prevent shortages. The plan also addresses potential climate change impacts and promotes emergency preparedness, ensuring the city can respond effectively to disruptions. Overall, the UWMP helps safeguard water resources, supports efficient water use, and ensures long-term water security for the community.	Municipal	Santa Rosa Water

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Habitat Conservation Plan	Habitat Conservation Plan	The Habitat Conservation Plan (HCP) reduces risk by identifying critical habitats that are vulnerable to development and environmental degradation, and it outlines strategies to minimize impacts from urban growth and infrastructure projects. These strategies include land preservation, habitat restoration, and the mitigation of any harm to endangered or threatened species. By proactively addressing habitat conservation, the HCP helps maintain biodiversity, protects ecosystems that provide essential services (such as flood control and water purification), and ensures compliance with federal and state environmental regulations, reducing legal and environmental risks. The plan supports long-term environmental sustainability, reducing the risk of species extinction and ecosystem collapse.	Municipal	Planning and Economic Development Department
Economic Development Strategy	City of Santa Rosa's Economic Development Strategic Plan, April 2024	The City of Santa Rosa's **Economic Development Strategic Plan** can reduce the risk of natural disaster impacts by promoting resilience in the local economy and infrastructure. The plan encourages the development of businesses and industries that are less vulnerable to natural disasters, such as those related to green technology or sustainable construction, which can help the city adapt to changing environmental conditions. By strengthening infrastructure, such as improving flood defenses, retrofitting buildings for seismic safety, and ensuring business continuity during emergencies, the plan supports the city's ability to recover quickly after a disaster. Furthermore, by fostering a diversified and adaptive economy, the plan helps ensure that the city can sustain its economic health even in the aftermath of a natural disaster, reducing long-term financial and operational risks.	City	Planning and Economic Development Department

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Community Wildfire Protection Plan	City of Santa Rosa Community Wildfire Protection Plan approved by City Council on September 18, 2020	The City of Santa Rosa's Community Wildfire Prevention Plan reduces risk by implementing strategies to prevent, prepare for, and mitigate the impacts of wildfires. The plan includes measures such as creating an ordinance to improve defensible space around homes and buildings, conducting prescribed burns and pile burns to reduce fuel loads, and improving emergency response capabilities. It also focuses on community education to raise awareness about wildfire risks and preparedness, as well as enhancing infrastructure like firebreaks and water supply systems to support firefighting efforts. By proactively addressing wildfire risks, the plan helps reduce the likelihood of wildfires spreading to urban areas, minimizes potential property damage, and ensures a quicker recovery in the event of a wildfire, ultimately protecting public safety and reducing long-term economic and environmental damage. The Santa Rosa City Council approved Santa Rosa's Community Wildfire Protection Plan (CWPP) on September 18, 2020. This 5-year community-based plan is focused on identifying and addressing local hazards and risks from wildfire in the City's Wildland Urban Interface (WUI) areas. The plan determines what is at risk and provides a road map of actions for the community to address the wildfire threat. Upon the conclusion of our existing 5-year plan this year, the Santa Rosa Fire Department enlisted an experienced consultant (AP Triton) to update our existing CWPP. As of the Fall of 2025, City staff is currently in the initial stages of this process. Completed tasks to date include compiling vast amounts of data and information to supply the consultant to support their work. In addition, staff has solicited interest and compiled a comprehensive list of community members that will be a part of the Steering Committee. Next steps include finalizing data sets, scheduling on-site interviews and Steering Committee introductions with our consultant. The plan update will continue into 2026.	Municipal	FIRE

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Community Forest Management Plan	City of Santa Rosa Community Wildfire Protection Plan approved by City Council on September 18, 2020 exceeds the requirements of the 2003 Healthy Forests Restoration Act.	The City of Santa Rosa's Community Wildfire Prevention Plan reduces risk by implementing strategies to prevent, prepare for, and mitigate the impacts of wildfires. The plan includes measures such as creating an ordinance to improve defensible space around homes and buildings, conducting prescribed burns and pile burns to reduce fuel loads, and improving emergency response capabilities. It also focuses on community education to raise awareness about wildfire risks and preparedness, as well as enhancing infrastructure like firebreaks and water supply systems to support firefighting efforts. By proactively addressing wildfire risks, the plan helps reduce the likelihood of wildfires spreading to urban areas, minimizes potential property damage, and ensures a quicker recovery in the event of a wildfire, ultimately protecting public safety and reducing long-term economic and environmental damage. The plan is being updated and in 2025.	City	FIRE

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Transportation Plan	City of Santa Rosa has a General Plan that identifies arterial and collector streets which act at evacuation routes during a disaster. During a disaster, access to the affected area would be limited with road closures as deemed necessary through the EOC. There is not a transportation policy that guides growth; however, new developments do need to meet VMT requirements. Most traffic signals have been outfitted with battery backup which helps control traffic during a disaster where the power has been cut to an area. The General Plan does support mixed use and higher density projects outside the Wildland Urban Interface and nearer transit hubs.	The implementation of road closures following the evacuation of the public helps reduce the risk to those who want a closure look at the fire. Additionally, it increases the Fire Departments accessibility to the area by having reducing conflicts with the public as they are entering the area. The implementation of battery backup at traffic signals, the development of earlier warning systems with Fire Department and development of a flush plan to move traffic along Farmers Lane (a primary evacuation route), all contribute to reduce the risk to the public.	Municipal	Transportation and Public Works

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Climate Action/ Resilience/ Sustainability Plan	Santa Rosa Community-wide Climate Action Plan adopted by City Council Resolution Number 28115 on June 5, 2012 Santa Rosa Municipal Operations Climate Action Plan adopted by City Council Resolution Number 28323 on August 6, 2013	The City of Santa Rosa's Climate Action Plan (CAP) reduces risk by outlining strategies to mitigate the effects of climate change and adapt to its impacts. The plan focuses on reducing greenhouse gas emissions through measures like increasing energy efficiency, promoting renewable energy, improving transportation options, and enhancing waste diversion. It also addresses climate resilience by preparing for the effects of rising temperatures, sea-level rise, and extreme weather events, such as floods and wildfires. By implementing these strategies, the CAP helps the city reduce the long-term risks associated with climate change, protects vulnerable communities, and ensures a more sustainable, resilient future. The plan's emphasis on both mitigation and adaptation reduces environmental, economic, and social risks in the face of a changing climate.	Municipal	Community Development

Response and Recovery Planning Documents

Table 8-4 summarizes the response and recovery planning documents for the City of Santa Rosa.

Table 8-4. City of Santa Rosa Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	City of Santa Rosa Emergency Operations Plan	The City of Santa Rosa's **Emergency Operations Plan (EOP)** reduces risk by establishing clear protocols for coordinated response and recovery during emergencies, ensuring that all city departments and stakeholders understand their roles and responsibilities. The plan enhances preparedness by identifying potential hazards and outlining mitigation strategies, which reduces the impact of disasters. Regular training and simulation exercises based on the EOP ensure efficient and effective response times during actual events. Additionally, by aligning with state and federal emergency management standards, the plan ensures that the city can access necessary resources and support, ultimately improving resilience, protecting public safety, and minimizing damage during emergencies.	Municipal	FIRE

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Continuity of Operations Plan	City of Santa Rosa COOP Plan and Department Annexes	The City of Santa Rosa's Continuity of Operations Plan supports risk reduction by outlining how essential functions will be maintained during and after a disruption. First created in April 2017 and updated in 2020, the plan provides a clear framework for departmental responsibilities, alternate workflows, and critical resource needs. Departmental annexes are reviewed on an ongoing basis to keep operational details current. During this five-year cycle, the City will also pursue a full plan update to ensure alignment with evolving threats, current best practices, and organizational changes. This approach strengthens continuity, improves readiness, and supports reliable delivery of essential public services under adverse conditions.	Municipal	Fire/All departments
Substantial Damage Response Plan	City of Santa Rosa EOP Damage Assessment Annex	In addition to 911 emergency support through the fire and police departments, we have an on-call system for building inspectors to respond to smaller, localized events for structures damaged by disasters or localized incidents (damage to structures due to flooding, fire, trees, cars, etc.). For larger scale disasters, this tool/plan gets enveloped by the emergency operations center response by the overall City team.	Municipal	Fire Department /Building Division / Planning and Economic Development Department
Post-Disaster Recovery Plan	2022 California Code (Title 24) with local amendments adopted by City Council; Ordinance No. 2022-015—effective January 1, 2023.	We have a plan for emergency operations center activation during hazardous events and natural disasters. The emergency operations center is designed to provide post-disaster recovery support to the community. Building codes are in place to help reduce the risks associated with hazardous events and natural disasters and promote safe reconstruction thereafter.	Municipal (others as needed)	Multiple Departments

8.6.2 Integration

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for the City of Santa Rosa to identify opportunities for integrating mitigation concepts into ongoing City procedures.

Table 8-2 through Table 8-4 list the local planning mechanisms currently in place for the City of Santa Rosa. This review revealed that Santa Rosa has made significant progress in aligning its hazard mitigation goals with broader municipal functions. Key planning mechanisms, such as the General Plan

2050, Capital Improvement Plan, Emergency Operations Plan, and Community Wildfire Protection Plan, already incorporate hazard-related policies and strategies. These documents address land use, infrastructure resilience, emergency response, and environmental protection, all of which are critical to reducing long-term risk.

The City of Santa Rosa is committed to institutionalizing hazard mitigation across all departments. Moving forward, the City will continue to incorporate HMP findings, such as risk assessments, vulnerability data, and prioritized mitigation actions, into updates of local plans and policies. This approach ensures that hazard mitigation is not treated as a standalone effort, but as a coordinated, ongoing component of governance, planning, and community development.

8.6.3 Development and Permitting Capability

Table 8-5 summarizes the capabilities of Santa Rosa to oversee and track development.

Table 8-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Planning and Economic Development Department
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Planning and Economic Development Department
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	No	
Describe the level of buildout in your jurisdiction.	N/A	

8.6.4 Administrative and Technical Capability

Table 8-6 summarizes the administrative bodies and programs available to support mitigation initiatives in the City. To expand and improve these capabilities, the City could explore the creation of a mitigation planning committee or open space board.

Table 8-6. Administrative Capabilities

Resources	Available?	Comment
Planning Board	Yes	Planning Commission
Zoning Board of Adjustment	Yes	Zoning Administrator
Planning Department	Yes	Developing, updating and implementing the General Plan and Greenhouse Gas Reduction Strategy, reviewing new developments to be consistent with various regulations related to creek setbacks, hillside development standards, etc.
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	The City's various review authorities act on any California Environmental Quality Act or National Environmental Policy Act documents as required.
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	Economic Development Subcommittee
Public Works/Highway Department	Yes	Development of Capital Improvement Plan, maintenance of critical infrastructure.
Construction/Building/Code Enforcement Department	Yes	Planning and Economic Development
Emergency Management/Public Safety Department	Yes	Fire – Emergency Management and Disaster Preparedness
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Transportation and Public Works
Mutual aid agreements	Yes	Fire
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Human Resources
Other	-	-

Table 8-7 summarizes potential staff and personnel resources available to Santa Rosa and their current responsibilities that contribute to hazard mitigation. To expand and improve these capabilities, the City could explore the creation of new city positions for a resilience officer.

Table 8-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Planning and Economic Development
Engineers or professionals trained in building or infrastructure construction practices	Yes	Planning and Economic Development, Water, and Public Works Departments
Planners or engineers with an understanding of natural hazards	Yes	Planning and Economic Development
Staff with expertise or training in benefit/cost analysis	Yes	Finance Department and analysists in other departments (as specified by job description)
Professionals trained in conducting damage assessments	Yes	Planning and Economic Development
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Information Technology and Water Departments
Staff that work with socially vulnerable populations or underserved communities	Yes	Housing and Community Services
Environmental scientists familiar with natural hazards	Yes	Water Department, Public Works
Surveyors	Yes	Public Works
Emergency manager	Yes	Fire Department/Emergency Preparedness Manager
Grant writers	Yes	Designated staff members within each City department
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-

8.6.5 Fiscal Capability

Table 8-8 summarizes financial resources available to Santa Rosa. To expand and improve these capabilities, the City could explore a stormwater utility fee or open space acquisition program.

Table 8-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes (Utility User Tax for Gas/Electric; Water/Sewer fees for service we provide)
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No

Financial Resources	Accessible or Eligible to Use?
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	-

8.6.6 Education and Outreach Capability

Table 8-9 summarizes the education and outreach resources available to Santa Rosa. To expand and improve these capabilities, the City could explore the creation of a citizen board that addresses issues related to hazard mitigation.

Table 8-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	
Personnel skilled or trained in website development	Yes	
Hazard mitigation information available on your website	Yes	
Social media for hazard mitigation education and outreach	Yes	Twitter, Instagram, Facebook and NextDoor
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	Information on each of the City's alert and warning systems is available at srcity.org/KnowYourAlerts
Natural disaster/safety programs in place for schools		The city works directly with each school district in a working group that includes Emergency Management, police, and fire. We review general safety issues, including active attacker response and evacuations for various events. Schools are also required to develop a comprehensive safety plan, which the City of Santa Rosa reviews and approves each year.

Outreach Resources	Available?	Comment
Organizations that conduct outreach to socially vulnerable populations and underserved populations		The City partners with local nonprofits, COAD, faith-based groups, and community-based organizations to reach socially vulnerable and underserved populations. Emergency Management staff work with these groups to share preparedness information in multiple languages and gather input on hazard risks. Programs like COPE and Map Your Neighborhood help residents build support networks and plan for emergencies.
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events		Santa Rosa delivers hazard information through programs like COPE, which started in Oakmont and now guides neighborhoods across the city to develop response plans, emergency kits, and mutual aid networks. The Ready Santa Rosa platform offers tools including an Evacuation Zone lookup, travel route maps, checklists, and detailed guidance on wildfire, earthquake, flood, and power-outage preparedness. Residents also receive timely alerts via SoCo Alert, Nixle, and social media, and can attend workshops, expos, and community canvassing events to learn protective actions.

8.6.7 Community Classifications

Table 8-10 summarizes classifications for community programs available to Santa Rosa.

Table 8-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	Yes	85.11—Residential	-
Public Protection (ISO Fire Protection Classes 1 to 10)	83.54—Commercial	06/26/2013	-
National Weather Service StormReady Certification	Yes	1/1Y	2016
Firewise Communities classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)			

— = *Not applicable*

8.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 8-11 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 8-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Strong
Extreme Heat	Moderate
Extreme Wind	Strong
Flood	Strong
Landslide	Strong
Sea Level Rise	N/A
Tsunami	Moderate
Wildfire	Moderate

8.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 8.1 is responsible for maintaining this information.

The City has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the City on December 2, 2008, with the most recent

panel updates effective July 31, 2024. The Chief Building Official is responsible for implementing the commitments and requirements of the NFIP by requiring permits for all development within SFHAs shown on the latest FIRM. The Chief Building Official reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The City implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The Chief Building Official uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

Table 8-12 provides a summary of NFIP compliance in Santa Rosa.

Table 8-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	Planning and Economic Development
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes, updates to FEMA maps are underway to reflect changing conditions.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review and GIS, with additional education/outreach related to FEMA floodplain map updates.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	A substantial improvement is defined in Section 18-52.020 https://ecode360.com/42967175?highlight=&searchId=20891874238070000#42967179
What are the barriers to running an effective NFIP program in the community, if any?	Limited building staff resources, specifically for education/outreach.

Question	Comments
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2019
What is the local law number or municipal code of your flood damage prevention ordinance?	Chapter 18-52 of the City Code
What is the date that your flood damage prevention ordinance was last amended?	updated in 2022
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Chapter 18-52 of the City Code, updated in 2022.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Our community is interested and are currently looking at the cost-effectiveness.

8.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. Table 8-13 summarizes the repetitive loss and severe repetitive loss properties in the City.

Table 8-13. Repetitive Loss Summary

Type of Repetitive Loss	Residential	Non-Residential
Repetitive Loss Properties (NFIP definition)	8	2
Repetitive Loss Properties (FMA definition)	1	0
Severe Repetitive Loss Properties (NFIP definition)	1	0
Severe Repetitive Loss Properties (FMA definition)	1	0

Source: (FEMA 2024)
*Note: See **Error! Reference source not found.** for definitions of repetitive loss types presented in this table.*

8.7.2 Flood Vulnerability Summary

Table 8-14 provides a summary of flood vulnerability in Santa Rosa.

Table 8-14. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	Refer to floodplain GIS maps.
Do you maintain a list of properties that have been damaged by flooding?	No.
Do you maintain a list of property owners interested in flood mitigation?	Yes
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	429 people signed up to the email distribution list for the FEMA map update process. Interest will increase during the finalization of this process, which is expected to occur in the next few years.
Are any RiskMAP projects currently underway in your jurisdiction? **If so, state what projects are underway.**	Yes FEMA led update, primarily in urban growth boundary south of City limit
How do you make Substantial Damage determinations?	Trained inspectors are dispatched to determine damage as reported and/or in response to natural disasters.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	None.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? **If there are mitigation properties, how were the projects funded?**	No data is available at this time. Under current FEMA floodplain maps, the number of affected properties is limited.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? **If not, state why.**	Yes

8.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 8-15 through Table 8-17.

Table 8-15. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2021 New Construction Permits Issued	340	12	99	559
2021 Permits Issued within SFHA	0	0	0	0
2022 New Construction Permits Issued	246	55	111	412
2022 Permits Issued within SFHA	0	0	0	0
2023 New Construction Permits Issued	1141	20	104	1265
2023 Permits Issued within SFHA	0	0	2	2

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2024 New Construction Permits Issued	665	2	10	677
2024 Permits Issued within SFHA	0	0	0	0
2025 New Construction Permits Issued	0	0	0	0
2025 Permits Issued within SFHA	0	0	0	0

SFHA = Special Flood Hazard Area
Note: 2025 numbers as of May 2025

Table 8-16. Recent Major Development and Infrastructure from 2021 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Caritas Village	Residential	128 units	465 E Street	N/A	Constructed
Avenue 320 Apartments	Residential	38 units	320 College Avenue	N/A	Constructed
Mahonia Glen	Residential	99 units	5173 Highway 12	Moderate FHSZ (per 2025 update)	Constructed
3575 Mendocino	Residential	162 units	3575 Mendocino Avenue	N/A	Phase 1 constructed
Cannery at Railroad Square	Residential	129 units	3 W 3rd Street	N/A	Constructed
Aviara	Residential	136 units	1385 W College Avenue		
College Creek Apartments	Residential	164 units	2150 W College Avenue	N/A	Constructed
Pullman Phase 2 – Building C	Residential	40 units	701 Wilson Street	N/A	Constructed
Santa Rosa Avenue Apartments	Residential	154 units	2905 Santa Rosa Avenue	N/A	Constructed
38 Degrees North Phase 3 Apartment Homes	Residential	30 units	2660 Petaluma Hill Road	N/A	Constructed
Stony Point Flats	Residential	50 units	2268 Stony Point Road	N/A	Constructed

** Only location-specific hazard zones or vulnerabilities identified.*

Table 8-17. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Lance Drive Housing Development	Mixed	770 units/5,000 SF of commercial	0 Lance Drive	N/A	Planning applications approved, building permit applications expected Summer '25
Fountaingrove Inn Multi-Family Rental Housing Project	Residential	239 units	101 Fountaingrove Parkway	N/A	Under Construction, likely to start leasing Summer or Fall '25
Brookwood Medical	Medical	93,270 SF building	1000 2nd Street	N/A	Planning applications approved, no ETA on building permit applications
The Flats	Residential	24 units	528 B Street	N/A	Planning applications approved, no ETA on building permit applications
Humboldt Street Apartments	Residential	299 units	425 Humboldt Street	N/A	Planning applications approved, no ETA on building permit applications
Ross Street Development	Mixed Use	109 units, 3165 SF commercial	556 Ross Street	N/A	Planning applications approved, no ETA on building permit applications
Residence Inn by Marriot	Lodging	92,100 SF	3558 Round Barn Circle	N/A	Planning applications approved, no ETA on building permit applications
Emerald Isle Condominiums	Residential	82 units	0 Thomas Lake Drive	Moderate and High FHSZ (per 2025 update)	Planning applications approved, no ETA on building permit applications
Smart Village Residential Development – Phase 1	Residential	114 units	34 W 6th Street	N/A	Planning applications approved, no ETA on building permit applications
Stonebridge Subdivision	Residential	108 units	2220 Fulton Road	N/A	Planning applications approved, building permits under review
Ridley Family Apartments	Residential	50 units	1801 Ridley Avenue	N/A	Planning applications approved, no ETA on building permit applications

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
1650 W Steele Lane Apartments	Residential	36 units	1650 W Steele Lane	N/A	Planning applications approved, no ETA on building permit applications
Bennett Valley Road Affordable Housing	Residential	62 units	702 Bennett Valley Road	N/A	Planning applications approved, building permits under review
Kawana Meadows Lots 4A and 70	Residential	53 units	2880 Franz Kafka Avenue	High FHSV (per 2025 update)	Planning applications approved, building permits under review
Mosaic Apartments	Residential	147 units	1683 Petaluma Hill Road	N/A	Planning applications approved, building permits under review
Brittain Townhomes	Residential	82 units	851 Brittain Lane	N/A	Planning applications approved, building permits under review
Burbank Avenue Subdivision	Residential	138 units	1400 Burbank Avenue	N/A	Planning applications approved, building permits under review
Penstemon Place	Residential	59 units	2552 Linwood Avenue	N/A	Planning applications approved, building permits under review
Dutton Meadow Multifamily Residential Project	Residential	70 units	2706 Dutton Meadow	N/A	Planning applications approved, building permits under review
Meadowood Ranch Subdivision	Residential	137 units	2853 Dutton Meadow	N/A	Planning applications approved, no ETA on building permit applications
Colgan Creek	Residential	130 units	3011 Dutton Meadow	N/A	Planning applications approved, building permits under review
Cherry Ranch Development	Residential	67 units	930 Fresno Avenue	N/A	Planning applications approved, building permits under review
MCM @ Santa Rosa	Residential	138 units	3995 Sebastopol Road	N/A	Planning applications approved, no ETA on building permit applications
Tierra de Rosas	Mixed Use	100 units, 144,000 SF	665 Sebastopol Road	N/A	Planning applications approved, building permits under review
Grove Village	Residential	157 units	2880 Stony Point Road	N/A	Under construction

As noted above, only two building permits were issued in SFHAs over the past five years and 99 units were built in the high fire hazard severity zone. In addition, 135 units are scheduled for construction in fire hazard severity zones over the next five years. However, those units represent only 4.2 percent of total anticipated residential development in the City. Therefore, the overall vulnerability has stayed the same since the previous plan was adopted.

8.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Santa Rosa's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

8.9.1 Hazard Area

Maps of probable hazard areas within the City are shown in Figure 8-3 and Figure 8-4. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Santa Rosa has significant exposure.

Figure 8-3. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

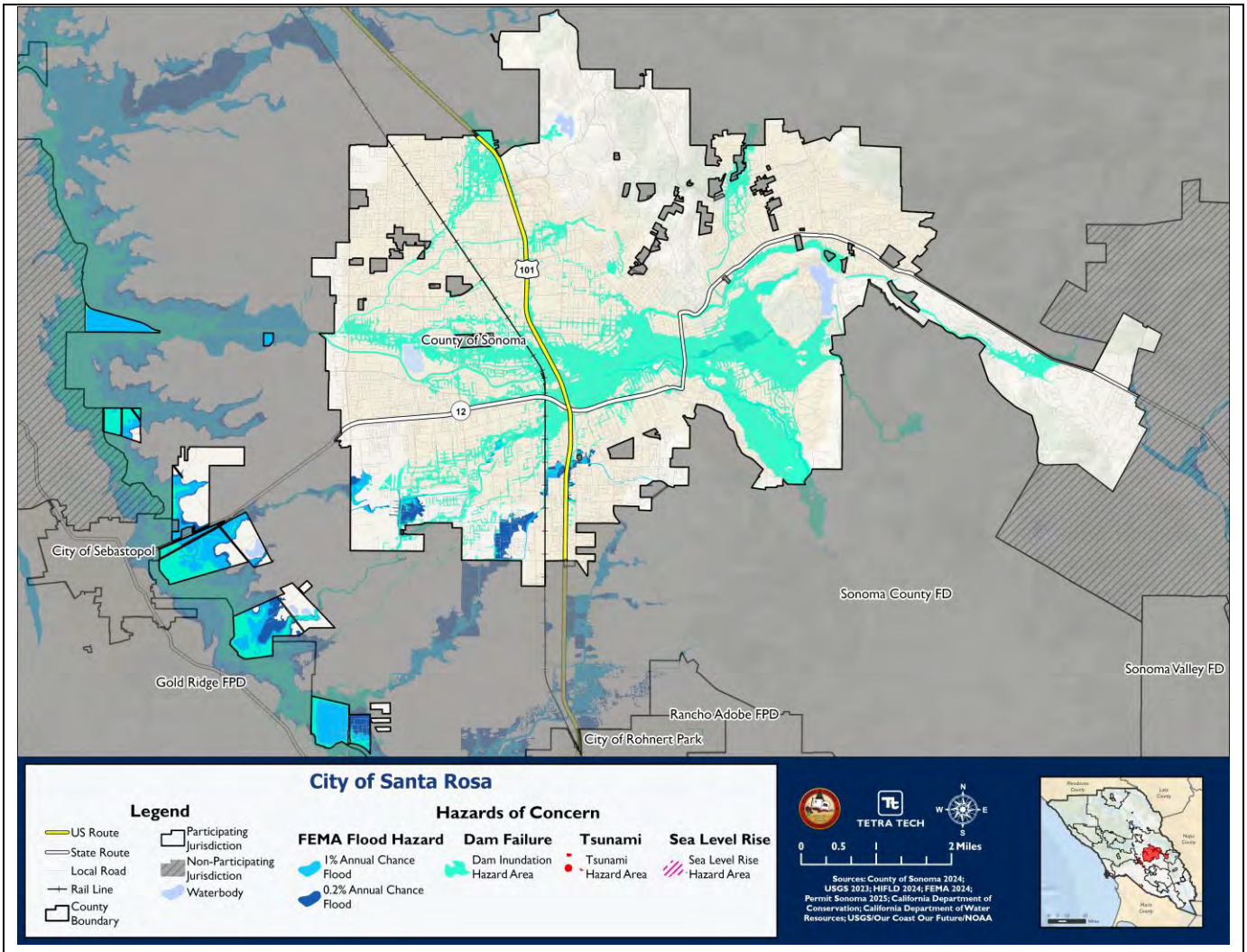
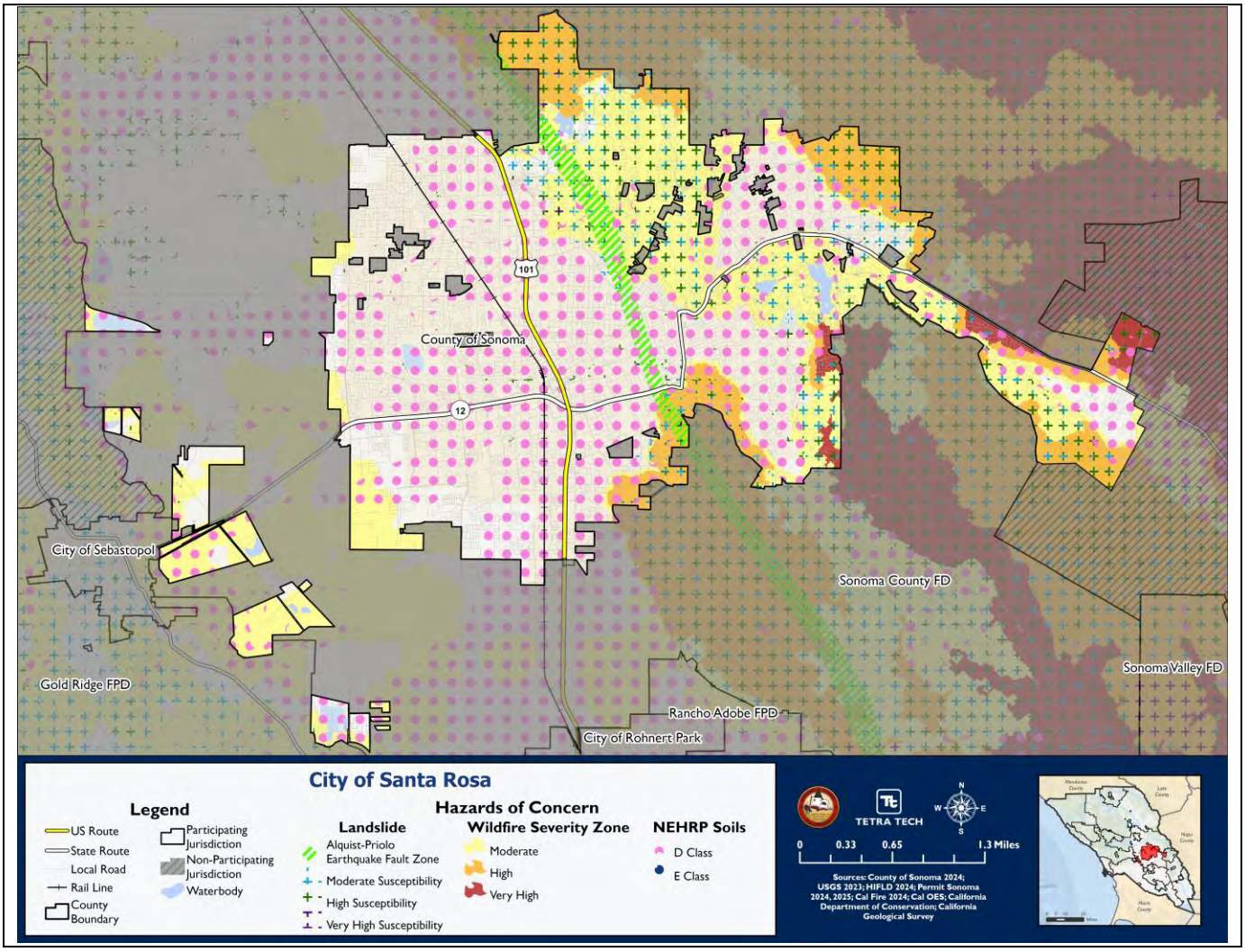


Figure 8-4. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



8.9.2 Hazard Event History

The history of natural and non-natural hazard events in Santa Rosa is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 8-18 provides details on loss and damage in Santa Rosa during hazard events since the last hazard mitigation plan update.

Table 8-18. Hazard Event History in Santa Rosa, 2021-2025

Dates of Event	Event Type	County Designated?	Summary of Event	Summary of Damage and Losses in Santa Rosa
October 24,2021	Flood	-	An atmospheric river event led to significant flooding in Sonoma County, particularly affecting the city of Santa Rosa. The Bennett Valley neighborhood experienced severe flooding due to drainage issues and the overflow of Lornadell Creek, impacting numerous homes. The National Weather Service issued a Flash Flood Warning for the Glass Fire burn scar area. Staff assessed potential mud movement in the hillside behind Yerba Buena Road, with Water Department engineers and public safety officials.	Evacuations: The Santa Rosa Fire Department's Swift Water Rescue Team conducted door-to-door evacuations of 95 homes and a four-unit apartment complex in the areas of Neotomas Avenue, Tachevah Drive, Brookhaven Drive, Tuscan Drive, and Washoe Court. Street Closures: Flooding led to the closure of several streets, including Neotomas Avenue and Tachevah Drive. Property Damage: Numerous homes in the Tachevah and Neotomas area suffered water damage, with some residents reporting water levels reaching up to two feet inside their homes. Infrastructure Impact: The overflow of Lornadell Creek and blocked drainage systems contributed to the flooding, highlighting vulnerabilities in the city's flood management infrastructure. Debris Cleanup: Post-storm efforts included debris removal in water control channels along Montgomery Drive, addressing runoff from the Glass Fire burn scar that contributed to the flooding.

8.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner’s vulnerability to the identified hazards. The following presents key risk assessment results for Santa Rosa.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

The City of Santa Rosa reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern. The revised rankings account for the changes in community priorities described in Section 8.5 of this annex and in Volume I of this HMP.

Table 8-19 shows the City of Santa Rosa's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 8-19. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Low
Extreme Heat	Low
Extreme Wind	Medium
Flood	Medium
Landslide	Medium
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction. The City is located inland, far outside of the Sea Level Rise and Tsunami hazard areas.

Vulnerability to Hazards of Local Concern

Table 8-20 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 8-21 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Table 8-20. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area[b]	14.3%	14.9%	23.1%
NEHRP D & E Soils	70.7%	69.4%	81.3%
1% Annual Chance Floodplain[c]	0.3%	0.2%	1.9%
0.2% Annual Chance Floodplain[c]	1.3%	0.9%	3.0%
Geologic Hazard Area	2.7%	3.0%	2.5%
Moderate Landslide Susceptibility Area	7.7%	11.3%	7.0%
High Landslide Susceptibility Area	5.9%	7.9%	11.7%
Very High Landslide Susceptibility Area	0.1%	0.1%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	15.7%	19.5%	12.9%
High Fire Hazard Severity Zone	6.4%	8.1%	7.4%
Very High Fire Hazard Severity Zone	0.9%	1.2%	0.9%

a. *See the hazard profiles in Volume I for definitions of each mapped hazard area.*
b. *The dam inundation analysis conducted for this plan does not account for Warm Springs Dam, as data were not readily available at the time of plan development. Available dam inundation data were developed between April 30, 2019, and October 28, 2022.*
c. *At the time of plan development, FEMA released preliminary Flood Insurance Rate Maps for the jurisdiction. The preliminary mapping indicates a significant increase in structures within the Special Flood Hazard Area that are not captured in the vulnerability assessment included in this plan.*

Table 8-21. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	12.6%	12.6%	12.6%	12.6%	12.6%	12.6%	12.5%	12.5%
NEHRP D & E Soils	68.5%	68.5%	68.5%	68.5%	68.5%	68.5%	68.5%	68.5%
1% Annual Chance Floodplain	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
0.2% Annual Chance Floodplain	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.0%
Geologic Hazard Area	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%
Moderate Landslide Susceptibility Area	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%	8.9%
High Landslide Susceptibility Area	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.4%	6.3%

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Very High Landslide Susceptibility Area	0.1%	<0.1%	0.1%	0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Sea Level Rise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	16.6%	16.6%	16.6%	16.6%	16.6%	16.6%	16.6%	16.6%
High Fire Hazard Severity Zone	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%	7.4%
Very High Fire Hazard Severity Zone	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

There are 10,034 buildings located in the high hazard dam inundation area; 6,262 residential buildings, 3,600 commercial buildings, 57 industrial buildings, and 115 buildings in the government, religion, agriculture, and education category. In addition, 122 critical facilities are located in the high hazard dam inundation area – banks, daycares, fire stations, government buildings, Memorial Hospital, communications towers, Central Library, local bridges, medical centers, police stations, Santa Rosa Post Office, schools, shelters, a veterinary office, and a water pump station. There are 22,252 people living in the high hazard dam inundation area, including 4,141 adults over age 65.

Drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain Community Lifelines are susceptible to collapse if water is unavailable, such as water systems. Thirty-three city water tanks are identified as critical facilities vulnerable to drought. In addition, the total population of the City (177,216 people) could be impacted by a drought if water rationing is implemented. In particular, the 32,980 adults over age 65 are vulnerable to dehydration in drought conditions.

As noted in Volume I, buildings located on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an earthquake. More than two-thirds of the buildings in Santa Rosa (70.7 percent) are located on NEHRP Class D and E soils. In addition, 429 Community Lifeline facilities are located on Class D and E soils. This includes banks, community centers, dams, daycares, emergency operations centers, fire stations, government buildings, hospitals, communications towers, libraries, local bridges, police stations, schools, rail stations, shelters, state bridges, veterinary offices, and water tanks. 68.5 percent of the city's population live on Class D and E soils, including 22,598 adults over age 65.

Extreme heat is unlikely to cause physical damage to buildings, facilities, or infrastructure. The city has 33 municipal water tanks that are in the Water Systems Community Lifeline. During an extreme heat event, the evaporation of water inside the tanks could increase. Individuals who do not have access to air conditioning are vulnerable to health complications during extreme heat episodes. In particular, the 32,980 older adults above age 65 and 16,620 individuals living below the poverty line could be at risk

for heat stroke, especially for individuals who fall into both categories. Similarly, extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gasses. Extreme cold also presents a risk to populations that do not have access to heating, such as the 1,365 persons experiencing homelessness.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 22,312 people with disabilities or the 32,980 older adults over age 65 may experience difficulty walking through strong gusts of wind.

City assets are exposed to flooding, with 198 buildings in the one-percent annual chance floodplain and 891 buildings in the 0.2-percent annual chance floodplain. Please note at the time of plan development, FEMA released preliminary Flood Insurance Rate Maps for the jurisdiction. The preliminary mapping indicates a significant increase in structures within the Special Flood Hazard Area that are not captured in the vulnerability assessment included in this plan. There are 10 critical facilities (dams, local bridges, Laguna Water Reclamation Facility, and a state bridge) located in the one-percent annual chance floodplain and six critical facilities (schools and local bridges) located in the 0.2-percent chance annual floodplain. An estimated 298 people live in the one-percent annual chance floodplain, including 37 people living with a disability, and 1,886 people live in the 0.2-percent annual chance floodplain, including 237 people living with a disability. It is noted that the figures in this section are based on the Flood Insurance Rate Maps in effect in early 2025. In July 2025, FEMA released preliminary flood maps for the Santa Rosa Creek watershed. Final maps are expected in spring 2027 and the number of homes in the one-percent annual chance floodplain will increase once the maps are adopted.

The City has moderate exposure to landslide hazards, with 5,435 buildings located in the moderate landslide susceptibility hazard area, 4,154 buildings located in the high landslide susceptibility hazard area, and 49 buildings located in the very high landslide susceptibility hazard area. There are 37 critical facilities located in the moderate landslide susceptibility hazard area (banks, Fountaingrove Dam, Fire Station 5, Rincon Valley Library, local bridges, Sutter Medical Center, microwave towers, schools, and water tanks) and 62 critical facilities in the high landslide susceptibility hazard area (dams, daycares, local bridges, microwave towers, Summerfield Convalescent, state bridges, a veterinary office, and water tanks). There are 15,731 people living in the moderate landslide susceptibility hazard area, 11,296 people living in the high landslide susceptibility hazard area, and 92 people living in the very high landslide susceptibility hazard area.

The City has high exposure to wildfires, with 11,011 buildings located in the moderate fire hazard severity zone, 4,487 buildings located in the high fire hazard severity zone, and 646 buildings located in the very high fire hazard severity zone. There are 68 critical facilities located in the moderate fire hazard severity zone (banks, dams, daycares, Fire Station 5, Sutter Medical Center, local bridges, Laguna Water Reclamation Facility, schools, shelters, state bridges, veterinary offices and water tanks), 39 critical facilities in the high fire hazard severity zone (banks, daycares, Fire Station 7, communications towers, local bridges, schools, state bridges, and water tanks), and 5 critical facilities in the very high fire hazard severity zone (communications towers, state bridge, and water tanks). Finally, there are 29,463 people living in the moderate fire hazard severity zone, 13,102 people living in the high fire hazard severity zone, and 1,954 people living in the very high fire hazard severity zone.

Potential Impacts from Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes potential impacts on community assets for the hazards of local concern to the City of Santa Rosa.

Table 8-22 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. For all other hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City. Table 8-23 summarizes additional risks specific to the City. In the event of a dam failure, 24,711 people could be displaced, 3,517 people may require shelter, and 16,405 tons of debris could be generated. In the event of a 500-year earthquake, as many as 4,866 households could be displaced, 2,437 people may require shelter, 11.1 percent of the buildings in the City could be damaged, and 1,707,936 tons of debris could be generated. In the event of a 2,500-year earthquake, as many as 16,427 households could be displaced, 8,186 people may require shelter, 26.8 percent of the buildings in the City could be damaged, and 4,211,394 tons of debris could be generated. In the event of a one-percent annual chance flood, as many as 462 people could be displaced, 278 people may require shelter, and 608 tons of debris could be generated.

Table 8-22. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	24,711 people	4,866 households	16,427 households	462 people
Population Requiring Shelter	3,517 people	2,437 people	8,186 people	278 people
General Building Damage as % of RCV	0.8%	11.1%	26.8%	<0.1%
Total Debris Generated (tons)	16,405	1,707,936	4,211,394	608

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 8-23 summarizes additional risks specific to the City. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City.

Table 8-23. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	The City could experience localized flooding and property damage in the event of dam failure from nearby reservoirs, posing risks to residents and infrastructure in low-lying areas.
Drought	Drought conditions can significantly impact Santa Rosa by reducing water availability, stressing local agriculture, and increasing wildfire risk.
Earthquake	As part of a seismically active region, Santa Rosa is vulnerable to earthquakes that may cause structural damage, specifically to older buildings constructed prior to current building standards, disrupt utilities, and threaten public safety.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the City's population and infrastructure.

Hazard	Qualitative Local Impacts
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources.
Extreme Wind	The City may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity.
Wildfire	The City faces significant wildfire risk and has historically experienced extremely damaging wildfires. The 2017 Tubbs Fire destroyed more than 3,000 housing units and claimed 22 lives; it was the most destructive wildfire in California history at the time. In 2019, the Kincade Fire burned more than 77,000 acres and triggered the evacuation of approximately 190,000 people. In 2020, the Glass Fire burned more than 67,000 acres and destroyed more than 1,500 structures."

Critical Facilities

Table 8-24 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains. In addition to critical facilities that are exposed to flooding, one high hazard dam is located in Santa Rosa:

- Lake Ralphine

Table 8-24. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
Matanzas Creek	State Highway Bridge	X	X
Matanzas Creek (Brookwood)	Local Bridge	X	X
Colgan Creek	Local Bridge	X	X
Spring Creek	Local Bridge	X	X
Meadow Lane	Dam	X	X
Delta Pond	Dam	X	X
Laguna Water Reclamation Facility	Natural Gas Plant	X	X
Colgan Creek Flood Control Channel	Local Bridge	-	X
Village Elementary Charter	Alternative Education	-	X
Rincon Valley Partnership	Alternative Education	-	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

8.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, the City of Santa Rosa identified the following risk-related issues for the community:

- The primary seismic hazard to existing and new development is shaking and fault rupture from the Rogers Creek-Healdsburg fault zone that transects Santa Rosa. Other notable faults that could produce strong seismic shaking in Santa Rosa include the San Andreas, Hayward, Calaveras, Mayacamas, San Gregorio, Concord, Green Valley, and Green Valley, and Greenville faults. These other active faults are close enough that Santa Rosa has a high probability of experiencing a magnitude 6.7 or greater by 2043, most likely along the San Andreas and Rodgers Creek-Hayward Fault systems. Secondary earthquake hazards of concern are landslides and liquefaction.
- Public engagement around wildfire risk is low. Outreach from the 2020 CWPP showed confusion about defensible space rules, evacuation procedures, and available support programs. Vulnerable groups, such as elderly residents, non-English speakers, and low-income renters face added challenges in preparing for, evacuating from, and recovering after fires. Despite progress, vegetation hazards and inconsistent implementation of mitigation measures continue to drive wildfire risk across the region.
- Implement the City's Capital Improvement Program (CIP), including, but not limited to projects which: Protect Infrastructure and Critical Facilities (Designing and building water tanks or wells for use in times of water outage and Installing quick-connect emergency generator hook-ups for critical facilities), Protect and Restore Natural Flood Mitigation Features (Protecting and enhancing landforms that serve as natural mitigation features (i.e., riverbanks, wetlands, dunes, etc.), Improve Stormwater Drainage System Capacity (Increasing capacity of stormwater detention and retention basins and Using stream restoration to ensure adequate drainage and diversion of stormwater).
- The City of Santa Rosa is dedicated to maintaining and enhancing its emergency preparedness through regular updates to its emergency planning documents including our EOP and COOP/COG plans amongst others.
- The city's water supply remains vulnerable to prolonged disruption due to significant reliance on Sonoma Water's aqueduct system.
- The City's Wildland Urban Interface has changed significantly since the Tubbs, Nuns, and Glass fires, including shifts in vegetation patterns and the spread of invasive species. These conditions alter fuel loads and overall fire behavior. To address this new landscape, the municipal code requires an updated ordinance that aligns with current on the ground risks and vegetation management needs.
- Several critical facilities are outdated or located in areas vulnerable to earthquakes, floods, dam failure, landslides, and wildfire. These weaknesses put essential services and public safety at risk during disasters.
- While the City has made progress in improving water flow capacity, a major fire such as the Tubbs fire would severely strain water flow.
- Many properties in the City's wildland-urban interface lack adequate defensible space, increasing the risk of wildfire spread and structure loss. Recent Community Wildfire Protection Plan (CWPP) assessments have identified areas with high fuel loads, poor access, and limited compliance with vegetation management requirements. These conditions threaten public safety and firefighting operations.

- Maintaining good standing and compliance with the NFIP are City goals, and as updates are required the City works with FEMA to maintain compliance.
- Many areas within the Santa Rosa Creek Watershed have not been clearly identified for flood risk under older mapping. FEMA's new flood study and updated maps will designate Special Flood Hazard Areas where stricter building standards and mandatory flood insurance may apply. Without incorporating this new information into City systems and review processes, property owners and staff could lack the guidance needed to plan appropriately and reduce flood risk.
- Existing pump stations have limited capacity and may be vulnerable to flooding during major storm events. This creates a risk of localized flooding, property damage, and service disruption in areas that depend on these stations for drainage.
- Existing stormwater drainage systems have limited capacity and are prone to clogging from debris, vegetation, and sediment. During major storms, this can lead to localized flooding, property damage, and disruption of critical services.
- Several waterways in the city have unstable banks, reduced flood capacity, and degraded habitat conditions. These issues increase the risk of flooding, erosion, and damage to adjacent properties and infrastructure.
- Many public spaces, such as plazas, sidewalks, and parking lots, have conventional paving that prevents water infiltration. This increases stormwater runoff, contributing to flooding, erosion, and strain on drainage systems.
- Some existing water-retention structures, including levees, dams, reservoirs, and tanks, are aging or structurally deficient. These weaknesses raise the risk of failure during heavy storms, floods, or landslides, threatening public safety and property.
- Many older buildings in the city, including unreinforced masonry, soft-story, and non-ductile concrete structures, are highly vulnerable to collapse in an earthquake. There is no dedicated funding to help owners retrofit these structures.
- Numerous buildings remain at high risk of severe damage or collapse during earthquakes due to outdated construction. Voluntary retrofitting alone has not adequately reduced this risk, and consistent enforcement and public education are lacking.
- A fault line bisects the City and would have devastating effects on the City's infrastructure in the event of an earthquake. More than 68% of the population lives on NEHRP Class D and E soil.
- The City's Hazardous Materials Area Response Plan is current, routinely reviewed by the Santa Rosa Fire Department CUPA, and already updated on the state required cycle, so a separate grant funded overhaul or a standing action item in the Hazard Mitigation Plan is not needed.
- Groundwater resources may be at risk of contamination from former hazardous materials sites, threatening long-term water supply reliability and safety.
- The City lacks adequate backup groundwater sources to maintain water service during prolonged drought or other supply interruptions.
- Many local dams are aging and require periodic inspection to identify safety issues. Without regular assessment and follow-up, the risk of dam failure and downstream flooding increases.
- Critical facilities rely on centralized power, making them vulnerable to outages during disasters. The feasibility of microgrids to maintain essential services has not been evaluated.

- The current Emergency Operations Center lacks adequate space, equipment, and resilience features needed for sustained operations during major emergencies.
- Key recommendations in the City's Community Wildfire Protection Plan have not yet been fully implemented, leaving known wildfire risks unaddressed.
- Ongoing maintenance and updates of the Hazard Mitigation Plan are required to keep it current and effective, but consistent participation and tracking have been limited.
- The City needs to support overall countywide mitigation actions to ensure a coordinated regional approach to hazard reduction.
- The Hazard Mitigation Plan is not fully integrated into the City's General Plan, codes, and other land use policies, reducing its effectiveness in guiding development decisions.
- There is no formal plan for quickly repairing and restoring water and wastewater services after disasters, increasing the risk of prolonged outages and public health impacts.

8.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

8.10.1 Past Mitigation Action Status

Table 8-25 indicates progress on the City's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 8-25. Status of 2021 Mitigation Actions for Santa Rosa

Mitigation Actions	Status
Project Number	SRO-1
Hazards Addressed	Wildfire, Severe Weather, Flood, Landslide, Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	In accordance with the adaptation strategies of the Climate Action Plans, integrate climate change adaptation into future updates of the Zoning Code, Building Code, General Plan, Urban Water Management Plan, and other related documents.
Status	Ongoing

Mitigation Actions	Status
Narrative describing progress or obstacles that have prevented implementation	The 2020 Urban Water Management Plan, adopted in 2021, addressed new state requirements to include predictions about hydrological variability and responses to prolonged droughts that will be attributable to climate change. The General Plan 2050, which includes a Greenhouse Gas Reduction Strategy, was adopted in June 2025. This Plan incorporates numerous Policies and Actions which integrate climate change adaptation into private development proposals and city projects.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SRO-2
Hazards Addressed	Earthquake, Wildfire, Severe Weather, Dam Failure, Flood, Landslide, Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	Continue to update the City's emergency planning documents every five years to ensure consistency with state and federal law, local conditions, and best practices and the most recent science.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The City of Santa Rosa is dedicated to maintaining and enhancing its emergency preparedness through regular updates to its emergency planning documents including our EOP and COPP/COG plans amongst others. These updates occur every five years (or less depending on the plan) to ensure alignment with state and federal laws, local conditions and best practices. This proactive approach enables the city to effectively address various hazards, including wildfires, earthquakes, floods, and landslides. The city actively seeks public input during the planning process to ensure that the community's unique needs and challenges are addressed.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SRO-3
Hazards Addressed	Earthquake, Wildfire, Severe Weather, Dam Failure, Flood, Landslide, Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	Assure the continuity of operations of the City's water supply system through projects that address identified vulnerabilities and/or enhance the system's capabilities following hazard events.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The Water Supply Alternatives Plan (WSAP) offers a flexible plan to increase water supply reliability by diversifying our water supply portfolio. The WSAP was completed in 2023 and is now being implemented.

Mitigation Actions	Status
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change needed
If discontinue, explain why	Not Applicable
Project Number	SRO-4
Hazards Addressed	Wildfire, Landslide
Lead Agency	City of Santa Rosa
Mitigation Action Description	Prepare a Municipal Code update to identify vegetation management and building construction requirements in the Wildland-Urban Interface zone for existing and new development.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Utilizing our recently adopted Vegetation Management Ordinance and the release of updated Fire Hazard Severity Zone maps by CalFire, we will work on modifying our local Wildland-Urban Interface area.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	As the physical landscape of our Wildland-Urban Interface had changed post Tubbs/Nuns/Glass fires, we have adapted our new ordinance to address this changing environment.
If discontinue, explain why	Not Applicable
Project Number	SRO-5
Hazards Addressed	Earthquake, Wildfire, Severe Weather, Dam Failure, Flood, Landslide, Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	Retrofit, replace, or relocate critical facilities that are shown to be vulnerable to damage in natural disasters prioritizing those structures that have experienced repetitive losses and/or are located in a high or medium ranked hazard.
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Santa Rosa Water, through assessments by consultants and their contractors, performs Water, Sewer, and Wastewater Master Planning Updates every 5 years. These documents identify critical infrastructure projects and weight them against existing future projects to prioritize for design and construction.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-6
Hazards Addressed	Wildfire
Lead Agency	City of Santa Rosa
Mitigation Action Description	Work with residents and property owners to develop an incentive program to replace shake roofs in the WUI.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Building Code amended to only allow Class A fire rated roofing throughout the City.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed
Project Number	SRO-7
Hazards Addressed	Wildfire
Lead Agency	City of Santa Rosa
Mitigation Action Description	Continue to implement improvements to water flow capacity in the WUI.
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Evaluating enhancements and new technology to optimize available water sources. Upgrades to water infrastructure have been prioritized and are in various project phases. Projects include water pump station upgrades, creating more loops in our distribution system, and upsizing water mains to provide sufficient pressure and flow to fight fire.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SRO-8
Hazards Addressed	Wildfire, Landslide
Lead Agency	City of Santa Rosa
Mitigation Action Description	Continue to tie public education on defensible space and a comprehensive defensible space ordinance to a field program of enforcement.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	We are in the early stages of developing a defensible space inspection program in support of our Vegetation Management Ordinance. Hiring two new Fire Inspectors from Measure H funds will be critical to support this program.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Provide defensible space inspections/enforcement for residents located within our wildland-urban interface.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-9
Hazards Addressed	Flood, Dam Failure
Lead Agency	City of Santa Rosa
Mitigation Action Description	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet NFIP requirements to: Enforce the flood damage prevention ordinance; participate in floodplain identification and mapping updates; and provide public assistance/information on floodplain requirements and impacts.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Maintaining good standing and compliance with the NFIP are City goals, and as updates are required the City works with FEMA to maintain compliance.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Permit review and maps available in GIS. Additional education/outreach will be provided related to impending FEMA floodplain map updates which are largely based on modeling completed by the City and Sonoma Water
If discontinue, explain why	Not Applicable
Project Number	SRO-10
Hazards Addressed	Flood
Lead Agency	City of Santa Rosa
Mitigation Action Description	When FEMA creates, updates, and publishes flood zone mapping of the 100-year and 500-year floodplains, integrate information from the maps into the City's geographical information system and use flood information in the development review and public project review process. In areas with high flood risk, continue to evaluate and implement flood hazard mitigation projects to reduce potential for property damage, street flooding, and stream erosion.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	In June 2025, FEMA released the preliminary flood maps for the Santa Rosa Creek Watershed. The City has created a webpage for this mapping project including links to the preliminary flood maps, hydraulic and hydrologic modeling, information on flood insurance, and the project timeline.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	We are providing education and outreach on impending changes and will continue to identify repercussions to the public through public meetings and the building permit process.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-11
Hazards Addressed	Flood
Lead Agency	City of Santa Rosa
Mitigation Action Description	Based on identified vulnerability and/or potential for capacity enhancement, upgrade pump station to feasible specifications.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The 2020 Water Master Plan Update identified 5 water pump stations (10, 13, 14, 16, 17) that may require upgrades to provide appropriate flow and pressure for fire flow.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Pump stations 10, 13, and 14 capacity upgrades are fully scoped projects and have planned funding for fiscal years 2025/26, 2026/27, 2027/28. These projects are ready to be assigned to project management engineer for design. Stations 16 and 17 are lower priority and are currently not in our 5-year CIP.
If discontinue, explain why	Not Applicable
Project Number	SRO-12
Hazards Addressed	Flood
Lead Agency	City of Santa Rosa
Mitigation Action Description	Evaluate, monitor, and maintain the City's stormwater drainage system to ensure it can effectively handle anticipated stormwater volumes to the maximum extent possible, and make upgrades and repairs as needed. Coordinate with the Sonoma Water to clear debris and remove vegetation and sediment in flood control channels to protect flow capacity within the City.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	In the process of completing a Storm Drain Master Plan that evaluates the conditions of the storm drain system, and makes recommendations for staffing, budget, and other resources. Current budget is not sufficient to ensure that it is maintained to effectively handle anticipated stormwater volumes, nor to make upgrades and repairs as needed. The City does do well coordinating with Sonoma Water on sediment and vegetation management and removal
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	

Mitigation Actions	Status
Project Number	SRO-13
Hazards Addressed	Flood, Landslide, Drought, Dam Failure
Lead Agency	City of Santa Rosa
Mitigation Action Description	Identify and implement waterway restoration projects that result in bank stabilization, enhanced habitat and flood capacity.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ongoing thru the Citywide Creek Master Plan and associated projects that come from the Plan, as well as the upcoming Storm Drain Master Plan
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	SRO-14
Hazards Addressed	Flood, Landslide, Drought, Dam Failure
Lead Agency	City of Santa Rosa
Mitigation Action Description	Retrofit public areas, including plazas, sidewalks, and parking lots with permeable paving and other low-impact development features that promote infiltration and reduce stormwater runoff.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ongoing efforts as resources are available and projects are scheduled.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	
Project Number	SRO-15
Hazards Addressed	Flood, Landslide, Dam Failure
Lead Agency	City of Santa Rosa
Mitigation Action Description	Evaluate, prioritize, and implement flood protection measures to protect wastewater treatment facilities from flooding during a predetermined recurrence interval.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The City is in the process of completing design and environmental permitting for a floodwall that will protect the LTP during storm events. The project is slated to be paid for with grant funds from FEMA and HUD.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	The project is already funded.

Mitigation Actions	Status
Project Number	SRO-16
Hazards Addressed	Earthquake, Drought, Flood, Landslide, Dam Failure
Lead Agency	City of Santa Rosa
Mitigation Action Description	Replace or retrofit water-retention structures that are determined to be structurally deficient, including levees, dams, reservoirs, and tanks. Continue to analyze and identify needs for future upgrades. Evaluate, reinforce, and/or enhance wastewater treatment facility structures with seismic risk.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	City has on going water tank (City Reservoir) upgrade projects where the water tanks and the sites are upgraded. City also monitors the pond levees and when visible erosion is identified CIP project is implemented to repair levees. City has also identified wastewater treatment facility structures which need seismic upgrading. CIP projects have been planned to upgrade these facilities
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Seismically weak structure Tanks and Pond Levee and waste water treatment facilities
If discontinue, explain why	Not Applicable
Project Number	SRO-17
Hazards Addressed	Earthquake
Lead Agency	City of Santa Rosa
Mitigation Action Description	Create inventory and develop funding mechanisms to assist building owners to retrofit unreinforced masonry, soft-story, and/or non-ductile concrete structures.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Inventory was taken many years ago of all structures in the City with seismic retrofit concerns. These properties are flagged in our system to trigger review at any building permit request, and our local ordinance has been revised to align with current technological and engineering advances. (SRCC 18-48)
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Seismically weak structures built before seismic codes were in place were not built to current seismic standards.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-18
Hazards Addressed	Earthquake
Lead Agency	City of Santa Rosa
Mitigation Action Description	Require the retrofit of seismically vulnerable structures consistent with City Code. This program should include community education and outreach.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Inventory was taken many years ago of all structures in the City with seismic retrofit concerns. These properties are flagged in our system to trigger review at any building permit request, and our local ordinance has been revised to align with current technological and engineering advances. (SRCC 18-48)
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Seismically weak structures built before seismic codes were in place were not built to current seismic standards.
If discontinue, explain why	Not Applicable
Project Number	SRO-19
Hazards Addressed	Earthquake, Flood
Lead Agency	City of Santa Rosa
Mitigation Action Description	Identify/analyze sanitary sewer trunk lines that are determined to be structurally deficient where crossing fault zones. Retrofit/replace, as necessary.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Several CIP projects were identified and are in various project phases dependent on their priority. The projects include rehabilitation using CIPP and full replacement depending on condition.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Sewer Trunk Lines that cross Rogers Creek Fault
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-20
Hazards Addressed	Earthquake
Lead Agency	City of Santa Rosa
Mitigation Action Description	Conduct seismic evaluations on City-owned leased buildings that contain critical facilities/operations to determine the need for upgrades/retrofitting.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Complete for City Hall, no funding source
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Inventory was taken many years ago of all structures in the City with seismic retrofit concerns. These properties are flagged in our system to trigger review at any building permit request, and our local ordinance has been revised to align with current technological and engineering advances. (SRCC 18-48) New critical structures are analyzed per current code requirements for those types of occupancies.
If discontinue, explain why	Not Applicable
Project Number	SRO-21
Hazards Addressed	Fire
Lead Agency	City of Santa Rosa
Mitigation Action Description	Pursue Type 1 HazMat Team status
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Continuing to evaluate program and seek funding opportunities
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Current HazMat Team is Type 2 and not equipped to handle WMD
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-22
Hazards Addressed	Fire
Lead Agency	City of Santa Rosa
Mitigation Action Description	Prepare a comprehensive Hazardous Materials Area Response Plan update.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	The Area Plan is a requirement for local government agencies used in response to, and to minimize impacts, from a release or threatened release of a hazardous material. CalEPA is the oversight agency for the Hazardous Materials Business Plan (HMBP) program, which includes the Area Plan. The Certified Unified Program Agencies (CUPAs) are responsible for developing the Area Plan in coordination with local emergency response agencies to establish a plan for emergency response in the event of a release or threatened release of a hazardous material within their jurisdiction. The Santa Rosa Fire Department CUPA last updated its Area Plan in February of 2023 and was subsequently reviewed and accepted by CalEPA. The next update is scheduled for early 2026, as required by Health and Safety Code section 25503(d)(2). Because of the required routine reviews performed by the CUPA, a grant to conduct a full update of the Area Plan is not necessary nor feasible. Additionally, given the requirement and nature of the continuous reviews, making this a perpetual action item in the Hazard Mitigation Plan would be redundant.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed
Project Number	SRO-23
Hazards Addressed	Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	Protect existing groundwater resources from former hazardous material sites.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The former Freeway Municipal Supply Well is proposed to be properly abandoned as a water source, with eventual demolition of the well, and sale of the property. Farmers Lane Wells will continue to be monitored for any hazardous materials from the former Revard Gartin dry cleaners site. Staff continue to monitor and engage in cleanup actions in the vicinity of our municipal drinking water supplies.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-24
Hazards Addressed	Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	Complete and implement recommendations of the Santa Rosa Plain Groundwater Sustainability Agency, including construction of emergency groundwater wells consistent with the recommendations of the adopted Emergency Groundwater Master Plan.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The completion of the A Place to Play Emergency Well is expected in 2025-26.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not Change
If discontinue, explain why	Not Applicable
Project Number	SRO-25
Hazards Addressed	Dam Failure, Flood
Lead Agency	City of Santa Rosa
Mitigation Action Description	Support the State's efforts to conduct periodic inspections of local dams and implement recommended actions to ensure all safety measures are in place
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Parks and Water are responsible for coordinating and filing the required records
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	State Yearly Dam inspections done at all City ponds which have levees
If discontinue, explain why	Not Applicable
Project Number	SRO-26
Hazards Addressed	Earthquake, Wildfire, Severe Weather, Dam Failure, Flood
Lead Agency	City of Santa Rosa
Mitigation Action Description	Conduct Microgrid feasibility study
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	A Microgrid feasibility study was completed for the Laguna Treatment Plant.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-27
Hazards Addressed	Earthquake, Wildfire, Severe Weather, Dam Failure, Flood, Landslide, Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	Secure redundant power supply for City-owned and leased facilities and infrastructure that lack adequate back-up power
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The City has pursued grant funding for these projects but been denied.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This is an ongoing action.
Project Number	SRO-28
Hazards Addressed	Earthquake, Wildfire, Severe Weather, Dam Failure, Flood, Landslide, Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	Relocate/Update EOC to City-owned facility that can accommodate use and renovation to permanent warm/hot EOC with appropriate equipment for communication and situational awareness
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The project amendment has been submitted to FEMA. We hope to complete the project by the end of 2025 or early 2026.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	The City has no permeant warm EOC space
If discontinue, explain why	Not Applicable
Project Number	SRO-29
Hazards Addressed	Wildfire, Severe Weather, Landslide
Lead Agency	City of Santa Rosa
Mitigation Action Description	Implement Actionable Items identified within the City of Santa Rosa Community Wildfire Protection Plan
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Many of the actionable items are ongoing or completed. Notable progress includes contractual agreements with two livestock grazing vendors to support grazing activities on City-owned property.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Continue to work on actionable items as outlined in the CWPP.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-30
Hazards Addressed	Dam failure, Drought, Earthquake, Flooding, Landslide, Severe weather, Wildfire
Lead Agency	City of Santa Rosa
Mitigation Action Description	Actively participate in the annual maintenance protocols outlined in Volume I of this Hazard Mitigation Plan.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SRO-31
Hazards Addressed	Dam failure, Drought, Earthquake, Flooding, Landslide, Severe weather, Wildfire
Lead Agency	City of Santa Rosa
Mitigation Action Description	Support the County-wide initiatives identified in Volume I of this Hazard Mitigation Plan.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SRO-32
Hazards Addressed	Dam failure, Drought, Earthquake, Flooding, Landslide, Severe weather, Wildfire
Lead Agency	City of Santa Rosa
Mitigation Action Description	Integrate the Hazard Mitigation Plan into other plans, ordinances and programs that dictate land use decisions within the community including the General Plan, Specific Plans, and the City Code.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Integration of the HMP included in General Plan update which was adopted in June 2025. Updated SRCC Sections 18-48, 18-52, and multiple fire-related sections to higher standards than required by the state.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Seismic, Fire, and Flood protections need to be in place for the community and incorporated in City planning.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SRO-33
Hazards Addressed	Drought, Flood, Dam Failure Earthquake, Wildfire, Landslide, Severe Weather
Lead Agency	City of Santa Rosa
Mitigation Action Description	Develop a plan for expediting the repair and functional restoration of water and wastewater systems through stockpiling of shoring materials, temporary pumps, surface pipelines, portable hydrants, and other supplies, such as those available through the Water/Wastewater Agency Response Network (WARN). Communicate that plan to local governments and critical facility operators
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Purchased two additional mobile generators that are large enough to operate water pump stations and sewer lift stations. Increased available stock of above ground pipe for emergency pressure zone connections. Continued membership with Cal-WARN and additional response planning with Sonoma Water contractors. The equipment described was purchased with Water and Sewer enterprise funds.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	
Project Number	SRO-34
Hazards Addressed	Dam failure, Drought, Earthquake, Flooding, Landslide, Severe weather, Wildfire
Lead Agency	City of Santa Rosa
Mitigation Action Description	Explore the feasibility of resilience hubs within the City of Santa Rosa
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	This option has been explored. Without additional funding from outside NGOs or grants, it is not feasible at this time. The city has heating and cooling centers to support residents and will continue to maintain those services.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Project is not feasible at this time.

Mitigation Actions	Status
Project Number	SRO-35
Hazards Addressed	Flood, Dam Failure, Drought
Lead Agency	City of Santa Rosa
Mitigation Action Description	Coordinate with Sonoma Water on grant eligible projects within the City of Santa Rosa
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Santa Rosa routinely works with Sonoma Water on grant funding applications and projects, usually through the Water Use Efficiency team.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This is an ongoing project.

8.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 8-25, Santa Rosa has implemented and advanced multiple projects since the last HMP update. These include both ongoing programs and completed actions aimed at wildfire risk reduction, evacuation safety, and infrastructure resilience.

- Transportation and Public Works (TPW)
  - Implemented battery backup systems on a majority of the city's traffic signals through a Cal OES grant to ensure signal functionality during power outages.
  - Used an MTC grant to fund traffic signal timing consultants, improving coordinated signal timing on critical corridors and developing an evacuation-specific "flush plan" utilizing Farmers Lane.
  - Continued development of transportation infrastructure improvements for evacuation routes, including vegetation management along primary corridors.
- Wildfire Preparedness and Vegetation Management
  - Launched a 5-year Vegetation Management Program using $5.25M in PG&E settlement funds to support evacuation route improvements, defensible space enforcement, and wildfire fuel reduction.
  - Developed and adopted a Vegetation Management Ordinance (effective January 2025) that formalizes defensible space and home hardening requirements in WUI areas.
  - Maintained annual weed abatement programs on city-maintained properties with prioritization of WUI zones such as Skyhawk, Fountaingrove, and Hidden Valley. Work for the 2025 season began May 5, coordinated across Fire, TPW, and Parks.
  - Supported prescribed burns as part of the Wildfire Fuel Reduction Project, including recent and upcoming burns at Old Redwood Highway, Thomas Lake Harris Open Space, Skyfarm HOA Open Space, and Youth Community Park.
  - Allocated $2.75M from PG&E settlement funds to implement the Fire Department's Wildland Resiliency and Response Strategic Plan, which includes new wildland firefighting apparatus and expanded community outreach.

- Community Wildfire Protection Plan (CWPP) Action Items
  - Completed Phase 1 and initiated Phase 2 of FEMA Hazard Mitigation Grant Program projects for evacuation route fuel reduction and home hardening.
  - Supported FireWise community development across multiple HOAs, including Oakmont, Alta Vista Heights, Skyfarm II, and Fountaingrove associations.
  - Developed a GIS-based database to track fuel treatments on public and private lands; ongoing updates include City parcels, HOA projects, and grazing data.
  - Rolled out WildfireReady Santa Rosa events and online resources, including property inspection request forms, defensible space guides, and YouTube educational videos.
  - Completed redesign of SRFD's wildfire education website, consolidating information on defensible space, evacuation, and home hardening.
- Public Engagement and Education
  - Continued annual WildfireReady Santa Rosa outreach, property-owner consultations, and HOA engagement.
  - Expanded COPE (Citizens Organized to Prepare for Emergencies) and LISTOS programs to build community capacity for evacuation and preparedness, including vulnerable populations.
  - Developed updated evacuation education materials and implemented Temporary Evacuation Point (TEP) drills with care facilities and neighborhoods.
- Structural Hardening and Home Retrofit Programs
  - Approved and funded a $2.1M HMGP grant for retrofitting homes in WUI areas with gutter guards and ember-resistant vent screens.
  - Adopted fire-safe building and landscaping standards in coordination with Planning and Economic Development and the City Attorney's Office, including non-combustible zones around new construction.
- Ongoing and Completed Projects:
  - Ongoing: GIS fuel treatment database, evacuation route improvements, COPE/LISTOS engagement, vegetation management programs, defensible space inspections, and HMGP Phase 2 implementation.
  - Completed: Battery backup on traffic signals, traffic signal evacuation flush plan, HMGP Phase 1 fuel reduction, redesign of wildfire education portal, prescribed burns at Youth Community Park, adoption of the Vegetation Management Ordinance, and development of FireWise-certified neighborhoods.
  - These initiatives build on the City's Community Wildfire Protection Plan and reflect a coordinated, multi-hazard approach.

8.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Santa Rosa participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Santa Rosa would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 8-26 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in **Error! Reference source not found.**).

Table 8-26. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X	X	X	X	X	X	X	X	X
Drought	X	X	X	X	X	X	X	X	X	X
Earthquake	X	X	X	X	X	X	X	X	X	X
Extreme Cold	X	X	X	X	X	X	X	X	X	X
Extreme Heat	X	X	X	X	X	X	X	X	X	X
Extreme Wind	X	X	X	X	X	X	X	X	X	X
Flood	X	X	X	X	X	X	X	X	X	X
Landslide	X	X	X	X	X	X	X	X	X	X
Sea Level Rise	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	X	X	X	X	X	X	X	X	X	X

*Note: Mitigation category codes as follows (see **Error! Reference source not found.** for descriptions):*
LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 8-27 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 8-27. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Action Items Implementation	Low	Medium	11	1-5 years	7.847	High
Plan Integration	Low	Medium	9	1-5 years	7.693	High
NFIP Compliance	Low	Medium	8	1-5 years	7.616	High
Flood Mapping	Low	Medium	6	1-5 years	7.462	High
Replace Water-Retention Structures	Medium	High	4	1-5 years	7.308	High
HMP Maintenance	Low	Medium	4	1-5 years	7.308	High
Wildfire Risk Reduction	High	High	13	1-5 years	7.001	High
Volume I Hazard Mitigation Plan	Low	Low	11	1-5 years	6.847	Medium
Municipal Code	Medium	Medium	9	1-5 years	6.693	Medium
Defensible Space Enforcement	Medium	Medium	9	1-5 years	6.693	Medium
Emergency Planning	Medium	Medium	7	1-5 years	6.539	Medium
Update Hazardous Materials Area Response Plan	Medium	Medium	7	1-5 years	6.539	Medium
Microgrid Study	Low	Low	6	1-5 years	6.462	Medium
Plan Development - Waste Water Systems	Medium	Medium	6	1-5 years	6.462	Medium
Local Dams Inspections	Low	Low	5	1-5 years	6.385	Medium
Update EOC	Medium	Medium	4	1-5 years	6.308	Medium
Plan Implementation	High	Medium	13	1-5 years	6.001	Medium
Seismic Retrofit Enforcement	Medium	Medium	9	1-10 years	5.693	Medium
Critical Facilities	High	High	8	1-10 years	5.616	Medium
Capital Improvement Program	High	Medium	5	1-5 years	5.385	Medium
Water Continuity	High	High	5	1-10 years	5.385	Medium
Water Flow Capacity	Medium	Medium	4	1-10 years	5.308	Medium
Waterway Restoration Projects	High	Medium	4	1-5 years	5.308	Medium
Sewer Trunk Line Identification	Medium	Medium	4	1-10 years	5.308	Medium
Emergency Groundwater Master Plan	Medium	Medium	3	1-10 years	5.231	Medium
Stormwater Drainage System	High	Low	3	1-5 years	4.231	Low
Inventory and Funding Mechanisms	High	Medium	3	1-10 years	4.231	Low
Groundwater Protection	Medium	Low	3	1-10 years	4.231	Low
Pump Station	High	Medium	2	1-10 years	4.154	Low
Retrofitting	High	Low	2	1-5 years	4.154	Low

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-SantaRosa-01. Plan Implementation

Lead Agency:	City of Santa Rosa Planning and Economic Development
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The beautiful environment that attracts people to Santa Rosa also poses potential risks from hazards such as wildfires, floods, droughts, earthquakes, and slope instability that can harm people and property and cause economic and social dislocation. Wildfires, referenced in greater detail below, have resulted in poor air quality, damage and destruction to portions of the built and natural environment, and loss of human life. In addition, recent local and regional droughts have been among the most severe recorded. Temperatures are increasing, extreme heat events are expected to get worse, and precipitation patterns are changing, increasing the risk of both flooding and drought. Wildfires across the region, state, and nation are becoming more frequent, severe, damaging, and deadly. The primary seismic hazard to existing and new development is shaking and fault rupture from the Rogers Creek-Healdsburg fault zone that transects Santa Rosa. Other notable faults that could produce strong seismic shaking in Santa Rosa include the San Andreas, Hayward, Calaveras, Mayacamas, San Gregorio, Concord, Green Valley, and Green Valley, and Greenville faults. These other active faults are close enough that Santa Rosa has a high probability of experiencing a magnitude 6.7 or greater by 2043, most likely along the San Andreas and Rodgers Creek-Hayward Fault systems. Secondary earthquake hazards of concern are landslides and liquefaction. Proximity to Spring Creek, Matanzas Creek, Colgan Creek, Naval Creek, Roseland Creek, and Kawana Springs Creek increases the risk of flooding. Many of these drainages are also susceptible to inundation from dam failure. The dams that pose the greatest risk to the City of Santa Rosa are Annadel No. 1, Fountain Grove, Lake Ralphine, Matanzas Creek, Santa Rosa Creek Reservoir, and Warm Springs. Risks related to wildfire and urban fire are detailed in the below worksheet, so they will not be summarized here but the below sections of this worksheet will include how the General Plan 2050 addresses these risks. The Santa Rosa Fire Department has regulatory oversight of hazardous materials in the City as the Certified Unified Program Agency (CUPA). The Fire Department staffs a Hazardous Materials Response Unit to mitigate uncontrolled releases of hazardous materials and hazardous waste to ensure the safety of community members and businesses when needed. Human error is the most common cause of hazardous materials releases, but events like wildfires, earthquakes, and floods can also cause a release. Accidental releases on major transportation routes through the city can also pose a risk to the community.
Description of the Solution:	Implement the General Plan 2050, Greenhouse Gas Reduction Strategy, and associated Environmental Impact Report and Mitigation Monitoring and Reporting Program.
Estimated Cost:	High
Potential Funding Sources:	General Fund (staff time) and Federal and State grants, Improvements or fees from New Development
Implementation Timeline:	1-5 Years

Objectives Met:	1,2,3,4,5,6,7,8,9,10,11,12,13
Benefits:	New and existing development will be subject to policies that minimize community exposure to seismic and geologic hazards by means of the preparation of geologic studies, avoidance of unmitigable hazard areas when developing, maintenance of an inventory of vulnerable structures, outreach to owners of vulnerable structures about the latest State seismic safety requirements. Critical public facilities such as hospitals, fire stations, emergency management headquarters, sewage treatment plants, and community gathering spaces, as well as critical infrastructure such as water storage facilities, wastewater conveyance, electricity transmission lines, roadways, water detention facilities, levees, and other utilities will be retrofitted, hardened, and mitigated when located near the Rogers Creek Fault zone, liquefiable soils, and areas of slope instability. New development and policy will be subject to and incorporate flood management and storm drainage strategies that reduce the effects of future inundation, particularly along creeks and waterways. Open space areas and other areas used for flood control will be retained and expanded, with flood control areas being limited to passive recreation activities to maintain and maximize public safety. The City of Santa Rosa will enhance its climate resilience and reduce hazards in and around the City by increasing wildfire resiliency via required and voluntary risk reduction regulations and strategies. New development will be promoted in areas of the community that are subject to lower risk of wildfire hazards by various policies and programs, including potentially updating the Zoning Code to prohibit land uses that serve mobility-limited individuals. The City will continue to conduct multilingual and culturally appropriate education and outreach campaigns that reach vulnerable populations that may not receive typical outreach and assist property owners with defensible space, fire-safe landscaping, home hardening, and wildfire preparedness. The City will reduce the potential for hazardous materials exposure to community members, visitors, and employees by continuing to require that hazardous materials used in business and industry be used, handled, transported, and stored in accordance with federal, State, and local regulations. Brownfield sites will be inventoried and the necessary remediation measures identified, particularly in Equity Priority Areas. The City will seek funding and technical assistance to facilitate redevelopment of brownfield sites. The City will encourage its staff and community members to be prepared for and aware of natural hazards and the potential effects of disasters in and around the city. Projects and strategies that mitigate hazards and increase resilience will be prioritized, such as the development of a tracking methodology for potential funding sources to support retrofitting publicly and privately owned structures.

Impact on Socially Vulnerable Populations:	The City's outreach throughout the General Plan update process included a comprehensive engagement effort that reached thousands of community members and 90+ community groups, organizations, and neighborhoods. The goals and policies that are included in General Plan 2050 reflect community issues and values expressed by those beyond the populations that typically participate in public policy development. The goals, policies, and action items themselves reflect a commitment to equitable outcomes for all community members. Awareness campaigns concerning hazards that face the City have been and will continue to be multilingual and culturally appropriate. Equity Priority Areas and Equity Priority Populations are defined and identified in the General Plan, and policies that reduce risk are targeted in these areas and serve these populations.
Impact on Future Development:	As noted above, new developments will be subject to more stringent policies and regulations that reduce risks posed by natural hazards. Property owners of existing structures in hazard-prone areas will be engaged with incentives and resources to harden their properties to reduce risk. Future development will be promoted in areas that are less hazard-prone and regulations will change that discourage specific land uses that serve mobility-limited populations in hazard-prone areas.
Impact on Critical Facilities/Lifelines:	Hospitals, fire stations, emergency management headquarters, broadcast services, sewage treatment plants, and places of long congregations will be avoided or adequately mitigated in high-risk geologic hazard zones (Rodgers Creek Fault zone, liquefiable soils, areas of slope instability). Backup power and emergency supplies will continue to be provided at critical City facilities including emergency shelters, community resilience centers, and cooling centers in case of power and water outages. Police and Fire Department personnel will continue to be well-trained and adequately equipped to provide critical services to community members.
Impact on Capabilities:	The Santa Rosa General Plan 2050 improves the City's ability to respond to and recover from hazards by guiding growth away from high-risk wildfire and flood zones and promoting resilient land use. It integrates updated climate data and hazard mapping to inform policies on infrastructure, housing, and emergency planning. The Plan emphasizes wildfire mitigation through defensible space, fire-safe building standards, and evacuation coordination, especially for vulnerable populations. It also supports green infrastructure and natural systems restoration to reduce flooding and climate impacts. By aligning with regional and state hazard mitigation efforts, the Plan positions Santa Rosa to better prepare for, respond to, and recover from future disasters.
Climate Change Considerations:	The Santa Rosa General Plan 2050 incorporates climate change considerations through policies that address both mitigation and adaptation. It promotes compact, infill development, and active transportation to reduce greenhouse gas emissions. The Plan identifies vulnerable populations and prioritizes actions to reduce heat, fire, flood, and drought risks in those communities. It supports renewable energy, green building standards, and carbon sequestration through urban greening and open space preservation. By integrating climate resilience into land use, housing, infrastructure, and emergency planning, the Plan ensures a more sustainable and equitable future for Santa Rosa.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP), Education and Awareness Programs (EAP)
Priority:	Medium

Action 2026-SantaRosa-02. Wildfire Risk Reduction

Lead Agency:	Santa Rosa Fire Department
Supporting Agencies:	CalFire, Sonoma County Fire Districts, Sonoma County DEM, PG&E, Public Works, Community Development, local HOAs, community groups
Hazards of Concern:	Extreme Wind, Wildfire
Description of the Problem:	Santa Rosa and the surrounding unincorporated areas face ongoing wildfire threats due to dense vegetation, steep terrain, high winds, and a large number of structures in the wildland-urban interface. The city was directly impacted by the 2017 Tubbs/Nuns Fire, the 2019 Kincade Fire, and the 2020 Glass Fire. The 2020 Community Wildfire Protection Plan (CWPP) identified several persistent problems: large stretches of untreated roadside fuels, steep hillsides with poor access, and neighborhoods with only a single way in or out. Many homes lack defensible space and ember-resistant features, especially those built before current fire codes. Overgrown vegetation along rights-of-way and public parcels often exceeds maintenance schedules, increasing ignition risk near travel routes. Evacuation signage and planning are inconsistent, and few neighborhoods have identified safe zones or staging areas. GIS data shows widespread noncompliance with defensible space requirements, with enforcement unevenly applied. High-risk zones often overlap with socially vulnerable populations, including mobile home parks and multifamily housing where resources for mitigation are limited. Public engagement around wildfire risk is low. Outreach from the 2020 CWPP showed confusion about defensible space rules, evacuation procedures, and available support programs. Vulnerable groups, such as elderly residents, non-English speakers, and low-income renters face added challenges in preparing for, evacuating from, and recovering after fires. Despite progress, vegetation hazards and inconsistent implementation of mitigation measures continue to drive wildfire risk across the region.

Description of the Solution:	Support the Santa Rosa Fire Department, other City departments, local Firewise communities, and other stakeholder organizations with the implementation of mitigation action items identified in the City of Santa Rosa, Santa Rosa Fire Department Community Wildfire Protection Plan 2024 Annual Report. This includes coordinated efforts across departments and neighborhoods to reduce wildfire risk through education, defensible space enforcement, fuel reduction, and infrastructure improvements. The action plan to reduce wildfire risk in Santa Rosa includes both education and outreach efforts and large-scale land and infrastructure treatments. Education and awareness projects include helping neighborhoods become Firewise certified, expanding wildfire safety outreach through the Wildfire Ready program, conducting neighborhood-level engagement using local ambassadors, and continuing wildfire awareness campaigns through LISTOS, COPE, and community training events. These efforts will focus especially on renters, mobile home residents, and areas with elderly, low-income populations or language barriers, including communities with limited English proficiency. Natural systems protection efforts will involve ongoing vegetation maintenance, defensible space enforcement, and fuel reduction treatments across public and private lands. Roadside vegetation will be cleared or reduced along evacuation routes and in high-risk neighborhoods. Larger-scale fuel breaks will be planned near the wildland-urban edge, parks, and open spaces. Grazing, thinning, chipping, and green waste programs will be used depending on location and site conditions. The City will also continue to expand home hardening and defensible space compliance through its inspection program and the phased rollout of the 2025 Vegetation Management Ordinance. Ember-resistant construction upgrades, including vents, eaves, and non-combustible siding, will be promoted or required where feasible. Homeowners will receive support through technical assistance and cost-sharing where funding allows. In addition, Santa Rosa will assess and protect critical infrastructure and evacuation corridors. This includes trimming vegetation near power lines, communications equipment, and water facilities, and improving road access where needed. Roadside fuel conditions will be mapped and maintained on a multi-year schedule in coordination with Public Works and regional partners. Risk reduction efforts will be supported by GIS-based tracking of inspections, treatments, and project progress. The City will integrate these activities into its planning processes, development review, and annual CWPP updates to ensure long-term continuity. All of these efforts will work together to reduce structure loss, improve safety during evacuations, increase public awareness, and help the city adapt to longer fire seasons and more extreme conditions.
Estimated Cost:	High
Potential Funding Sources:	General Fund (staff time) and Federal and State grants, FEMA HMGP, CalFire grants, CDBG
Implementation Timeline:	1-5 Years
Objectives Met:	1, 2,3,4,5,6,7,8,9,10,11,12,13
Benefits:	These efforts will reduce the likelihood of structure loss and injury, lower suppression costs, improve safety during evacuations, and support long-term resilience planning. It also ensures that all parts of the city, including underserved and high-risk neighborhoods, have access to mitigation resources and information.
Impact on Socially Vulnerable Populations:	Special focus will be given to mobile home parks, senior housing, renters, and communities with limited English proficiency.

Impact on Future Development:	Planning and permitting processes will incorporate fire risk considerations, supporting construction that reduces long-term exposure and ensures proper spacing, access, and defensible space in new projects.
Impact on Critical Facilities/Lifelines:	Mitigation work will safeguard fire stations, evacuation routes, utilities, water infrastructure, and communications systems. These facilities are essential to continuity of operations during wildfire events.
Impact on Capabilities:	This project builds internal capacity across multiple departments for wildfire risk reduction, enforcement, education, and coordination. It also improves data sharing and public transparency.
Climate Change Considerations:	The program is designed to reduce wildfire impacts as the region experiences longer fire seasons, hotter weather, and more extreme wind conditions. It also builds adaptive capacity for future risk scenarios.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP), Education and Awareness Programs (EAP)
Priority	High

Action 2026-SantaRosa-03. Capital Improvement Program

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	Sonoma Water, US Army Corps
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	The City of Santa Rosa encompasses over 41 square miles and provides water and sewer service, fire protection, and is responsible for ensuring the safety of people, property, and public infrastructure. Aging or poorly functioning infrastructure throughout the community increases the likelihood that hazards could exacerbate impacts to the community.
Description of the Solution:	Implement the City's Capital Improvement Program (CIP), including, but not limited to projects which: Protect Infrastructure and Critical Facilities (Designing and building water tanks or wells for use in times of water outage and Installing quick-connect emergency generator hook-ups for critical facilities), Protect and Restore Natural Flood Mitigation Features (Protecting and enhancing landforms that serve as natural mitigation features (i.e., riverbanks, wetlands, dunes, etc.), Improve Stormwater Drainage System Capacity (Increasing capacity of stormwater detention and retention basins and Using stream restoration to ensure adequate drainage and diversion of stormwater). Santa Rosa's CIP is a five-year financial plan for the maintenance and expansion of public infrastructure. The CIP identifies public facility improvements that are needed, a construction and design schedule, and funding for these projects.
Estimated Cost:	High
Potential Funding Sources:	General Fund (staff time), Federal, State and Regional grants, Development Fees, Gas Tax, and Enterprise Funding
Implementation Timeline:	1-5 Years
Objectives Met:	3, 6, 10, 12, 13
Benefits:	Critical city infrastructure will be more reliable during and following hazards and will be less likely to exacerbate impacts to community members and property.
Impact on Socially Vulnerable Populations:	This action protects vulnerable populations, such as senior citizens and low-income residents.
Impact on Future Development:	None.
Impact on Critical Facilities/Lifelines:	This action would improve the functionality of critical facilities.
Impact on Capabilities:	This action would allow the City to focus more resources on life safety instead of the functioning of critical infrastructure during disasters.
Climate Change Considerations:	Climate change will increase the frequency and impacts of natural hazards; therefore, this is an important consideration in prioritizing Capital Improvement Projects.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SantaRosa-04. Emergency Planning

Lead Agency:	City of Santa Rosa Planning and Economic Development
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The City of Santa Rosa is dedicated to maintaining and enhancing its emergency preparedness through regular updates to its emergency planning documents including our EOP and COOP/COG plans amongst others. These updates occur every five years (or less depending on the plan) to ensure alignment with state and federal laws, local conditions and best practices. This proactive approach enables the city to effectively address various hazards, including wildfires, earthquakes, floods, and landslides. The City actively seeks public input during the planning process to ensure that the community's unique needs and challenges are addressed.
Description of the Solution:	Continue to update the City's emergency planning documents every five years to ensure consistency with state and federal law, local conditions, and best practices and the most recent science.
Estimated Cost:	Medium
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM
Implementation Timeline:	1-5 Years
Objectives Met:	1, 2, 4, 5, 8, 9, 12
Benefits:	Long-term benefits of the project are difficult to quantify in the short-term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Continuity of Government plan ensure that the Safety and Security lifeline continues to function when there is a disruption in the delivery of government services.
Impact on Capabilities:	N/A
Climate Change Considerations:	Regularly updating plans with the latest data and climate change predictions allows the plan to evolve and remain relevant.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SantaRosa-05. Water Continuity

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	The city’s water supply remains vulnerable to prolonged disruption due to significant reliance on Sonoma Water’s aqueduct system.
Description of the Solution:	Ensure the continuity of operations of the City's water supply system through projects that address identified vulnerabilities and/or enhance the system's capabilities following hazard events.
Estimated Cost:	High
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-10 Years
Objectives Met:	2, 3, 4, 6, 9
Benefits:	Project will have an immediate impact on the reduction of risk exposure to life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Expansion of the City’s water supply will allow for more and denser development.
Impact on Critical Facilities/Lifelines:	This action makes the Water Systems lifeline more resilient to natural hazard impacts.
Impact on Capabilities:	N/A
Climate Change Considerations:	Water patterns are expected to shift in the City due to climate change, including prolonged periods of drought. This action would allow water supplies to remain functional during droughts.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SantaRosa-06. Municipal Code

Lead Agency:	City of Santa Rosa City Manager
Supporting Agencies:	N/A
Hazards of Concern:	Landslide, Wildfire
Description of the Problem:	As the physical landscape of the City's Wildland-Urban Interface had changed post Tubbs/Nuns/Glass fires, the City's municipal code needs an new ordinance to address this changing environment.
Description of the Solution:	Prepare a Municipal Code update to identify vegetation management requirements in the Wildland-Urban Interface zone for existing and new development.
Estimated Cost:	Medium
Potential Funding Sources:	Staff time, General Fund, PDM
Implementation Timeline:	1-5 Years
Objectives Met:	1, 2, 4, 6, 7, 8, 9, 11, 12
Benefits:	Long-term benefits of the project are difficult to quantify in the short-term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Standardized vegetation management will make urban and suburban areas more resilient to wildfires.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	The City is expected to have more days of extreme heat and longer periods of drought in the future. Both conditions increase the frequency and severity of wildfires.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SantaRosa-07. Critical Facilities

Lead Agency:	City of Santa Rosa Development Services
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	Several critical facilities are outdated or located in areas vulnerable to earthquakes, floods, dam failure, landslides, and wildfire. These weaknesses put essential services and public safety at risk during disasters.
Description of the Solution:	Retrofit, replace, or relocate critical facilities that are shown to be vulnerable to damage in natural disasters prioritizing those structures that have experienced repetitive losses and/or are located in a high or medium ranked hazard.
Estimated Cost:	High
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, FMA, Water Enterprise Funds
Implementation Timeline:	1-10 Years
Objectives Met:	1, 3, 6, 8, 9, 10, 11, 12
Benefits:	Project will have an immediate impact on the reduction of risk exposure to life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Critical facilities will be better protected from natural hazards.
Impact on Capabilities:	N/A
Climate Change Considerations:	The frequency and severity of certain natural hazards will worsen with climate change.
Mitigation Category	Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP)
Priority	Medium

Action 2026-SantaRosa-08. Water Flow Capacity

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Wildfire
Description of the Problem:	While the City has made progress in improving water flow capacity, a major fire such as the Tubbs fire would severely strain water flow.
Description of the Solution:	Continue to implement improvements to water flow capacity in the WUI.
Estimated Cost:	Medium
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, FMAG
Implementation Timeline:	1-10 Years
Objectives Met:	1, 2, 3, 6
Benefits:	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Improved water flow capacity may allow additional homes to be built in the WUI.
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline, specifically firefighting.
Impact on Capabilities:	N/A
Climate Change Considerations:	The City is expected to have more days of extreme heat and longer periods of drought in the future. Both conditions increase the frequency and severity of wildfires.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SantaRosa-09. Defensible Space Enforcement

Lead Agency:	City of Santa Rosa Fire Department
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Extreme Heat, Extreme Wind, Landslide, Wildfire
Description of the Problem:	Many properties in the City's wildland-urban interface lack adequate defensible space, increasing the risk of wildfire spread and structure loss. Recent Community Wildfire Protection Plan (CWPP) assessments have identified areas with high fuel loads, poor access, and limited compliance with vegetation management requirements. These conditions threaten public safety and firefighting operations.
Description of the Solution:	Provide defensible space inspections/enforcement for residents located within our wildland-urban interface.
Estimated Cost:	Medium
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, FMAG
Implementation Timeline:	1-5 Years
Objectives Met:	1, 2, 4, 6, 7, 8, 9, 11, 12
Benefits:	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline, specifically firefighting.
Impact on Capabilities:	N/A
Climate Change Considerations:	The City is expected to have more days of extreme heat and longer periods of drought in the future. Both conditions increase the frequency and severity of wildfires.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SantaRosa-10. NFIP Compliance

Lead Agency:	City of Santa Rosa Development Services
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Flood
Description of the Problem:	Maintaining good standing and compliance with the NFIP are City goals, and as updates are required the City works with FEMA to maintain compliance.
Description of the Solution:	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet NFIP requirements to: Enforce the flood damage prevention ordinance; participate in floodplain identification and mapping updates; and provide public assistance/information on floodplain requirements and impacts.
Estimated Cost:	Low
Potential Funding Sources:	Staff time, General Fund
Implementation Timeline:	1-5 Years
Objectives Met:	1, 3, 5, 7, 8, 9, 10, 12
Benefits:	Project will have a long-term impact on the reduction of risk exposure to life and property or will provide an immediate reduction in the risk exposure to property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SantaRosa-11. Flood Mapping

Lead Agency:	City of Santa Rosa Development Services
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Many areas within the Santa Rosa Creek Watershed have not been clearly identified for flood risk under older mapping. FEMA's new flood study and updated maps will designate Special Flood Hazard Areas where stricter building standards and mandatory flood insurance may apply. Without incorporating this new information into City systems and review processes, property owners and staff could lack the guidance needed to plan appropriately and reduce flood risk.
Description of the Solution:	When FEMA creates, updates, and publishes flood zone mapping of the 100-year and 500-year floodplains, integrate information from the maps into the City's geographical information system and use flood information in the development review and public project review process. In areas with high flood risk, continue to evaluate and implement flood hazard mitigation projects to reduce potential for property damage, street flooding, and stream erosion. City has created a webpage for this mapping project including links to the hydraulic and hydrologic modeling, information on flood insurance, and the project timeline. We are providing education and outreach on impending changes and will continue to identify repercussions to the public through public meetings and the building permit process.
Estimated Cost:	Low
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, FMA, Other Grant Sources
Implementation Timeline:	1-5 Years
Objectives Met:	2, 7, 8, 9, 10, 12
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	This action will identify special hazard flood areas where more stringent flood mitigation should be followed for new development.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	With changing precipitation patterns, the City will strive to use the best available flood data to ensure plans and procedures are up to date.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SantaRosa-12. Pump Station

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Flood, Wildfire
Description of the Problem:	Existing pump stations have limited capacity and may be vulnerable to flooding during major storm events. This creates a risk of localized flooding, property damage, and service disruption in areas that depend on these stations for drainage.
Description of the Solution:	Based on identified vulnerability and/or potential for capacity enhancement, increase the capacity and level of protection provided by pump station to feasible specifications.
Estimated Cost:	High
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, Other grant sources, Water Enterprise Funds
Implementation Timeline:	1-10 Years
Objectives Met:	3, 6
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	A resilient infrastructure supports future residential and commercial development by ensuring that new areas are well-protected against seismic risks.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Low

Action 2026-SantaRosa-13. Stormwater Drainage System

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Flood, Landslide, Wildfire
Description of the Problem:	Existing stormwater drainage systems have limited capacity and are prone to clogging from debris, vegetation, and sediment. During major storms, this can lead to localized flooding, property damage, and disruption of critical services.
Description of the Solution:	Evaluate, monitor, and maintain the City's stormwater drainage system to ensure it can effectively handle anticipated stormwater volumes to the maximum extent possible, and make upgrades and repairs as needed. Coordinate with the Sonoma Water to clear debris and remove vegetation and sediment in flood control channels to protect flow capacity within the City.
Estimated Cost:	High
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, FMA, Other Grant Sources, Water Enterprise Funds
Implementation Timeline:	1-5 Years
Objectives Met:	2, 3, 10
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection (NSP)
Priority	Low

Action 2026-SantaRosa-14. Waterway Restoration Projects

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Flood, Landslide
Description of the Problem:	Several waterways in the city have unstable banks, reduced flood capacity, and degraded habitat conditions. These issues increase the risk of flooding, erosion, and damage to adjacent properties and infrastructure.
Description of the Solution:	Identify and implement waterway restoration projects that result in bank stabilization, enhanced habitat and flood capacity.
Estimated Cost:	High
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, Other grant sources, Water Enterprise Funds
Implementation Timeline:	1-5 Years
Objectives Met:	2, 3, 4, 10
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection (NSP)
Priority	Medium

Action 2026-SantaRosa-15. Retrofitting

Lead Agency:	City of Santa Rosa Development Services
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Flood, Landslide
Description of the Problem:	Many public spaces, such as plazas, sidewalks, and parking lots, have conventional paving that prevents water infiltration. This increases stormwater runoff, contributing to flooding, erosion, and strain on drainage systems.
Description of the Solution:	Retrofit public areas, including plazas, sidewalks, and parking lots with permeable paving and other low-impact development features that promote infiltration and reduce stormwater runoff.
Estimated Cost:	High
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, FMA, Water Enterprise Funds
Implementation Timeline:	1-5 Years
Objectives Met:	3, 10
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SantaRosa-16. Replace Water-Retention Structures

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Flood, Landslide, Wildfire
Description of the Problem:	Some existing water-retention structures, including levees, dams, reservoirs, and tanks, are aging or structurally deficient. These weaknesses raise the risk of failure during heavy storms, floods, or landslides, threatening public safety and property.
Description of the Solution:	Replace or retrofit water-retention structures that are determined to be structurally deficient, including levees, dams, reservoirs, and tanks. Continue to analyze and identify needs for future upgrades. Evaluate, reinforce, and/or enhance wastewater treatment facility structures with seismic risk.
Estimated Cost:	Medium
Potential Funding Sources:	Staff time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 Years
Objectives Met:	3, 4, 8, 10
Benefits:	Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SantaRosa-17. Inventory and Funding Mechanisms

Lead Agency:	City of Santa Rosa Development Services
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Many older buildings in the city, including unreinforced masonry, soft-story, and non-ductile concrete structures, are highly vulnerable to collapse in an earthquake. There is no dedicated funding to help owners retrofit these structures.
Description of the Solution:	Develop funding mechanisms to assist building owners to retrofit unreinforced masonry, soft-story, and/or non-ductile concrete structures.
Estimated Cost:	High
Potential Funding Sources:	Staff Time, General Fund, HMGP
Implementation Timeline:	1-10 years
Objectives Met:	1, 2, 3
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Low

Action 2026-SantaRosa-18. Seismic Retrofitting Enforcement

Lead Agency:	City of Santa Rosa Development Services
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Numerous buildings remain at high risk of severe damage or collapse during earthquakes due to outdated construction. Voluntary retrofitting alone has not adequately reduced this risk, and consistent enforcement and public education are lacking.
Description of the Solution:	Require the retrofit of seismically vulnerable structures consistent with City Code. This program should include community education and outreach.
Estimated Cost:	Medium
Potential Funding Sources:	Staff Time, General Fund, HMGP
Implementation Timeline:	1-10 years
Objectives Met:	1, 2, 3, 4, 6, 8, 9, 11, 12
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SantaRosa-19. Sewer Trunk Line Identification

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Flood
Description of the Problem:	A fault line bisects the City and would have devastating effects on the City's infrastructure in the event of an earthquake.
Description of the Solution:	Identify/analyze sanitary sewer trunk lines that are determined to be structurally deficient where crossing fault zones. Retrofit/replace, as necessary.
Estimated Cost:	Medium
Potential Funding Sources:	Staff Time, General Fund, HMGP
Implementation Timeline:	1-10 years
Objectives Met:	3, 6, 8, 10
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SantaRosa-20. Groundwater Protection

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Drought
Description of the Problem:	Groundwater resources may be at risk of contamination from former hazardous materials sites, threatening long-term water supply reliability and safety.
Description of the Solution:	Protect existing groundwater resources from former hazardous material sites.
Estimated Cost:	Medium
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-10 years
Objectives Met:	1, 3, 6
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Natural Systems Protection (NSP)
Priority	Low

Action 2026-SantaRosa-21. Emergency Groundwater Master Plan

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Earthquake, Wildfire
Description of the Problem:	The City lacks adequate backup groundwater sources to maintain water service during prolonged drought or other supply interruptions.
Description of the Solution:	Complete and implement recommendations of the adopted Emergency Groundwater Master Plan, including construction of emergency groundwater wells.
Estimated Cost:	Medium
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-10 years
Objectives Met:	3, 4, 6
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SantaRosa-22. Local Dams Inspections

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Flood
Description of the Problem:	Many local dams are aging and require periodic inspection to identify safety issues. Without regular assessment and follow-up, the risk of dam failure and downstream flooding increases.
Description of the Solution:	Support the State's efforts to conduct periodic inspections of local dams and implement recommended actions to ensure all safety measures are in place.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 8, 10, 11
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SantaRosa-23. Microgrid Study

Lead Agency:	City of Santa Rosa Development Services
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Earthquake, Flood, Wildfire
Description of the Problem:	Critical facilities rely on centralized power, making them vulnerable to outages during disasters. The feasibility of microgrids to maintain essential services has not been evaluated.
Description of the Solution:	Conduct Microgrid feasibility study
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 years
Objectives Met:	4, 6, 8, 9, 11, 12
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SantaRosa-24. Update EOC

Lead Agency:	City of Santa Rosa Fire
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	The current Emergency Operations Center lacks adequate space, equipment, and resilience features needed for sustained operations during major emergencies.
Description of the Solution:	Relocate/Update EOC to City-owned facility that can accommodate use and renovation to permanent warm/hot EOC with appropriate equipment for communication and situational awareness
Estimated Cost:	Medium
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 years
Objectives Met:	2, 3, 6, 9
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SantaRosa-25. Action Items Implementation

Lead Agency:	City of Santa Rosa Fire
Supporting Agencies:	N/A
Hazards of Concern:	Extreme Heat, Extreme Wind, Landslide, Wildfire
Description of the Problem:	Key recommendations in the City's Community Wildfire Protection Plan have not yet been fully implemented, leaving known wildfire risks unaddressed.
Description of the Solution:	The Santa Rosa City Council approved Santa Rosa's Community Wildfire Protection Plan (CWPP) on September 18, 2020. This 5-year community-based plan is focused on identifying and addressing local hazards and risks from wildfire in the City's Wildland Urban Interface (WUI) areas. The plan determines what is at risk and provides a road map of actions for the community to address the wildfire threat. Upon the conclusion of our existing 5-year plan this year, the Santa Rosa Fire Department enlisted an experienced consultant (AP Triton) to update our existing CWPP. We are currently in the initial stages of this process. Completed tasks to date include compiling vast amounts of data and information to supply the consultant to support their work. We have also solicited interest and compiled a comprehensive list of community members that will be a part of our Steering Committee. Next steps include finalizing data sets, scheduling on-site interviews, and Steering Committee introductions with our consultant. The plan update will continue in 2026.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SantaRosa-26. HMP Maintenance

Lead Agency:	City of Santa Rosa Fire
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Ongoing maintenance and updates of the Hazard Mitigation Plan are required to keep it current and effective, but consistent participation and tracking have been limited.
Description of the Solution:	Actively participate in the annual maintenance protocols outlined in Volume I of this Hazard Mitigation Plan.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 years
Objectives Met:	1, 5, 8, 12
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SantaRosa-27. Volume I Hazard Mitigation Plan

Lead Agency:	City of Santa Rosa Fire
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The City needs to support countywide mitigation actions identified in Volume I to ensure a coordinated regional approach to hazard reduction.
Description of the Solution:	Support the County-wide initiatives identified in Volume I of this Hazard Mitigation Plan.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SantaRosa-28. Plan Integration

Lead Agency:	City of Santa Rosa Development Services
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The Hazard Mitigation Plan is not fully integrated into the City's General Plan, codes, and other land use policies, reducing its effectiveness in guiding development decisions.
Description of the Solution:	Integrate the Hazard Mitigation Plan into other plans, ordinances and programs that dictate land use decisions within the community including the General Plan, Specific Plans, and the City Code.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 years
Objectives Met:	1, 3, 4, 5, 6, 7, 8, 10, 12
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SantaRosa-29. Plan Development - Waste Water Systems

Lead Agency:	City of Santa Rosa Water
Supporting Agencies:	Development Services
Hazards of Concern:	Dam Failure, Drought, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	There is no formal plan for quickly repairing and restoring water and wastewater services after disasters, increasing the risk of prolonged outages and public health impacts.
Description of the Solution:	Develop a plan for expediting the repair and functional restoration of water and wastewater systems through stockpiling of shoring materials, temporary pumps, surface pipelines, portable hydrants, and other supplies, such as those available through the Water/Wastewater Agency Response Network (WARN). Communicate that plan to local governments and critical facility operators
Estimated Cost:	Medium
Potential Funding Sources:	Staff Time, General Fund, HMGP, PDM, Water Enterprise Funds
Implementation Timeline:	1-5 years
Objectives Met:	1, 2, 4, 6, 11, 12
Benefits:	N/A
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

9. CITY OF SEBASTOPOL

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Sebastopol with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the City. The annex presents a general overview of Sebastopol, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

9.1 HAZARD MITIGATION PLANNING TEAM

The City of Sebastopol identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Police Department represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group, and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The City officials who participated in the development of the annex are listed below and shown in Table 9-1. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Sean McDonagh, Chief of Police

Address: 6850 Laguna Park Way, Sebastopol, CA 95472

Phone Number: 707-829-4400

Email: smcdonagh@cityofsebastopol.gov

Alternate Point of Contact: Andrew Bauer, Lieutenant

Address: 6850 Laguna Park Way, Sebastopol, CA, 95472

Phone Number: 707-829-4400

Email: abauer@cityofsebastopol.gov

NFIP Administrator: Steven Brown, Building Official

Address: 7120 Bodega Avenue, Sebastopol, CA, 95472

Phone Number: 707-823-8597

Email: building@cityofsebastopol.gov

Table 9-1. Additional Contributors

Name	Department	Position	HMP Contribution
Sean McDonagh	Police	Chief	Main oversight and review
Steve Brown	Building	Department Head	Form completion and review
Mark Rincon	Public Works	Department Head	Review and input

9.2 COMMUNITY PROFILE

Sebastopol, located in western Sonoma County, has a rich and layered history shaped by its indigenous roots, agricultural heritage, and waves of immigration. The region was originally inhabited by the Miwok and Pomo peoples, with the latter establishing numerous encampments along the Laguna de Santa Rosa. Their legacy, particularly in basketry, remains a significant cultural touchstone.

In the early 1800s, Mexican settlers arrived during the Spanish colonial period, followed by U.S. settlers after California's transition to statehood. Sebastopol was formally recognized with a post office in 1850, serving as a hub for local agriculture during the Gold Rush era.

The City's name reflects its historical ties to Russia, derived from the Crimean port of Sevastopol, and is linked to the nearby Russian settlement at Fort Ross. Throughout the 20th century, Sebastopol welcomed immigrants from Italy, Portugal, China, and Japan. The Enmanji Buddhist Temple, established in the 1930s, stands as a testament to the Japanese community's enduring presence. More recently, immigrants from Mexico and Central America have contributed to the region's agricultural workforce, particularly in viticulture (Relaunch Sebastopol 2025).

Sebastopol's fertile land has long supported diverse crops, including cherries, hops, and apples, most notably the Gravenstein apple. Today, vineyards dominate the landscape, complemented by organic farms and a vibrant local food culture showcased at the weekly farmers market. The City is also notable for its connection to horticulturist Luther Burbank, who established the Gold Ridge Experimental Farm in 1885. Portions of the farm remain open to the public, preserving his legacy in plant innovation.

The arrival of the railroad in the early 20th century further spurred Sebastopol's development. Though trains no longer operate, the restored depot area now serves as a community space, with trails repurposed from former rail lines connecting Sebastopol to neighboring towns (Relaunch Sebastopol 2025).

According to the U.S. Census, the 2020 population for Sebastopol was 7,521, a 1.9 percent increase from the 2010 Census. The 2023 American Community Survey (ACS) estimated that the 2023 population of Sebastopol was 7,466; this estimate is used throughout the HMP.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the U.S. Census 2023 American Community Survey (ACS) indicates that 5.3 percent of the population is 5 years of age or

younger, 26.4 percent is 65 years of age or older, 3.2 percent is non-English speaking, 8.2 percent is below the poverty threshold, 11.5 percent is considered disabled, 1.3 percent are a single parent household, and 5.8 percent have no vehicle access.

In 2024, the total homeless population in the City of Sebastopol was reported as 118 individuals, including 10 sheltered and 108 unsheltered persons (Sonoma County 2024).

9.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In 2025, the City of Sebastopol undertook a series of public outreach efforts to support the development and update of the HMP. These initiatives were designed to gather input from residents and stakeholders to inform the City's approach to risk reduction and community resilience.

The following targeted outreach was made to underserved communities and vulnerable populations:

- Underserved Communities – LatinX/Hispanic. Community meetings will be held with translators to provide education and an opportunity for the community to provide input and feedback. Mailers may be developed in English and Spanish to be included in water bills.
- Vulnerable Populations – Homeless community. Coordinated education and information efforts through our homeless outreach which is currently provided through West County Community Services.

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities in the City was contributed through community engagement activities.

9.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Sebastopol invited stakeholders relevant to its planning process to participate by attending an HMWG meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

9.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. The building department and public works and engineering

departments contributed infrastructure data and identified vulnerabilities. These agencies played a key role in shaping mitigation strategies and ensuring alignment with existing emergency plans.

- Building Department
- Public Works and Engineering Department

9.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. Their involvement ensured that proposed actions were feasible and aligned with local codes and ordinances.

- Permit Sonoma
- Planning and Community Development Department
- Building Department

9.4.3 Neighboring Communities

Neighboring jurisdictions and institutions were invited to participate in the planning process to promote regional coordination and address shared risks. This included adjacent cities and local fire protection districts. Their involvement helped identify interdependencies, such as shared infrastructure and emergency services, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- County of Sonoma
- City of Santa Rosa
- Gold Ridge Fire Protection District

9.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community, and academic institutions. Local businesses contributed perspectives on economic resilience and infrastructure continuity. Academic institutions provided technical expertise and helped assess long-term risks. This diverse input helped ensure that the plan addressed the needs of the broader community and supported public-private collaboration in mitigation efforts.

- Sebastopol Chamber of Commerce
- West Sonoma County Union High School District

9.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- West County Community Services
- St. Vincent de Paul of Sonoma County
- Burbank Housing
- American Red Cross

9.5 CHANGES IN COMMUNITY PRIORITIES

There have been no changes in priorities for the City of Sebastopol since the 2023 Local Hazard Mitigation Plan.

9.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Sebastopol performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Sebastopol to identify opportunities for integrating mitigation concepts into ongoing City procedures.

9.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The tables below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 9-2 summarizes the codes, ordinances, and regulations available to the City of Sebastopol.

Table 9-2. City of Sebastopol Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	Sebastopol Municipal Code Title 15 7/16/24 The City adheres to the California Building Standards Code (CBC), updated every 3 years (latest 2022 edition).	Required during permitting to ensure projects are meeting all applicable code requirements.	Municipal	Steve Brown/Building Dept./ City of Sebastopol
Zoning/Land Use Code	Sebastopol Municipal Code Title 17 7/16/24	All applicable codes are required to be followed during planning and verified through inspections at completion.	Municipal	Emi Theriault/ Planning Dept. City of Sebastopol
Subdivision Code	Sebastopol Municipal Code Title 16, Chapter 16.44 7/16/24	All land uses are reviewed and must meet all requirements prior to approval and development.	Municipal	Emi Theriault/ Planning Dept.
Site Plan Code	Sebastopol Municipal Code Chapter 17 7/16/24	This is utilized during the review process for every plan submitted for permitting.	Municipal	Emi Theriault/Planning Dept.
Stormwater Management Code	Sebastopol Municipal Code Chapter 13.20 7/16/24	All projects must comply with this code to mitigate runoff and abate pollution into the storm water system. Monitoring and analysis occurs, as well as inspections during projects.	Municipal	Mark Rincon/Public Works Director
Post-Disaster Recovery/Reconstruction Code	Sebastopol Municipal Code Ch. 17.48 7/16/24.	Code contains provisions to safely permit reconstruction and repair of damaged structures and allowed land uses during a recovery.	Municipal	Steve Brown/ Building Dept.

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Growth Management	Sebastopol Municipal Code Ch. 17.500 7/16/24	Ordinance allows the city to balance growth so as not to exceed available resources including infrastructure capacity, services and fiscal resources. This ensures response viability during hazard events.	Municipal	Emi Theriault/ Planning Dept.
Environmental Protection Ordinance	Sebastopol Municipal Code Various chapters pertaining to environmental protection 7/16/24.	-	Municipal	Various City of Sebastopol Departments share responsibilities
Flood Damage Prevention Ordinance	Sebastopol Municipal Code Ch. 15.16 7/16/24	Restricts or prohibits uses dangerous to health and safety and property, requires uses and facilities that are vulnerable to be protected.	Municipal	Planning, Building, Public Works Depts.
Wellhead Protection	Code of Sonoma County, Ch. 25B adopted by Ch. 8.52.010 of Sebastopol Muni Code. 7/16/24	The city adopted this chapter of the Code of Sonoma County to require protections regarding all aspects of wells.	County	County of Sonoma
Emergency Management Ordinance	Sebastopol Municipal Code Ch. 2.36 7/16/24	Reduces risk by having a comprehensive response and recovery management plan.	Municipal	City Manager/Police Chief
Climate Change Ordinance	City adopted a Climate Action Framework on 7/19/22. Not codified in the Municipal Code	Provides recommendations regarding transportation, sustainable land use, buildings and clean energy, consumption and waste, community and city operations and leadership.	Municipal	Climate Action Committee provides non-binding recommendations

Planning Documents

Table 9-3 summarizes the planning documents available to the City of Sebastopol.

Table 9-3. City of Sebastopol Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	General Plan adopted 1/3/23	The adopted General Plan contains a Safety element to provide guidance towards reducing risk.	Municipal	Various
Capital Improvement Plan	City's current plan is for 2022-2027. Adopted annually during budget approval process.	The adopted CIP makes funding and expenditure plans which include projects to mitigate hazards including floods, waste water management and infrastructure improvements.	Municipal	Various

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Floodplain Management or Watershed Plan	Sebastopol Municipal Code Ch. 15.16 7/16/24	Requires permit and development review prior to issuance to ensure compliance with state and federal laws and guidelines to ensure projects are not going to fall into the floodplain or they have mitigation measures incorporated.	Municipal	Steve Brown/ Building Dept.
Stormwater Management Plan	Sebastopol Municipal Code Ch. 13.20 7/16/24	Intent is to ensure the health, safety and welfare of citizens and to enhance the water quality of watercourses and water bodies in a manner pursuant to and consistent with the Federal Clean Water Act.	Municipal	Various
Stormwater Pollution Prevention Plan	Sebastopol Municipal Code Ch. 13.20.070 7/16/24	Provides requirements for any person engaging in activities that may result in pollutants entering the storm drain system to undertake all practicable measures to reduce or eliminate pollutants.	Municipal	Various
Open Space Plan	Sebastopol Municipal Code Ch. 17.32 7/16/24	Contains Open Space requirements to preserve the preservation of resources, ag, recreation and the maintenance of public health and safety. May require mitigation efforts during development and construction projects.	Municipal	Emi Theriault/ Planning Dept.
Habitat Conservation Plan	The city has several plans in place to address habitat conservation	The various plans incorporate all of the points identified below. • Map environmental systems • Environmental policies to maintain and restore protective ecosystems and encourage development outside of protective ecosystems.	Municipal	Planning, Building
Economic Development Strategy	The Economic Sustainability Plan is incorporated in the General Plan.	The Economic Development Plan includes provisions for appreciation and respect for the environment and a sense of place that includes mitigating natural hazards.	Municipal	Various Depts.
Community Wildfire Protection Plan	No separate plan, but wildfire is addressed in the EOP and resources are provided for the public online.	-	-	-
Transportation Plan	Sebastopol participates in the Sonoma Active Transportation Plan.	-	County	Sonoma County

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Climate Action/ Resilience/ Sustainability Plan	Sebastopol has developed a Climate Action Framework	A tool to aid the City of Sebastopol in addressing the climate emergency and reaching net zero emissions by 2030. It builds on many years of sustainability efforts in the City and region, including Sebastopol's 2019 Climate Emergency Resolution and longtime participation in the Sonoma County Regional Climate Protection Authority (RCPA)	Municipal	Sebastopol Climate Action Committee, Planning Department
Business/ Downtown Development Plan	A study is underway for reimagining the downtown core.	-	Municipal	Various

Response and Recovery Planning Documents

Table 9-4 summarizes the response and recovery planning documents for the City of Sebastopol.

Table 9-4. City of Sebastopol Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	Resolution# 6378-2021 9/21/21	The EOP is undergoing a complete review and revision. The current plan does address the issues listed, but the revision will include more detailed information and updated information.	Municipal	Police Chief/Emergency Operations Coordinator

9.6.2 Integration

The City of Sebastopol incorporates hazard mitigation principles across its planning and regulatory frameworks to support long-term risk reduction. The General Plan, adopted in 2023, includes a Safety Element that guides development away from hazard-prone areas. The Capital Improvement Plan allocates funding for infrastructure projects that address flooding, wastewater management, and system resilience.

Floodplain and stormwater risks are managed through Municipal Code Chapters 15.16 and 13.20, which require compliance with state and federal standards. The Open Space Plan supports the preservation of natural resources and may require mitigation during development. While the City does not have a formal Habitat Conservation Plan, it maintains several plans that address habitat protection through environmental mapping and policies that guide development away from sensitive ecosystems.

Resilience is further supported through the Economic Sustainability Plan and Climate Action Framework, which promote sustainable growth and emissions reduction. The Emergency Operations Plan, currently under revision, will enhance the city's preparedness and response capabilities.

These mechanisms reflect Sebastopol's commitment to integrating hazard mitigation into daily governance and long-term planning.

Looking ahead, Sebastopol has several opportunities to deepen the integration of hazard mitigation into its operations:

- **Plan Updates**: As the General Plan, CIP, and other regulatory documents are updated, hazard mitigation data and strategies from the HMP can be incorporated to ensure alignment with current risk assessments and resilience goals.
- **Cross-Departmental Coordination**: Continued collaboration among planning, public works, emergency services, and environmental departments can help embed mitigation considerations into project design, permitting, and capital investments.
- **Policy Enhancements**: Future revisions to zoning, building, and environmental codes can incorporate updated hazard data—such as floodplain maps and wildfire risk zones—to guide safer development patterns.
- **Public Engagement**: Integrating mitigation goals into community outreach and education efforts can build public awareness and support for risk-reduction initiatives.
- **Monitoring and Evaluation**: Establishing procedures to track the implementation of mitigation actions and their effectiveness will help inform future planning cycles and funding priorities.

These efforts will ensure that hazard mitigation remains a central component of Sebastopol's governance, supporting a safer and more resilient community over time.

9.6.3 Development and Permitting Capability

Table 9-5 summarizes the capabilities of Sebastopol to oversee and track development.

Table 9-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Planning
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	-
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	No	-
Describe the level of buildout in your jurisdiction.	N/A	-

9.6.4 Administrative and Technical Capability

Table 9-6 summarizes the administrative bodies and programs available to support mitigation initiatives in the City. To expand and improve these capabilities, the City could explore the creation of a zoning

board of adjustment, mitigation planning committee, open space board, or economic development commission.

Table 9-6. Administrative Capabilities

Resources	Available?	Comment
Planning Board	Yes	Planning Commission
Zoning Board of Adjustment	No	-
Planning Department	Yes	Community Development Department
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Climate Action Committee, Community Development Department
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Public Works Operation Division
Construction/Building/Code Enforcement Department	Yes	Building and Safety Department
Emergency Management/Public Safety Department	Yes	Police Department and Chief is Emergency Coordinator
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works Operation Division
Mutual aid agreements	Yes	Fire Department
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	City Manager

Table 9-7 summarizes potential staff and personnel resources available to Sebastopol and their current responsibilities that contribute to hazard mitigation. To expand and improve these capabilities, the City could explore the creation of new city positions skilled or trained in GIS, vulnerable populations, environmental science, surveying, grant writing, or resilience.

Table 9-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	-
Engineers or professionals trained in building or infrastructure construction practices	Yes	-
Planners or engineers with an understanding of natural hazards	Yes	-
Staff with expertise or training in benefit/cost analysis	Unknown	-

Resources	Available?	Comment
Professionals trained in conducting damage assessments	Yes	-
Personnel skilled or trained in GIS and/or Hazus applications	No	-
Staff that work with socially vulnerable populations or underserved communities	No	-
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	Yes	Police Chief is the Emergency Manager
Grant writers	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

9.6.5 Fiscal Capability

Table 9-8 summarizes financial resources available to Sebastopol. To expand and improve these capabilities, the City could explore incurring debt through general obligation bonds, special tax bonds, or private activity bonds.

Table 9-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Unknown
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	Yes
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	No
Open Space Acquisition funding programs	No. County level
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

9.6.6 Education and Outreach Capability

Table 9-9 summarizes the education and outreach resources available to Sebastopol. To expand and improve these capabilities, the City could explore the creation of a citizen board that addresses issues related to hazard mitigation.

Table 9-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	City staff and private contractor part-time.
Personnel skilled or trained in website development	Yes	Privately contracted.
Hazard mitigation information available on your website	Yes	County Website
Social media for hazard mitigation education and outreach	Yes	Facebook, X, Nextdoor, Nixle, Instagram
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	-
Natural disaster/safety programs in place for schools	Yes	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	-
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	-

9.6.7 Community Classifications

Table 9-10 summarizes classifications for community programs available to Sebastopol.

Table 9-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	Not Participating	-	-
Building Code Effectiveness Grading Schedule	Yes	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	-	-
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	-	-

N/A = Not applicable; — = Unavailable

9.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 9-11 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 9-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

9.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 9.1 is responsible for maintaining this information.

The City has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the City on October 16, 2012. The City Building Official is responsible for implementing the commitments and requirements of the NFIP by requiring permits for all development within SFHAs shown on the latest FIRM. The City Building Official reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The City implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed

improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The City Building Official uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

While the City participates in the NFIP, it does not participate in the CRS. Table 9-12 provides a summary of NFIP compliance in Sebastopol.

Table 9-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	Building Department
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	None needed
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review/Inspections
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	We use the 25% value rule. Although we have not had any improvements in the flood area in at least the last six years
What are the barriers to running an effective NFIP program in the community, if any?	None
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	Unknown
What is the local law number or municipal code of your flood damage prevention ordinance?	Ord 1084
What is the date that your flood damage prevention ordinance was last amended?	Adopted 2016
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Yes

Question	Comments
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	We have attended some meetings. We found we were ahead of what was being talked about at meetings.

9.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. Table 9-13 summarizes the repetitive loss and severe repetitive loss properties in the City.

Table 9-13. Repetitive Loss Summary

Type of Repetitive Loss	Residential	Non-Residential
Repetitive Loss Properties (NFIP definition)	11	4
Repetitive Loss Properties (FMA definition)	0	0
Severe Repetitive Loss Properties (NFIP definition)	1	0
Severe Repetitive Loss Properties (FMA definition)	2	0

Source: (FEMA 2024)
*Note: See **Error! Reference source not found.** for definitions of repetitive loss types presented in this table.*

9.7.2 Flood Vulnerability Summary

Table 9-14 provides a summary of flood vulnerability in Sebastopol.

Table 9-14. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	Light industrial/retail, housing
Do you maintain a list of properties that have been damaged by flooding?	No. We have had no flooding issues since 2019
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	-
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No, we do not have any projects in the risk area at this time. We do have one project in the planning stage.

NFIP Topic	Comments
How do you make Substantial Damage determinations?	Cost of Repairs
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	-
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	One, a government building that was elevated.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes

Note: - indicates no response provided by jurisdiction.

9.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 9-15 through Table 9-17.

Table 9-15. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2021 New Construction Permits Issued	4	0	0	4
2021 Permits Issued within SFHA	0	0	0	0
2022 New Construction Permits Issued	2	0	0	2
2022 Permits Issued within SFHA	0	0	0	0
2023 New Construction Permits Issued	5	0	0	5
2023 Permits Issued within SFHA	0	0	0	0
2024 New Construction Permits Issued	3	0	0	3
2024 Permits Issued within SFHA	0	0	0	0

SFHA = Special Flood Hazard Area

Table 9-16. Recent Major Development and Infrastructure from 2021 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Barlow Townhomes	Res	18	6737 Sebastopol Road 004-063-036	Flood zone	Completed

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Woodmark Apartments	Res	48	7716 Bodega Avenue 004-211-007		Completed

**a. Only location-specific hazard zones or vulnerabilities identified.*

Table 9-17. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
The Canopy	Res	80	1009 Gravenstein N 060-261-028		Approved, construction starting within months
Barlow Hotel	Comm	1	6782 Sebastopol Road 004-750-030	Flood zone	Completing approval process

As noted above, no building permits were issued in SFHAs since the previous plan was adopted and 18 new residential units were built in a flood zone. Further commercial development is scheduled to occur in the flood zone over the next five years. Therefore, the overall vulnerability has stayed the same since the previous plan was adopted.

9.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Sebastopol's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

9.9.1 Hazard Area

Maps of probable hazard areas within the City are shown in Figure 9-1 through Figure 9-2. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Sebastopol has significant exposure.

Figure 9-1. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

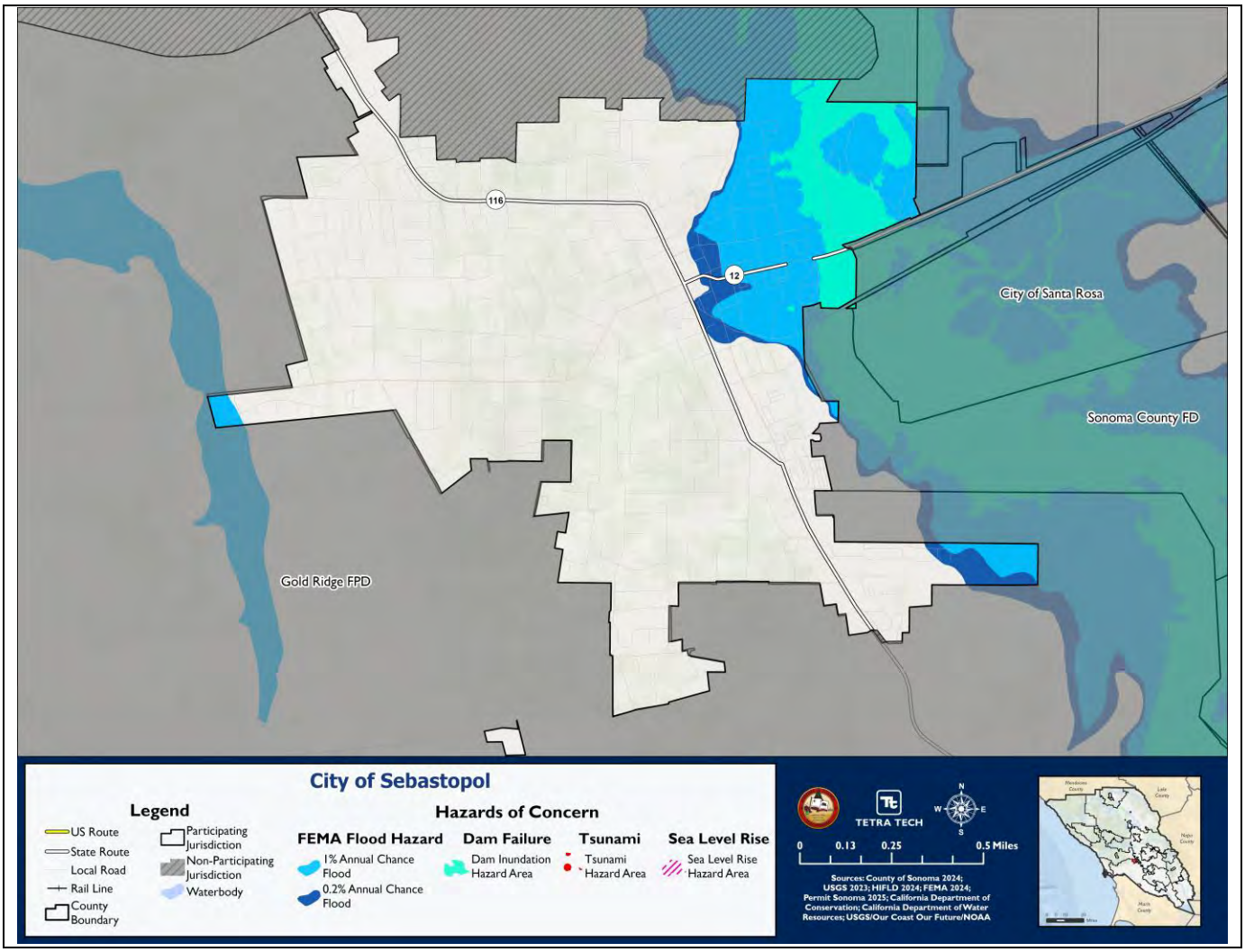
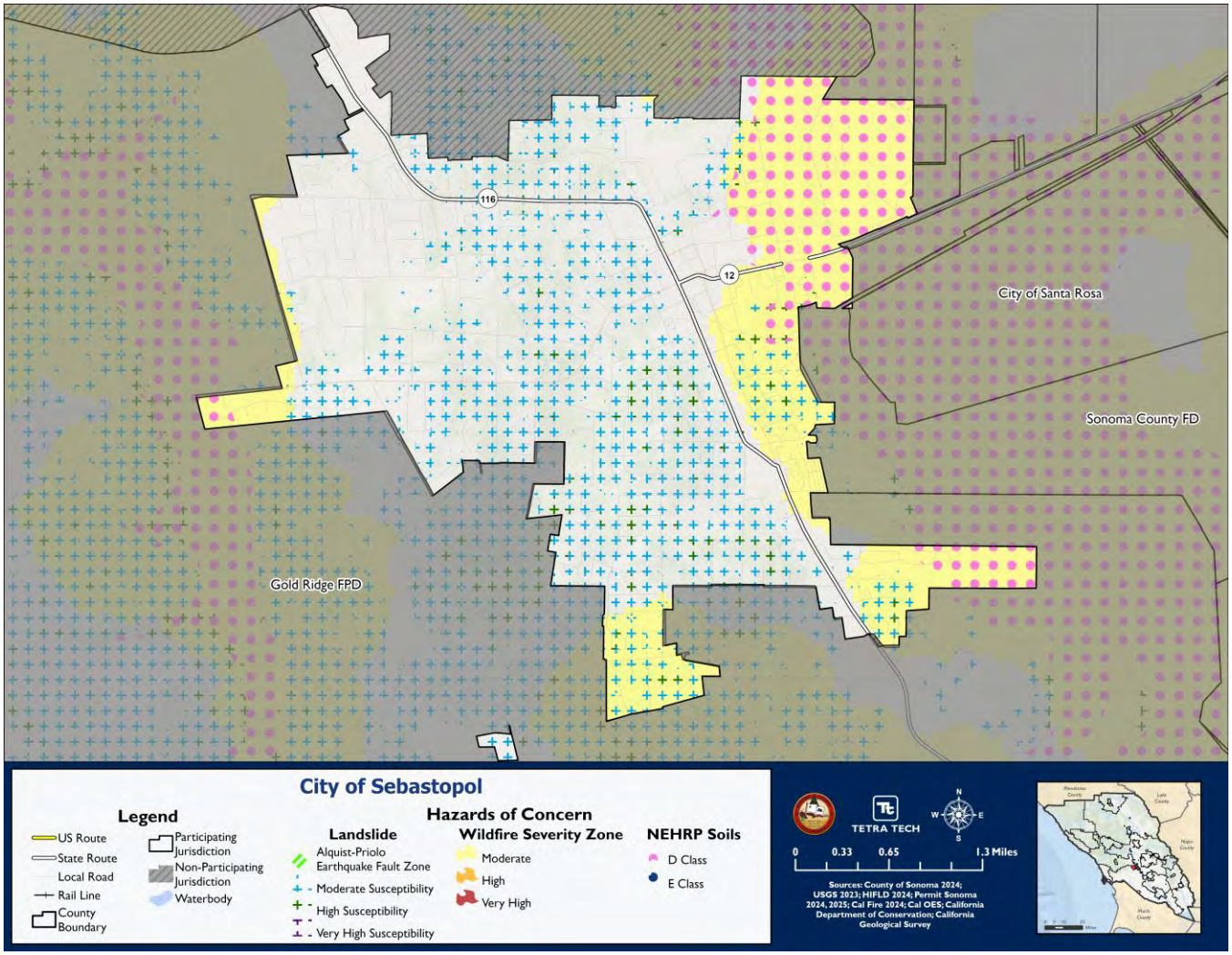


Figure 9-2. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



9.9.2 Hazard Event History

The history of natural and non-natural hazard events in Sebastopol is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 9-18 provides details on loss and damage in Sebastopol during hazard events since the last hazard mitigation plan update.

Table 9-18. Hazard Event History in Sebastopol, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Sebastopol
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton. A 43-year old woman from Ukiah was recovered on the 10th after her car got stuck in floodwaters.	Not Impact/Losses Report
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical jet stream aided in advecting sub-tropical moisture plume from over the Central Pacific into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	Not Impact/Losses Report

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)
N/A = Not applicable

9.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Sebastopol.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

The City of Sebastopol reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. The revised rankings account for the changes in community priorities described in Section 9.5 of this annex and in Volume I of this HMP.

Table 9-19 shows the City of Sebastopol's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially

Table 9-19. Hazard Ranking

Hazard	Rank
Dam Failure	No exposure to this hazard
Drought	Medium
Earthquake	Low
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flood	Low
Landslide	Low
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

The dam failure inundation area for high and very high hazard dams does not occur within the City's boundaries; therefore, there is no exposure to the Dam Failure hazard. Because the city is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities in the city.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to the City of Sebastopol.

Table 9-20 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 9-21 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Table 9-20. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%
NEHRP D & E Soils	3.3%	4.9%	7.0%
1% Annual Chance Floodplain	4.5%	8.1%	9.3%

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
0.2% Annual Chance Floodplain	5.9%	9.8%	11.6%
Geologic Hazard Area	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	46.1%	43.5%	32.6%
High Landslide Susceptibility Area	4.0%	3.8%	2.3%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	15.4%	20.6%	16.3%
High Fire Hazard Severity Zone	0.0%	0.0%	0.0%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%

a. *See the hazard profiles in Volume I for definitions of each mapped hazard area.*

Table 9-21. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NEHRP D & E Soils	2.3%	2.3%	2.3%	2.1%	2.2%	2.3%	2.1%	1.7%
1% Annual Chance Floodplain	2.1%	2.0%	2.1%	2.1%	2.1%	2.1%	2.1%	1.7%
0.2% Annual Chance Floodplain	2.8%	2.8%	2.8%	2.5%	2.8%	2.8%	2.1%	2.6%
Geologic Hazard Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	48.2%	48.1%	48.1%	47.9%	48.1%	48.0%	47.4%	47.8%
High Landslide Susceptibility Area	4.1%	4.1%	4.1%	3.8%	4.1%	4.1%	3.2%	3.5%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	14.1%	14.0%	14.1%	13.9%	14.0%	14.1%	13.7%	13.9%
High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

a. *See the hazard profiles in Volume I for definitions of each mapped hazard area.*

Drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain Community Lifelines are susceptible to impact if water is unavailable, such as water systems. Three city water tanks are identified as critical facilities vulnerable to drought. In addition, the total population of the City (7,466 people) could be impacted by a drought if water rationing is implemented. In particular, the 1,970 adults over age 65 are vulnerable to dehydration in drought conditions.

Buildings located on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an earthquake. A small number of buildings in Sebastopol (3.3 percent) are located on NEHRP Class D and E soils. In addition, three Community Lifeline facilities are located on Class D and E soils. This includes a shelter, a state bridge, and a veterinary office. Only 2.3 percent of the city's population live on Class D and E soils, including 45 adults over age 65.

Extreme heat is unlikely to cause physical damage to buildings, facilities, or infrastructure. The city has three municipal water tanks that are community lifelines. During an extreme heat event, the evaporation of water inside the tanks could increase. Individuals who do not have access to air conditioning are vulnerable to health complications during extreme heat episodes. In particular, the 1,970 adults above age 65 and 612 individuals living below the poverty line could be at risk for heat stroke, especially for those who fall into both categories.

Extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gasses. Extreme cold also presents a risk to populations that do not have access to heating, such as the 118 persons experiencing homelessness.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 856 people with disabilities or the 1,970 adults over age 65 may experience difficulty walking through strong gusts of wind.

The City has low exposure to flooding, with 184 buildings in the one-percent annual chance floodplain and 241 buildings in the 0.2-percent annual chance floodplain. There are four critical facilities (a bank, Sebastopol Community Center, a state bridge, and a veterinary office) located in the one-percent annual chance floodplain and the Sebastopol Police Station is located in the 0.2-percent chance annual floodplain. 76 people live in the one-percent annual chance floodplain, including 18 people living with a disability, and 212 people live in the 0.2-percent annual chance floodplain, including 24 people living with a disability.

The City has moderate exposure to landslide hazards, with 1,889 buildings located in the moderate landslide susceptibility hazard area and 166 buildings located in the very high landslide susceptibility hazard area. There are 14 critical facilities located in the moderate landslide susceptibility hazard area (a bank, daycares, Sebastopol Regional Library, a municipal hall, schools, shelters, skilled nursing centers, a veterinary office, and water tanks) and there is one bank located in the high landslide susceptibility hazard area. There are 3,595 people living in the moderate landslide susceptibility hazard area and 309 people living in the high landslide susceptibility hazard area.

The City has moderate exposure to wildfires, with 631 buildings located in the moderate fire hazard severity zone. There are seven critical facilities located in the moderate fire hazard severity zone (Sonoma West County Hospital, Sebastopol Community Center, skilled nursing centers, a state bridge, and a veterinary office). Finally, there are 1,055 people living in the moderate fire hazard severity zone, including 120 people living with a disability.

Potential Impacts from Hazards of Local Concern

Table 9-22 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. For all other hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City. Table 9-23 summarizes additional risks specific to the City. In the event of a dam failure, 3 people could be displaced, 1 person may require shelter, and 2 tons of debris could be generated. In the event of a 500-year earthquake, as many as 153 households could be displaced, 62 people may require shelter, 7.9 percent of the buildings in the City could be damaged, and 70,799 tons of debris could be generated. In the event of a 2,500-year earthquake, as many as 493 households could be displaced, 204 people may require shelter, 18.0 percent of the buildings in the City could be damaged, and 166,736 tons of debris could be generated. In the event of a one-percent annual chance flood, as many as 134 people could be displaced, 17 people may require shelter, and 468 tons of debris could be generated.

Table 9-22. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	3 people	153 households	493 households	134 people
Population Requiring Shelter	1 people	62 people	204 people	17 people
General Building Damage as % of RCV	0.0%	7.9%	18.0%	1.3%
Total Debris Generated (tons)	2	70,799	166,736	468

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 9-23 summarizes additional risks specific to the City. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City.

Table 9-23. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Drought	The City is susceptible to drought conditions that can significantly impact local water supply and agricultural activities.
Earthquake	Located within an active seismic region, Sebastopol is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to buildings constructed prior to current building standards.

Hazard	Qualitative Local Impacts
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the City's population and infrastructure.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources.
Extreme Wind	Sebastopol may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding is a concern due to the proximity to local waterways and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure.
Landslide	Some areas with sloped or unstable terrain around Sebastopol may be prone to landslides, particularly during heavy rain or seismic activity.
Wildfire	The City faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety.

Critical Facilities

Table 9-24 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 9-24. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
LAGUNA DE SANTA ROSA	State Highway Bridge	X	X
WALDO MICHAEL J	Veterinary	X	X
JPMorgan Chase Bank, National Association	Bank	X	X
SEBASTOPOL COMMUNITY CENTER	Shelter	X	X
Sebastopol Police Dept	Police Station	-	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

9.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, the City of Sebastopol identified the following risk-related issues for the community:

- The city's water conveyance system is aging and requires system upgrades and water line infrastructure replacement.
- Inventory all non-ductile concrete, concrete tilt-up, and other suspicious buildings in the City.
- Extreme wind events cause damage to structures and result in tree falls that cause significant damage to structures, utility lines, and can disrupt transportation corridors.
- The current warming center location is in the Community Center which sits in a flood plain and may be unusable during winter storm events if flooding occurs during a cold weather event.

- Extreme heat is a public health concern in California as average annual temperatures continue to rise.
- Ives Park is located in downtown Sebastopol. Calder Creek flows west to east through the park into the Laguna de Santa Rosa. The area in the park has flooded in the past and also results in flooding on State Highway 116/Petaluma Avenue. One of the primary drainage channels is through a concrete pipe that has silt build up that has reduced flow by an estimated 30-50% which exacerbates the flooding issues.
- The hillside slope along the southside of Bodega Avenue in between 7781 Bodega Avenue and the Luther Burbank Experimental Farm and Pleasant Hill Road is susceptible to small landslides or mudslides and erosion following rain events.
- Climate change is causing sea level rise throughout the world. The Laguna de Santa Rosa, a portion of which is located in the City of Sebastopol is tidally influenced and is one of the main hydrologic arteries that carries stormwater runoff to the Russian River, eventually emptying into the Pacific Ocean. Sea level rise could impact the amount of runoff the Laguna can effectively handle. This could lead to the Laguna reaching flood stage more rapidly and more often and causing widespread flood damage.
- Rising sea levels coupled with the fact we are in an active area for earthquakes could result in a Tsunami impacting our coastline. The Laguna de Santa Rosa is our main stormwater drainage point which flows into the Russian River and is tidally influenced. Should an actual Tsunami strike during a period of heavy, sustained rainfall, localized flooding could be exacerbated. Currently, our EOP does not address the threat of Tsunami and the accompanying flooding threat.
- Climate change, developments in the urban/rural interface, overgrowth of urban and rural forests and landscaping have all combined to essentially place the entire State of California at high risk for devastating wildfires. We in Sonoma County have witnessed firsthand the horrifying effects and devastation wildfires can cause.

9.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

9.10.1 Past Mitigation Action Status

Table 9-25 indicates progress on the City's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 9-25. Status of 2021 Mitigation Actions for the City of Sebastopol

Mitigation Actions	Status
Project Number	E-1
Hazards Addressed	Earthquake
Lead Agency	Building Department
Mitigation Action Description	Inventory soft-story structures in the City and provide notification to property owners of the findings of those inspections
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	Combine with E-2
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Combine with E-2
If discontinue, explain why	Not Applicable
Project Number	E-2
Hazards Addressed	Earthquake
Lead Agency	Building Department
Mitigation Action Description	Inventory all non-ductile concrete, concrete tilt-up, and other suspicious building in the City
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Combine with E-1
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Combine with E-1
If discontinue, explain why	Not Applicable
Project Number	E-3
Hazards Addressed	Earthquake
Lead Agency	Building Department
Mitigation Action Description	Use both the non-ductile concrete and concrete tilt-up inventory and the soft-story inventory to recommend private owners to inform existing tenants (and prospective tenants prior to signing a lease agreement) that they live in this building type
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	E-4
Hazards Addressed	Earthquake
Lead Agency	Building Department
Mitigation Action Description	Adopt incentives to encourage retrofitting of privately-owned seismically vulnerable residential buildings
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	This is on-going with the city issuing 20-40 permits annually
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	E-5
Hazards Addressed	Earthquake, landslide
Lead Agency	Public Works Department
Mitigation Action Description	Hillside Slope Stabilization Project at Burbank Farm
Status	Not complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	F-1
Hazards Addressed	Flooding
Lead Agency	Engineering Department
Mitigation Action Description	Temporary Flood Protection for the Sebastopol Community Cultural Center Main Hall
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	City will be adding a CIP project for flood mitigation and repairs in FY 26-27. Long term plan is to find a new location for the community center.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	City will be adding a CIP project for flood mitigation and repairs in FY 26-27. Long term plan is to find a new location for the community center.

Mitigation Actions	Status
Project Number	F-2
Hazards Addressed	Flooding
Lead Agency	Planning Department
Mitigation Action Description	Housing Replacement and Recreation Easement Project at the Park Village Property
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Housing Replacement and Recreation Easement Project at the Park Village Property
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	F-3
Hazards Addressed	Flooding
Lead Agency	Building Department
Mitigation Action Description	Repetitive Loss Area Analysis
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Not Applicable
Project Number	F-4
Hazards Addressed	Flooding
Lead Agency	Building Department
Mitigation Action Description	Consider joining Community Rating System Program
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable

Mitigation Actions	Status
Project Number	F-5
Hazards Addressed	Flooding
Lead Agency	Planning Department
Mitigation Action Description	Participation in the FEMA Sea Level Rise Study
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	F-6
Hazards Addressed	Flooding
Lead Agency	Planning Department
Mitigation Action Description	Sebastopol Community Cultural Center Main Hall Flood Mitigation Alternative Implementation
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	Currently identifying solutions
Include in the 2026 HMP or Discontinue?	Include
If included, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	F-7
Hazards Addressed	Flooding
Lead Agency	Public Works Department and Planning Department
Mitigation Action Description	Ives Park Calder Creek Daylighting and Stormwater Improvement and Green Infrastructure Project
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	W-1
Hazards Addressed	Wildfire
Lead Agency	Building Department
Mitigation Action Description	Promote Wildfire-Resistant Construction Materials for New Construction in the City
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	W-2
Hazards Addressed	Wildfire
Lead Agency	Fire Department
Mitigation Action Description	Develop a Tree Ordinance that requires defensible space maintenance and promotes healthy landscapes
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not change
If discontinue, explain why	Not Applicable
Project Number	W-3
Hazards Addressed	Wildfire
Lead Agency	Fire Department
Mitigation Action Description	Develop a Sebastopol Community Wildfire Protection Plan
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	D-1
Hazards Addressed	Drought
Lead Agency	Engineering Department
Mitigation Action Description	Continue participation in the Groundwater Sustainability Agency and support future project-specific groundwater management projects related to the City's water system

Mitigation Actions	Status
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Council representative and City staff participate in the GSA regularly
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Council representative and City staff participate in the GSA regularly
Project Number	D-2
Hazards Addressed	Drought
Lead Agency	Public Works Department
Mitigation Action Description	Build resiliency in the City's water conveyance system by upgrading and replacing water line infrastructure
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	City has a list of updated priority water projects and will be including in new CIP 5-year program for implementation.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	D-3
Hazards Addressed	Drought
Lead Agency	Public Works Department
Mitigation Action Description	Enhance the City's local drought contingency plan to focus on additional water conservation measures
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Completed in 2023
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Completed in 2023
Project Number	D-4
Hazards Addressed	Drought
Lead Agency	Public Works Department
Mitigation Action Description	Conduct a City-wide Facility Energy and Water Audit
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include

Mitigation Actions	Status
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	DI-1
Hazards Addressed	Dam Incidents
Lead Agency	Fire Department
Mitigation Action Description	Participate in the Emergency Action Plan for Warm Springs Dam
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not change
If discontinue, explain why	Not Applicable
Project Number	EH-1
Hazards Addressed	Extreme Heat
Lead Agency	Fire Department
Mitigation Action Description	Identify locations for Sebastopol Designated Cooling Centers and including the locations in updated outreach information
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	The City of Sebastopol is no longer offering cooling centers as part of their services, citing that there are sufficient locations within the city to escape the heat. The city continues to offer warming center locations for necessary times.
Include in the 2026 HMP or Discontinue?	Discontinue
If included, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	SW-1
Hazards Addressed	Severe Weather, Multi-Hazard
Lead Agency	Public Works Department
Mitigation Action Description	Upgrade emergency back-up power generation for essential areas of the public safety building
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	City has completed initial assessment and will be upgrading the generator in FY 26-27.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	HW-1
Hazards Addressed	Severe Weather, High Wind, PSPS, Wildfire
Lead Agency	Fire Department

Mitigation Actions	Status
Mitigation Action Description	PSPS Readiness & Community Outreach Preparedness Program
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	The City can implement a PSPS readiness and community outreach program by coordinating with Pacific Gas and Electric Company to receive advance shutoff notifications, preparing critical facilities with backup power, and activating emergency operations as needed. The City can also conduct public outreach through its website, social media, and alert systems to inform residents about upcoming outages and preparedness steps, while working with local partners in Sonoma County to support vulnerable populations and establish community resource centers during extended power outages.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	HW-2
Hazards Addressed	Severe Weather, High Wind, PSPS, Wildfire, Multi-Hazard
Lead Agency	Building Department
Mitigation Action Description	Inspect City-owned critical facilities and create a plan that corrects deficiencies and addresses infrastructure hardening and utility undergrounding to ensure resiliency to high winds and severe weather
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	Continuing to work on this issue.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not change
If discontinue, explain why	Not Applicable
Project Number	PH-1
Hazards Addressed	Public Health Hazards and Epidemic/Pandemic
Lead Agency	City Manager’s Office
Mitigation Action Description	Pandemic Preparedness and Response Plan
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Change responsible agency to Police Department.
If discontinue, explain why	Not Applicable
Project Number	M-1
Hazards Addressed	Multi-Hazard, Earthquake, Flood, Wildfire
Lead Agency	Fire Department

Mitigation Actions	Status
Mitigation Action Description	Ensure that the Police and Fire Departments have adequate and interoperable radio communication systems and equipment to meet current technology requirements and to support first responders during response and recovery operations
Status	Not Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	Not Applicable
Project Number	MH-2
Hazards Addressed	Wildfire
Lead Agency	Fire Department
Mitigation Action Description	Ensure that emergency operational plans meet SEMS and NIMS compliance and are adequate for federal and state response and recovery
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	EOP is currently being reviewed at the time of writing with a view to being adopted during the FY2026/27
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	EOP is currently being reviewed at the time of writing with a view to being adopted during the FY2026/27
Project Number	MH-3
Hazards Addressed	Multi-Hazard, Earthquake, Flooding, Wildfire
Lead Agency	Fire Department
Mitigation Action Description	Develop plans and procedures for Para-Transit system response and recovery from disasters that utilizes the Sonoma County Mutual Aid Program
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Complete
Project Number	MH-4
Hazards Addressed	Multi-Hazard
Lead Agency	Fire Department
Mitigation Action Description	Update the City Emergency Operations Plan

Mitigation Actions	Status
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	EOP is currently being reviewed at the time of writing with a view to being adopted during the FY2026/27
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Changes
If discontinue, explain why	EOP is currently being reviewed at the time of writing with a view to being adopted during the FY2026/27
Project Number	MH-5
Hazards Addressed	Earthquake, Flooding, Wildfire, Multi-Hazard
Lead Agency	Fire Department
Mitigation Action Description	Evacuation Route Plan
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	No specific evacuation routes are being provided to residents due to the fluid and dynamic nature of the emergencies that could arise in the city. Residents are advised to know their available routes and to evacuate early to avoid traffic congestion which is common on regular days to and from the city. Major congestion on existing arterial routes is not able to be mitigated due to the limitations of those pieces of infrastructure. It may be possible, depending on the specific emergency and circumstances that one-way highways in Sebastopol could be made two directional, or direction changed if the need dictates, to increase the flow of traffic in a chosen direction.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not change
If discontinue, explain why	Not Applicable

9.10.2 Additional Mitigation Efforts

Sebastopol has made significant mitigation progress in the following areas:

- Mitigation effort to reduce risk – Due to a fiscal crisis and significant staffing shortages and turnover, little to no mitigation work has taken place over the last 5 years.

9.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Sebastopol participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Sebastopol would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 9-26 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories and the six CRS mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected. These categories are described in **Error! Reference source not found.**.

Table 9-26. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	-	-	-	-	-	-	-	-	-	-
Drought	-	X	-	-	X	-	-	-	-	-
Earthquake	X	-	-	-	-	X	-	-	-	-
Extreme Cold	X	-	-	-	X	-	-	-	-	-
Extreme Heat	X	-	-	-	X	-	-	-	-	-
Extreme Wind	X	-	-	-	-	X	-	-	-	-
Flood	-	X	-	-	-	-	-	-	X	-
Landslide	-	X	-	-	X	-	-	-	-	-
Sea Level Rise	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	X	-	-	-	-	X	-	-	-	-

*Note: Mitigation category codes as follows (see **Error! Reference source not found.** for descriptions):*
LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 9-27 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 9-27. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Evaluate and Modify Existing Building Codes	Low	Medium	5	1-5 years	7.385	High
Bodega Avenue Erosion	Medium	Medium	6	1-5 years	6.462	Medium
Building Inventory	Medium	Medium	5	1-5 years	6.385	Medium

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Develop Community Wildfire Protection Plan	High	Medium	7	1-5 years	5.539	Medium
Hydrology Study	High	Medium	6	1-5 years	5.462	Medium
Upgrade Water Line Infrastructure	High	High	4	1-10 years	5.308	Medium
Warming Centers	High	Medium	3	1-5 years	5.231	Medium
Community Cooling Center	High	Medium	3	1-5 years	5.231	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-Sebastopol-01. Water Line Infrastructure

Lead Agency:	City of Sebastopol Public Works
Supporting Agencies:	N/A
Hazards of Concern:	Drought
Description of the Problem:	The city's water conveyance system is insufficient to meet the City's growing needs.
Description of the Solution:	Increase the capacity and level of protection provided by the City-owned water infrastructure.
Estimated Cost:	High
Potential Funding Sources:	General Fund, Staff Time, FEMA HMA Grants
Implementation Timeline:	1-10 years
Objectives Met:	3,6,8,10
Benefits:	Loss of disruption to the system
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Could limit size and scope of development due to system capacity.
Impact on Critical Facilities/Lifelines:	Would ensure delivery systems are stable and not subject to failure
Impact on Capabilities:	Same.
Climate Change Considerations:	None.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Sebastopol-02. Building Inventory

Lead Agency:	City of Sebastopol Building and Safety
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	The City is at risk from earthquakes, especially structures built before seismic building codes were in force.
Description of the Solution:	Inventory all buildings. Possibly enhance the local building ordinance to include a mandatory seismic retrofit program.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1,3,6,8,11
Benefits:	Reduction of risk of building collapse and loss of life. Prevents displacement of people and businesses post-event.
Impact on Socially Vulnerable Populations:	Same as above.
Impact on Future Development:	Could increase project costs.
Impact on Critical Facilities/Lifelines:	Lessens risk of loss of these facilities during post-event.
Impact on Capabilities:	Mitigates risk of damage and loss to businesses and residents.
Climate Change Considerations:	None noted.
Mitigation Category	Local Plans and Regulations
CRS Category	Property Protection
Priority	Medium

Action 2026-Sebastopol-03. Evaluate and Modify Existing Building Codes

Lead Agency:	City of Sebastopol Building and Safety
Supporting Agencies:	Gold Ridge Fire, County of Sonoma
Hazards of Concern:	Extreme Wind
Description of the Problem:	Extreme wind events cause damage to structures and result in tree falls that cause significant damage to structures, utility lines, and can disrupt transportation corridors.
Description of the Solution:	Evaluate and modify existing building codes to minimize the potential for wind damage and develop a tree ordinance that requires property owners to maintain trees and promote healthy landscapes.
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1,3,6,8,11
Benefits:	Modifying existing codes and developing a tree ordinance will reduce the potential of property damage and loss and minimize impacts related to the health and safety of the public.
Impact on Socially Vulnerable Populations:	Will provide a greater margin of safety to vulnerable people.
Impact on Future Development:	Would require defensible space and healthy landscaping practices.
Impact on Critical Facilities/Lifelines:	Would prevent possible damage to those facilities and help minimize the risk of damage to infrastructure and transportation corridors helping them to remain operational.
Impact on Capabilities:	Will permit negative impacts on operations to be limited, allowing normal operations.
Climate Change Considerations:	Drought tolerant and responsible landscaping practices will minimize hazards of deadfall from trees and likely result in the replacement of some species of landscaping that will not be healthy with future climate change.
Mitigation Category	Local Plans and Regulations
CRS Category	Property Protection
Priority	High

Action 2026-Sebastopol-04. Warming Centers

Lead Agency:	City of Sebastopol Building and Safety
Supporting Agencies:	County of Sonoma
Hazards of Concern:	Extreme Cold
Description of the Problem:	The current warming center location is in the Community Center which sits in a flood plain and may be unusable during winter storm events if flooding occurs during a cold weather event.
Description of the Solution:	Identify alternate locations to the Community Center for Sebastopol designated warming centers.
Estimated Cost:	High
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	5,6,13
Benefits:	Provides relief during extreme cold events and reduces risk to vulnerable people.
Impact on Socially Vulnerable Populations:	Provides a safe location to risk cold related injuries.
Impact on Future Development:	None.
Impact on Critical Facilities/Lifelines:	Reduces impacts on EMS, Fire, and medical facilities.
Impact on Capabilities:	Enhances services to the community.
Climate Change Considerations:	Extreme cold weather events may increase with climate change increasing the need.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Sebastopol-05. Community Cooling Center

Lead Agency:	City of Sebastopol Building and Safety
Supporting Agencies:	County of Sonoma
Hazards of Concern:	Extreme Heat
Description of the Problem:	Extreme heat is a public health concern in California as average annual temperatures continue to rise.
Description of the Solution:	Identify an alternate location to the Community Center for a cooling center should that facility become unusable.
Estimated Cost:	High
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	5,6,13
Benefits:	Reduction of risk to people.
Impact on Socially Vulnerable Populations:	Reduction of risk to these populations.
Impact on Future Development:	None.
Impact on Critical Facilities/Lifelines:	Lessens impacts on EMS, Fire, and medical systems.
Impact on Capabilities:	None.
Climate Change Considerations:	These events are likely to increase in number with climate change.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Sebastopol-06.Hydrology Study

Lead Agency:	City of Sebastopol Public Works
Supporting Agencies:	None
Hazards of Concern:	Flood
Description of the Problem:	Ives Park is located in downtown Sebastopol. Calder Creek flows west to east through the park into the Laguna de Santa Rosa. The area in the park has flooded in the past and also results in flooding on State Highway 116/Petaluma Avenue. One of the primary drainage channels is through a concrete pipe that has silt build up that has reduced flow by an estimated 30-50% which exacerbates the flooding issues.
Description of the Solution:	The city proposes to complete a hydrology study and a design plan to daylight Calder Creek through Ives park and the area east of Petaluma Avenue to alleviate flooding and improve surface water and stormwater runoff. It involves re-naturalizing the Calder Creek streambed by removing concrete and replacing them with natural features while restoring and realigning Calder Creek to a more natural state and improving stormwater drainage systems.
Estimated Cost:	High
Potential Funding Sources:	General Fund, Measure M Parks Fund, Park Improvement Fund, EPA Green Infrastructure Grant
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,6,9,12
Benefits:	Reduced potential for flooding and stormwater issues in the Calder Creek area and the area east of Petaluma Avenue/State Highway 116.
Impact on Socially Vulnerable Populations:	Reduced risk of flooding in the area and on Highway 116. This decreases the probability of these populations being negatively impacted.
Impact on Future Development:	None. No foreseeable development projects slated for the affected areas.
Impact on Critical Facilities/Lifelines:	Reduced risk of flooding in the area and on Highway 116. This decreases the probability of critical infrastructure being negatively impacted.
Impact on Capabilities:	Reduced risk of flooding in the area and on Highway 116. This decreases the probability of critical infrastructure being negatively impacted
Climate Change Considerations:	With climate change there will likely be an increased risk of storms that cause flooding issues. As these storms increase in frequency and duration, the need to mitigate this issue becomes increasingly urgent.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Structural Flood Control Projects
Priority	Medium

Action 2026-Sebastopol-07. Bodega Avenue Erosion

Lead Agency:	City of Sebastopol Public Works
Supporting Agencies:	Metropolitan Transportation Commission
Hazards of Concern:	Landslide
Description of the Problem:	The hillside slope along the southside of Bodega Avenue in between 7781 Bodega Avenue and the Luther Burbank Experimental Farm and Pleasant Hill Road is susceptible to small landslides or mudslides and erosion following rain events.
Description of the Solution:	Stabilize the hillside to minimize potential erosion along Bodega Avenue and rehabilitate the adjacent road conditions.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund, One Bay Area Grant (OBAG)
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,8,9,13
Benefits:	Reduction of potential erosion and instability along Bodega Avenue and minimizes potential impacts to vehicles and bicycles travelling on that roadway.
Impact on Socially Vulnerable Populations:	Improved roadway safety for motorists and bicyclists.
Impact on Future Development:	No anticipated impacts as that area is fully developed.
Impact on Critical Facilities/Lifelines:	No negative impacts. The positive impact is that roadway will be improved and not prone to landslides allowing emergency vehicles to safely reach West Sonoma County areas. Bodega Avenue is a main artery to the coastal area and is also State Highway 12.
Impact on Capabilities:	None. Improves the existing conditions and provides long term stability.
Climate Change Considerations:	With increasing climate change impacts, the situation is likely to increase in severity requiring more urgency for this project.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Sebastopol-08. Develop Community Wildfire Protection Plan

Lead Agency:	City of Sebastopol Fire
Supporting Agencies:	Gold Ridge Fire, County of Sonoma
Hazards of Concern:	Wildfire
Description of the Problem:	Climate change, developments in the urban/rural interface, overgrowth of urban and rural forests and landscaping have all combined to essentially place the entire State of California at high risk for devastating wildfires. We in Sonoma County have witnessed firsthand the horrifying effects and devastation wildfires can cause.
Description of the Solution:	Develop a Community Wildfire Protection Plan (CWPP). These plans are a science based, hazard asset, and risk assessment performed using high resolution topography, vegetation and fuels data, and GIS information combined with local parcel, weather, and fuel condition data. It would focus on identifying areas of concern within the city limits and prioritize areas where wildfire threat is greatest.
Estimated Cost:	High
Potential Funding Sources:	General Fund, FEMA HMA Grants
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,8,9,13
Benefits:	Identifies areas at greatest risk and provides an opportunity to identify prevention and mitigation strategies.
Impact on Socially Vulnerable Populations:	Enhanced safety and preservation of existing infrastructure and transportation corridors.
Impact on Future Development:	Could enhance or modify existing codes and regulations regarding development projects.
Impact on Critical Facilities/Lifelines:	Enhanced safety and preservation of existing infrastructure and transportation corridors. Could require implementation of mitigation measures on these facilities.
Impact on Capabilities:	Enhanced safety and preservation of existing infrastructure and transportation corridors.
Climate Change Considerations:	Likelihood of increased risk for wildfire with increasing climate change.
Mitigation Category	Local Plans and Regulations
CRS Category	Property Protection
Priority	Medium

10. CITY OF SONOMA

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Sonoma with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the City. The annex presents a general overview of Sonoma, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

10.1 HAZARD MITIGATION PLANNING TEAM

The City of Sonoma identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. The Department of Public Works represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The City officials who participated in the development of the annex are listed below and shown in

Table 10-1. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Mike Berger, Director – Department of Public Works

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Phone Number: 707-938-3332

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Alternate Point of Contact: Sarah Tracy, Senior Management Analyst and PIO

Address: No. 1 The Plaza, Sonoma, CA 95476

Phone Number: 707-933-2215

Email: stracy@sonomacity.org

NFIP Administrator: Joseph Tignor, Chief Building Official

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Phone Number: 7079332211

Email: jtignor@sonomacity.org

Table 10-1. Additional Contributors

Name	Department	Position	HMP Contribution
Mike Berger	Public Works	Director	Worksheet contribution
Sarah Tracy	Administration	Sr. Management Analyst & PIO	Contributed to worksheets, developed outreach plan and materials
Jennifer Gates	Community Development Department	Department Head	Worksheet contribution
Chris Pegg	Public Works	Operations Manager	Worksheet Contribution
Joseph Tignor	Community Development Department	Chief Building Official	Worksheet Contribution
Trevor Smith	Sonoma Valley Fire District	Deputy Chief / Fire Marshal	Worksheet Contribution
Mason Lewis	Sonoma Valley Fire District	Vegetation Management & Defensible Space Coordinator	Fuels Management / Wildfire Prevention & Mitigation
Robert Norrbom	Sonoma Valley Fire District	Deputy Chief	Historical Knowledge
Sean Lacy	Sonoma Valley Fire District	Battalion Chief	Historical Knowledge

10.2 COMMUNITY PROFILE

The City of Sonoma is a historic municipality in the heart of the Sonoma Valley wine region in Sonoma County, approximately 45 miles north of the Golden Gate Bridge. The city encompasses an area of 2.72 square miles. Its boundaries generally extend from Leveroni Road/Napa Road in the south to Verano Avenue/Brazil Street in the north, and from Sonoma Highway in the west to Sixth Street East/Knight Street in the east.

Sonoma was first incorporated on April 4, 1850, the year that California achieved statehood. The city was later unincorporated in 1862 and re-incorporated on September 3, 1883. The cornerstone of Sonoma City Hall was laid in 1906, marking a new era of civic development.

Sonoma's cultural heritage is celebrated through several annual events. Pueblo Day, observed each June 24, commemorates the founding of the Pueblo de Sonoma in 1835. The Hispanic community celebrates Cinco de Mayo, honoring the 1862 victory at the Battle of Puebla, and the city also hosts a re-enactment each June 14 of the Bear Flag Revolt, the 1846 uprising that played a pivotal role in California's path to statehood.

The City of Sonoma operates under a council/manager form of government. A five-member City Council, elected to overlapping four-year terms, provides policy leadership and legislative oversight.

Law enforcement services are provided through a contract with the Sonoma County Sheriff's Office. Fire protection is provided by the Sonoma Valley Fire District. Educational services fall under the Sonoma Valley Unified School District. Sewer services are managed by the Sonoma Valley County Sanitation District, operated by Sonoma Water. The City operates its own water system, with Sonoma Water serving as the primary supplier. Health care services are provided by Sonoma Valley Hospital through the Sonoma Valley Health Care District.

According to the U.S. Census, the 2020 population for Sonoma was 10,739, a 0.85 percent increase from the 2010 Census. The 2023 American Community Survey estimated that the 2023 population of Sonoma was 10,726; this estimate is used throughout the HMP.

Some populations are at greater risk from hazard events because of decreased resources or physical abilities for responding during a hazard, and the location and construction quality of their housing. The 2023 American Community Survey indicates that 3.1 percent of the population is 5 years of age or younger, 32.6 percent is 65 years of age or older, 1.2 percent is non-English speaking, 8.3 percent is below the poverty threshold, 16.7 percent have disabilities, 2.0 percent live in a single parent household, and 0.6 percent have no vehicle access.

In 2024, the total homeless population in the City of Sonoma was reported as 13 individuals, all of them unsheltered (Sonoma County 2024).

10.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Sonoma completed specific activities to collect input on hazards and vulnerability from the people the City serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

To ensure meaningful and inclusive participation, the City used a layered, multi-channel outreach strategy that included the following:

- Posts on the City website with multilingual translation tools and accessibility features
- City newsletters and social media content tailored to different community segments
- Water bill inserts reaching all utility customers, including renters
- Flyers and printed materials distributed at the library, senior center, community markets, clinics, and service provider locations
- Collaboration with Community-Based Organizations (CBOs) serving unhoused individuals, agricultural workers, people over 65, non-English speakers, LGBTQ+ community members, and low-income households
- Outreach through local media, including newspapers, radio, and digital outlets

- Promotion of public meetings and workshops—virtual and in-person—with interpretation services and accommodations for persons with access and functional needs based on available resources

In January 2025, the City posted an announcement on its website about its participation in the HMP update and included a link to a public survey. The survey was also promoted on social media. Figure 10-1 and Figure 10-2 show these outreach efforts. In March 2025, the City launched a dedicated HMP webpage within its Emergency Preparedness section (Figure 10-3). The webpage includes an auto-notification feature that allows interested members of the public to subscribe and receive email alerts when new updates related to the HMP are posted. This ensures timely communication and continued public engagement throughout the planning process.

Figure 10-1. Public Survey Website Announcement



Figure 10-2. Public Survey Social Media Posts

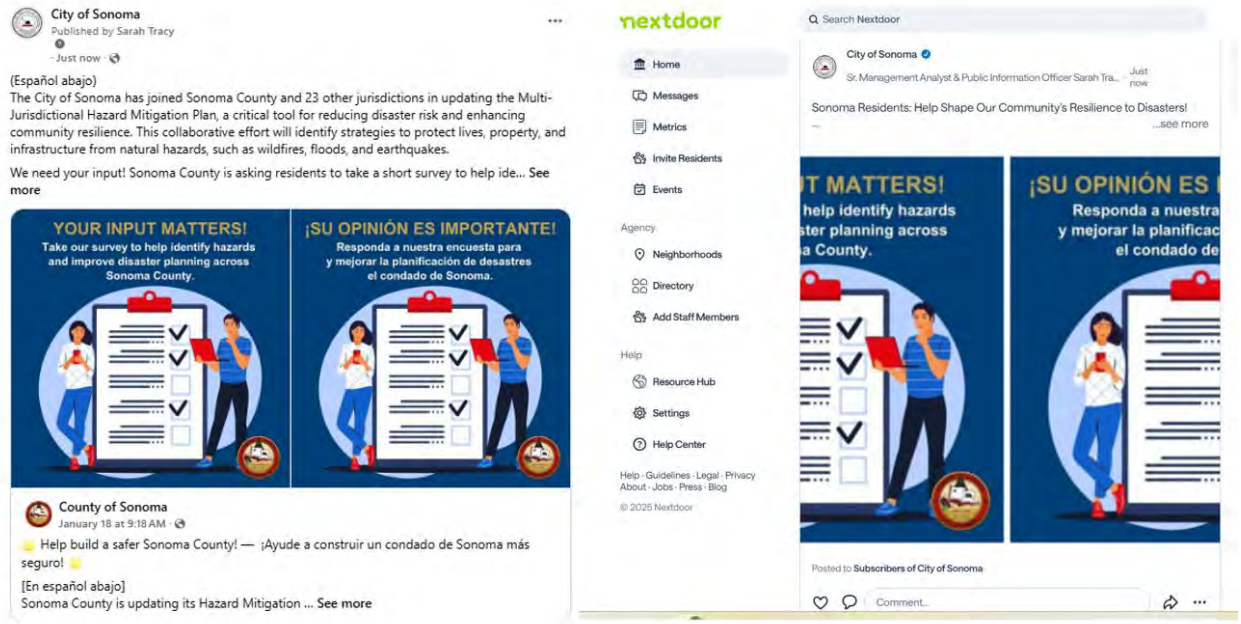


Figure 10-3. City of Sonoma HMP Webpage



Further outreach activities are documented in Appendix D (Outreach Documentation), including photos from a public meeting. Flyers provided for the campaign were printed and distributed at key community locations such as the Sonoma Valley Library, Vintage House Senior Center, Whole Foods community bulletin board, and the Sonoma Community Center, with additional placements planned as needed.

An email was sent to local community-based organizations and nonprofits with details about the public comment period and upcoming meetings. Flyers were also posted at the Sonoma Valley Community Health Center. Outreach extended to the Springs and North Valley Municipal Advisory Councils to ensure broad community engagement.

To ensure active involvement in the hazard mitigation planning process by underserved communities and vulnerable populations within the City of Sonoma and the Sonoma Valley Fire District, a multifaceted, accessible, and culturally sensitive outreach approach was implemented. This engagement strategy prioritized equity, transparency, and participation, ensuring that all voices were heard in shaping the community's resilience efforts. The following targeted outreach was made to underserved communities and vulnerable populations:

Underserved Communities:

- **Renters and low-income households** who may face financial barriers to home retrofits or personal preparedness
- **Agricultural workers** (seasonal and year-round farmworkers) who may live or work in rural and hazard-prone areas such as wildfire interface zones
- **Non-car-owning households** who may face challenges in evacuating or reaching shelters during emergencies
- **Single-parent households** who may experience time and resource constraints in preparing for and responding to disasters
- **LGBTQ+ community members**, who may face barriers in accessing safe and inclusive shelter or services during emergency events
- **Isolated rural residents** living in areas with limited emergency services, transportation, or infrastructure support
- **Residents in overcrowded or multi-family housing units** who may face increased risks during pandemics, extreme heat events, or other disasters due to space constraints
- **Uninsured or Underinsured Individuals** who may have limited access to healthcare, exacerbating their vulnerability during crises

Vulnerable Populations:

- **Unhoused individuals**, especially those in encampments near creeks and open spaces prone to flood and wildfire hazards
- **Under-resourced households**, particularly those in mobile home parks or older housing vulnerable to extreme heat or cold
- **Seniors**, who may have mobility limitations or require additional support during evacuations and hazard events

- **Residents for whom English is a second language**, including Spanish-speaking communities
- **Individuals with access and functional needs**, such as those with physical, sensory, cognitive, or mental health disabilities
- **Children and youth**, who depend on caregivers and school systems for preparedness information and safety during emergencies
- **Residents experiencing mental health or substance use challenges**, who may face disproportionate impacts during disasters and disruptions
- **Immigrant communities**, who may be hesitant to access government services or participate in emergency programs, potentially limiting their access to critical information and support during hazard events

While no direct public comments were received during the formal hazard mitigation planning outreach process, the City of Sonoma participated in a presentation by the County at a regularly scheduled Emergency Preparedness Community Partners meeting, where information about the plan update was shared. In addition, City staff considered input received through related and concurrent initiatives—including the Local Responsibility Area (LRA) Fire Hazard Severity Zone map update, the General Plan update, and a citywide traffic study focused on evacuation planning for the City's Safety Element. While specific mitigation action suggestions were not submitted by the public, staff listened to community feedback across these processes and used it to inform the development of the mitigation strategy.

10.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the City of Sonoma invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

10.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. Fire protection services contributed critical input on wildfire risk and emergency response coordination. Public works and community development staff provided infrastructure data, identified local vulnerabilities, and supported integration with land use planning. Additional partners offered expertise in wildfire management, transportation infrastructure, emergency planning, and utility services. Water agencies also played a key role in assessing water infrastructure and ensuring service continuity. These contributions helped shape the mitigation strategies and ensured alignment with existing emergency and infrastructure plans.

- Sonoma Valley Fire District
- City Public Works Department
- City Community Development Department
- CAL FIRE
- Caltrans
- Sonoma County Public Infrastructure and Department of Emergency Management
- Sonoma County Transportation Authority
- Public Utilities
- Sonoma County/Valley of the Moon Water Agencies
- County Roads

10.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. This included community development and planning commissions. Environmental and fire safety officials also participated, offering expertise on regulatory requirements related to public health, safety, and wildfire risk. Their involvement ensured that proposed actions were both feasible and aligned with local codes, ordinances, and environmental standards.

- Permit Sonoma
- City of Sonoma Community Development Department
- City of Sonoma Planning Commission
- CAL FIRE
- Sonoma Valley Fire District
- California Environmental Protection Agency

10.4.3 Neighboring Communities

Neighboring jurisdictions and institutions were invited to participate in the planning process to promote regional coordination and address shared risks. This included adjacent cities, local fire protection districts, and state agencies. Their involvement helped identify interdependencies, such as shared infrastructure and emergency services, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- Sonoma County
- Unincorporated Sonoma Valley (Carneros, Schellville, Vineburg, El Verano, Boyes Hot Springs, Fetters Hot Springs, Agua Caliente, Glen Ellen, Kenwood)
- City / County of Napa Valley
- City of Santa Rosa

- City of Petaluma
- Rancho Adobe Fire District
- Sonoma County Fire District
- Schell Vista Fire Protection District
- Gold Ridge Fire Protection District
- State of California Department of General Services / State Parks
- California Department of Fish & Wildlife
- Sonoma County Regional Parks

10.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community, education sector, healthcare, and local organizations to ensure the plan reflected a broad range of community needs. Local business and tourism organizations contributed insights on economic resilience and the potential impacts of hazards on commerce and visitor activity. The local school district and university provided input on educational continuity and community preparedness. Healthcare and library representatives offered perspectives on public health, emergency communication, and community resources. This diverse engagement helped ensure the plan supports cross-sector collaboration and addresses the needs of residents, businesses, and institutions throughout the Sonoma Valley.

- Sonoma Valley Chamber of Commerce
- Sonoma Valley Visitors Bureau
- Sonoma Valley Unified School District
- Sonoma Valley Hospital
- Sonoma Valley Vintners and Growers Alliance
- Sonoma Valley Library
- Sonoma State University
- National Weather Service
- NOAA
- USGS
- National Weather Service

10.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan’s focus on inclusive and accessible mitigation strategies.

- Sonoma Valley Community Health Center
- La Luz Center
- Homeless Action Sonoma
- Sonoma Overnight Support/Unity Kitchen
- Sonoma Community Center
- Vintage House Senior Center
- Sonoma Valley Boys and Girls Club
- Sonoma Ecology Center
- Sonoma Valley Mentoring Alliance
- Pet's Lifeline
- Halter Project
- Hanna Center
- Sonoma State Historic Parks
- Friends in Sonoma Helping
- Sweetwater Spectrum
- Sonoma COAD
- Fire Safe Sonoma
- Sonoma Resource Conservation District
- Measure H Fuels Crew
- Sonoma Ag & Open Space
- Sonoma Land Trust
- Fire Safe Councils
- Firewise Communities
- Homeowners Associations
- Sonoma Valley Volunteer Firefighters Association
- Redwood Empire Food Bank
- Sonoma County Fire Chiefs Association
- Sonoma Community Animal Response Team
- Sonoma Citizens Prepared for Emergency Groups
- Map Your Neighborhood and Meet Your Neighbors groups
- Area Council on Aging

10.4.6 Other Stakeholders

Community groups and local stakeholders can support the hazard mitigation planning process by sharing local knowledge, promoting public engagement, and helping identify vulnerable assets.

Organizations such as civic clubs, philanthropic groups, landowners, cultural stewards, and historical societies offer valuable perspectives on community needs, land use, and heritage preservation. Involving Native American tribal representatives also ensures that cultural resources and traditional knowledge are respected and considered in the planning process.

- Rotary
- Sonoma Valley Catalyst Fund
- Private Landowners
- Land Stewards
- Native American Tribal Resources
- Sonoma Valley Historical Society
- Sonoma League for Historic Preservation
- Women's Club

10.5 CHANGES IN COMMUNITY PRIORITIES

Since the 2021 plan, the City of Sonoma has experienced evolving conditions that have led to a shift in hazard mitigation priorities. The City has faced a growing frequency of extreme cold, heat, and wind events, alongside increasingly intense atmospheric river storms. These trends, coupled with regional homelessness and affordability challenges, have elevated the urgency to address vulnerabilities in both emergency response and community preparedness.

As a result, the 2026 update includes new stand-alone hazards—extreme cold, extreme heat, and extreme wind—reflecting their heightened impact on public safety and critical infrastructure. The City has also dedicated significant emergency coordination and administrative resources toward these hazards, prompting the development of new mitigation actions focused on resilience, shelter preparedness, and outreach to vulnerable populations.

While the City has expanded its focus on emerging hazards, it continues to prioritize actions to mitigate all hazards identified in the plan. Additionally, Sonoma remains committed to coordinating with neighboring jurisdictions and regional partners to support multi-jurisdictional responses to hazards, including those that may not directly impact city lands but affect nearby communities and key transportation corridors. This plan reflects a proactive, regional approach to hazard mitigation while continuing to protect the health, safety, and well-being of all Sonoma residents.

Since the previous plan, the City's Public Works Department has adopted a more strategic approach to capital projects, emphasizing efficiency and risk reduction. Staff are conducting a comprehensive bridge inventory and assessing seismic and hydraulic vulnerabilities to ensure structural integrity. Additionally, the City is advancing efforts to inspect and classify its storm line system, identifying weaknesses and informing future mitigation and improvement projects.

The Sonoma Valley Fire District has refined its priorities in response to escalating wildfire threats and climate-driven hazards. With fire behavior becoming more severe due to prolonged drought, increased

fuel loads, and shifting climate patterns, the District has emphasized large-scale vegetation management and fuels reduction. It has also recognized the importance of infrastructure hardening to protect emergency response facilities and essential services. These efforts position the District to pursue funding opportunities and strengthen long-term hazard resilience.

10.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

The City of Sonoma performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Sonoma to identify opportunities for integrating mitigation concepts into ongoing City procedures.

10.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The tables below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans, policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 10-2 summarizes the codes, ordinances, and regulations available to the City of Sonoma

Table 10-2. City of Sonoma Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	Sonoma Municipal Code Chapter 14.10 Construction Codes; Chapter 14.10.045 Fire Code; Chapter 14.24 Existing Seismically Unsafe Buildings; Chapter 14.25 Floodplain Management; Chapter 14.28 Wood burning appliances; Title 24 California Building Code Standards	The building code contains provisions in multiple sections to meet the minimum additional requirements in hazard zones and improvements that are required when new projects are constructed. In some cases the triggers for improvements are stronger than the minimum required by state law (e.g., fire sprinklers required with permit valuation greater than $150,000 for residential uses).	Municipal	Community Development Department, Building Division
Zoning/Land Use Code	Title 19 of Sonoma Municipal Code	The City's Development Code contains provisions to limit development along creeks with additional required setbacks through a creek overlay. These areas are typically within flood zones. In addition, the City has specific development requirements along the hillside, which limit the development along areas adjacent to high wildfire risk areas. Once the new Fire Maps are released, staff will look at the Development Code to implement additional requirements related to landscaping and grading.	Municipal	Community Development Department, Planning Division
Subdivision Code	See Title 16 of Sonoma Municipal Code	—	Municipal	Community Development Department, Planning Division Public Works Department
Site Plan Code	See Title 19 of Sonoma Municipal Code	—	Municipal	Community Development Department, Planning Division
Stormwater Management Code	City of Sonoma Storm Water Management Program (2005), updated in 2015 for state-required programs for MS4 jurisdictions, See Sonoma Municipal Code Chapter 13.32	Addresses stormwater discharge and illicit discharge, which are major issues regarding the health and safety of the City of Sonoma residents – to protect water resources and improve water quality. This addresses hazards such as chemical spills in creeks, as an example of a threat to water quality, as the storm drains discharge into San Pablo Bay, which serves the wider Region 2 area agencies.	Municipal	Public Works
Post-Disaster Recovery/ Reconstruction Code	Emergency Operations Plan—2024 has a section (IV) that includes Recovery Operations; County Department of Emergency Management, Sonoma Valley Fire, Sonoma County Sheriff have some responsibilities related to Recovery Operations.	—	Municipal	Management

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Growth Management	Resolution 39-2020 Urban Growth Boundary	—	Municipal	Community Development Department, Planning Division
Environmental Protection Ordinance	Pursuant to CEQA Guidelines	—	Municipal	Community Development Department, Planning Department
Flood Damage Prevention Ordinance	Sonoma Municipal Code Chapter 14.25; Consider a higher level of flood damage prevention regulations in the context of climate change impacts related to flooding.	—	Municipal	Community Development Department, Planning and Building Divisions
Emergency Management Ordinance	City of Sonoma Municipal Code: Chapter 2.36 Disaster Relief City of Sonoma 2024 Emergency Operations Plan (EOP), County Department of Emergency Management, Sonoma Valley Fire, Sonoma County Sheriff	The City of Sonoma Municipal Code and supporting documents encourage collaboration, training, mutual aid support, and disaster recovery components on behalf of the City. Additionally, Sonoma collaborates on regional and county-level efforts to maintain readiness and capability.	Municipal	Management

Planning Documents

Table 10-3 summarizes the planning documents available to the City of Sonoma.

Table 10-3. City of Sonoma Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	2006 with Circulation Update in 2016 and Housing Element Update in 2023	**Is the plan compliant with Assembly Bill 2140?** No; to be included in Safety Element with GP Update in process The general plan land use map does not identify natural hazard areas, however there is a natural hazards map in the Safety Element that includes policies primarily focused on fire and flooding damage prevention.	Municipal	Community Development Department, Planning Division
Capital Improvement Plan	CIP Program is budgeted annually, for a five-year program. The most current CIP Program is 2024-2029.	The 5 Year Capital Improvement Plan is an opportunity to schedule and adopt capital projects that will reduce risk based on improvement of infrastructure. An example of this is CIP W-20, which is a project that addresses roof hardening and infrastructure hardening at City pump stations to preserve the City's ability to pump water during a fire if the structure were to be compromised. The plan is updated annually.	Municipal	Public Works

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Floodplain Management or Watershed Plan	SMC Chapter 14.25 Floodplain Management; 2011 Storm Drain Master Plan; No update to the plan is contemplated.	___	Municipal	Community Development Department, Planning Division, Public Works
Stormwater Management Plan	City of Sonoma Storm Water Management Plan (2005), updated in 2015 for State Regional Water Quality Control Board required programs for MS4 jurisdictions; No update to the plan is contemplated.	Addresses best management practices, measurable goals, and minimum control measures. These all reduce the risk of stormwater pollution, which preserves water resources.	Municipal	Public Works
Stormwater Pollution Prevention Plan	The City of Sonoma is required by the 2013 Small Phase II MS4 Permit	Addresses pollution prevention at the City Corporation Yard – this plan provides solutions to reduce the risk of stormwater pollution from this site.	Municipal	Public Works
Open Space	Will be addressed in the General Plan Update underway	Environmental Resources element of the General Plan contains policies to protect habitat areas and significant environmental resources through development requirements to avoid impacts, implement best management practices during construction, etc. Also requires open space and parkland for the community at 5 acres per 1,000 residents. Encourages construction, building maintenance, landscaping, and transportation practices that promote energy and water conservation and reduce greenhouse gas emissions. The City will do an Urban Forestry Management Plan in 2026 after completing the tree inventory and canopy study. This will help identify high-heat areas.	Municipal	Community Development Department, Planning Division
Urban Water Management Plan	2020 Urban Water Management Plan has been adopted, the City is currently working on the 2025 update.	The Urban Water Management Plan evaluates the current water supply, while also taking into consideration the consumption needs of other agencies in Sonoma and Marin County that are reliant on Sonoma Water as a water supplier. This critical plan charts a path for water management within the City of Sonoma to ensure that residents have an adequate supply of drinking water. Another aspect of the Urban Water Management Plan is the Water Shortage Contingency Plan, which details different ways the City can enact policy to limit residents' water use to conserve in periods of drought. This is to preserve the availability of drinking water.	Municipal	Public Works

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Transportation Plan	Circulation and Safety Elements of the General Plan. Will be addressed in the General Plan Update underway.	Transportation elements address critical elements such as vehicle miles traveled to reduce greenhouse gas emissions to address climate change. These elements also include the Active Transportation Plan, aimed at increasing mode shift to get people out of cars and bicycling/walking instead. Safety elements include emergency response routes and evacuation routes in the event of a hazard	Municipal, County, State	Community Development, Public Works
Climate Action/ Resilience/ Sustainability Plan	2023 Climate Action Strategies	Will be addressed in the General Plan Update underway. The strategies are actions that assist in a number of areas including education and research on moving specific measures forward like a drive through window ban and submitting for a cool corridor grant. The General Plan will start to look at some of these questions, but a future climate action plan will identify specific measurable actions for carbon emissions reductions.	Municipal	Community Development Department, Planning Division

Response and Recovery Planning Documents

Table 10-4 summarizes the response and recovery planning documents for the City of Sonoma.

Table 10-4. City of Sonoma Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	Emergency Operations Plan—2024	This document addresses threat assessment, emergency response, and recovery capacities critical to reducing long-term risk. It also works to institutionalize hazard mitigation capacities across the community.	Municipal	Management
Threat & Hazard Identification & Risk Assessment (THIRA)	Emergency Operations Plan—2015 has a section (2.1) that includes hazard risks and threat assessments; Bay Area THIRA	---	Municipal	Management
Post-Disaster Recovery Plan	Emergency Operations Plan—2025 has a section (page 15) that includes Recovery Operations	---	Municipal	Management

10.6.2 Integration

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an

opportunity for the City of Sonoma to identify opportunities for integrating mitigation concepts into ongoing City procedures.

Table 10-2 through Table 10-4 list the local planning mechanisms currently in place for the City of Sonoma. This review revealed that the City has made significant progress in aligning its hazard mitigation goals with broader municipal functions. Key planning mechanisms, such as the General Plan, Capital Improvement Plan, and Emergency Operations Plan, already incorporate hazard-related policies and strategies. These documents address land use, infrastructure resilience, emergency response, and environmental protection, all of which are critical to reducing long-term risk.

The City of Sonoma is committed to institutionalizing hazard mitigation across all departments. Moving forward, the City will continue to incorporate HMP findings, such as risk assessments, vulnerability data, and prioritized mitigation actions, into updates of local plans and policies. This approach ensures that hazard mitigation is not treated as a standalone effort, but as a coordinated, ongoing component of governance, planning, and community development.

10.6.3 Development and Permitting Capability

Table 10-5 summarizes the capabilities of Sonoma to oversee and track development.

Table 10-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Community Development Department
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	The system indicates if a building permit is being requested on a site that is located in a floodplain, creek overlay, etc.
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	No	-
Describe the level of buildout in your jurisdiction.	N/A	The City has very few remaining parcels of vacant land on which to develop. These lands are anticipated to be developed with housing units for the most part, consistent with the General Plan and Housing Element. From 2023 to 2031, the City will need to provide zoning to accommodate an estimated 311 new housing units.

10.6.4 Administrative and Technical Capability

Table 10-6 summarizes the administrative bodies and programs available to support mitigation initiatives in the City. Due to the size of the City of Sonoma, the creation of a Zoning Board is not necessary. Decisions regarding zoning/development are made by the City's robust and active Planning Commission, which meets regularly.

While there is no City committee tasked solely with mitigation planning, the City's Emergency Management Working Group meets monthly to discuss issues related to emergency preparedness, response, and recovery, and collaborates on all of the hazard mitigation projects listed in this document. The City plans to expand on this capability by utilizing an outside consulting team to create hazard-specific annexes to address each specific medium- and high-risk hazard discussed in this HMP, each of which will be thoroughly discussed to ensure maximum effectiveness and implementability.

Table 10-6. Administrative Capabilities

Resources	Available?	Comment
Planning Commission	Yes	Planning Commission
Zoning Board of Adjustment	No	-
Planning Department	Yes	Director, two planners
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Climate Action Commission
Open Space Board/Committee	Yes	Parks and Open Space Commission
Economic Development Committee	Yes	Mayor, Councilmember, City Manager and Sonoma Valley Chamber of Commerce CEO
Public Works/Highway Department	Yes	Director, Project Manager and Operations Manager
Construction/Building/Code Enforcement Department	Yes	Chief Building Official, Contracted Code Enforcement Officer
Emergency Management/Public Safety Department	Yes	Staff lead
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Programs include regular storm drain maintenance. Staff included are Operations Manager, Streets Supervisor, and maintenance workers to address areas with high vegetation to avoid flooding during periods of heavy rain.
Mutual aid agreements	Yes	The Sonoma Valley Fire District participates in the Master Mutual Aid Agreement and also has Automatic Aid Agreements with all neighboring fire districts.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	Chief Building Official. Responsible for the mitigation of substandard or unsafe buildings or structures.
Other	-	-

Table 10-7 summarizes potential staff and personnel resources available to Sonoma and their current responsibilities that contribute to hazard mitigation. Due to limited staff capacity, the City of Sonoma partners with the County to leverage County staff with experience in environmental science, surveying, and other specialized technical skills where needed. While the City understands the benefits of having a specific staff member tasked with grant writing and/or resilience, financial constraints make such full-time positions untenable. When needed, staff is asked to support drafting of grant applications and management of grant funds. The City also has contracted emergency management support that can augment this capability as needed. The City continues to encourage expanded training for current staff members to increase and improve their capacity to deliver administrative capacities at a sustained performance level.

Table 10-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Planning Department / City Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	Planning Department / City Engineer
Planners or engineers with an understanding of natural hazards	Yes	Planning Department / City Engineer
Staff with expertise or training in benefit/cost analysis	Yes	Finance Department
Professionals trained in conducting damage assessments	Yes	Building Official
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Planning Department, Public Works
Staff that work with socially vulnerable populations or underserved communities	Yes	Contract
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	Yes	City Manager
Grant writers	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	Stormwater

10.6.5 Fiscal Capability

Table 10-8 summarizes financial resources available to Sonoma.

Table 10-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes, Water
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	-

10.6.6 Education and Outreach Capability

Table 10-9 summarizes the education and outreach resources available to Sonoma. While the City of Sonoma does not have a standalone citizen board to address hazard mitigation, the City has a robust cadre of boards and commissions—including Climate Action, Parks & Recreation, and Planning—all of whom are informed regarding the City's emergency preparedness and response activities. The City also organizes semi-annual meetings of the Community Partners Emergency Preparedness & Response Network—a City-led group of community based organizations and community partners— to discuss various topics, including disaster planning, hazard mitigation, and emergency response, at which time the City receives important feedback to integrate into future planning strategies.

The City of Sonoma has long-standing partnerships with the Sonoma Valley Unified School District and community partners that provide youth programming and services, including the Boys & Girls Club of Sonoma Valley, Sonoma Community Center, and Sonoma Valley Health Center, all of whom the City supports in their efforts to provide emergency preparedness and response information. While the City represents an important part of the school district, many campuses serving Sonoma Valley students are located outside of city limits, making collaboration across jurisdictions especially important. Community partners help extend the reach of preparedness efforts, with programs such as youth-focused emergency preparedness classes offered by the Sonoma Community Center and the Sonoma Valley Health Center's annual back-to-school and emergency preparedness fairs. The Sonoma Valley Fire District also maintains an ongoing relationship with local schools, including campus visits and outreach. Collectively, these efforts help ensure that preparedness information reaches youth and families across the broader Sonoma Valley community, including underserved residents and those whose first language is not English.

Table 10-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Senior Management Analyst and PIO
Personnel skilled or trained in website development	Yes	City Clerk, Senior Management Analyst and PIO
Hazard mitigation information available on your website	Yes	Under Emergency Preparedness
Social media for hazard mitigation education and outreach	Yes	Facebook, Instagram, YouTube, Nextdoor
Citizen boards or commissions that address issues related to hazard mitigation	No	Climate Action Commission and Parks, Recreation and Open Space Commissions
Warning systems for hazard events	Yes	Through Sonoma County Department of Emergency Management and Sonoma County Sheriff, Sonoma County SoCo Alert. Nixle, NOAA Radios, Wireless Emergency Alerts, Emergency Alert System, Hi-Lo Law Enforcement Sirens
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	The City holds regular meetings with local CBOs that serve vulnerable and underserved communities (unhoused, people over 65, Latinx/o, youth, etc.)
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	2024 EOP Annex B Alert & Warning

10.6.7 Community Classifications

Table 10-10 summarizes classifications for community programs available to Sonoma.

Table 10-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	Yes	ISO Classification 2	6/14/2016
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	ISO Classification 1	9/2016
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

10.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 10-11 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 10-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	N/A
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	N/A
Tsunami	N/A
Wildfire	Strong

10.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 10.1 is responsible for maintaining this information.

The City has adopted the NFIP minimum floodplain management criteria via local regulation. The latest Flood Insurance Rate Map (FIRM) was adopted by the City on December 2, 2008. The Chief Building

Official is responsible for implementing the requirements of the NFIP by requiring permits for all development within special flood hazard areas (SFHAs) shown on the latest FIRM. The Chief Building Official reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The City implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The Chief Building Official uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

While the City participates in the NFIP, it does not participate in the CRS. Table 10-12 provides a summary of NFIP compliance in Sonoma.

Table 10-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	Building, Planning & City Engineer
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	No
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	Yes. Need training on floodplain management expectations and model ordinances
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Staff reviews and signs off on Flood Hazard Compliance Certifications
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	SMC 14.25.170 defines what qualifies as a substantial improvement and substantial damage
What are the barriers to running an effective NFIP program in the community, if any?	None known

Question	Comments
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2001
What is the local law number or municipal code of your flood damage prevention ordinance?	Sonoma Municipal Code Chapter 14.25
What is the date that your flood damage prevention ordinance was last amended?	Updated in 2022
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets minimum requirements
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	SMC 19.40.020 Creekside Development contains specific standards for new development along creeks including setbacks, hydrology and biology reports. Proposed uses and structures shall be located above the adopted flood elevation standard in compliance with Chapter 14.25 SMC, Flood Damage Prevention Regulations.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	No

10.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. Table 10-13 summarizes the repetitive loss and severe repetitive loss properties in the City of Sonoma.

Table 10-13. Repetitive Loss Summary

Type of Repetitive Loss	Residential	Non-Residential
Repetitive Loss Properties (NFIP definition)	12	3
Repetitive Loss Properties (FMA definition)	0	0
Severe Repetitive Loss Properties (NFIP definition)	2	1
Severe Repetitive Loss Properties (FMA definition)	2	1

Source: (FEMA 2024)
Note: See Appendix C for definitions of repetitive loss types presented in this table.

10.7.2 Flood Vulnerability Summary

Table 10-14 provides a summary of flood vulnerability in Sonoma.

Table 10-14. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	City maintains floodplain maps on GIS that detail areas that are prone to flooding. Areas adjacent to creeks are prone to flooding.
Do you maintain a list of properties that have been damaged by flooding?	No, pull the list from FEMA
Do you maintain a list of property owners interested in flood mitigation?	No
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	N/A
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	SMC 14.25.170 informs staff on how to make determinations.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	Unknown
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes

10.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 10-15 through Table 10-17.

Table 10-15. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2021 New Construction Permits Issued	6	0	0	6
2021 Permits Issued within SFHA	0	0	0	0
2022 New Construction Permits Issued	13	1	0	14
2022 Permits Issued within SFHA	1	0	0	1
2023 New Construction Permits Issued	5	2	0	7
2023 Permits Issued within SFHA	0	0	0	0

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2024 New Construction Permits Issued	18	4	0	22
2024 Permits Issued within SFHA	0	0	0	0
2025 New Construction Permits Issued	0	0	0	0
2025 Permits Issued within SFHA	0	0	0	0

Note: 2025 numbers as of May 2025

Table 10-16. Recent Major Development and Infrastructure from 2021 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Sonoma Village Lane	Residential	11 units	840 West Napa Street	-	Completed
Olivia Apartments	Residential	30 units	655 West Spain Street	-	Completed
Broadway Condominiums	Residential	6 units	1181 Broadway	-	Completed
Altamira Family Apartments	Residential	48	1269 Broadway	-	Completed
Mockingbird	Residential	32 units	853 Fourth Street West	-	Completed

a. *Only location-specific hazard zones or vulnerabilities identified.*

Table 10-17. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
Hummingbird Cottages	Residential	15 units	19910 Fifth Street West	-	Hummingbird Cottages
Hotel Project Sonoma	Mixed use Hotel/ Residential	8	117 West Napa St	-	Hotel Project Sonoma
Bijan Planned Development	Residential	6	11211 Broadway	-	Bijan Planned Development
Montaldo Apartments	Residential	50	19320 Sonoma Highway	-	Montaldo Apartments
FSE Townhomes	Residential	31	254 First Street East	-	Approved

As noted above, one building permit was issued in SFHAs over the past five years and major development is not scheduled to occur in any known hazard areas over the next five years. The overall vulnerability has stayed the same since the previous plan was adopted.

10.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of the City's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

10.9.1 Hazard Area

Figure 10-4 and Figure 10-5 show the probable hazard areas within the City. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Sonoma has significant exposure. Figure 10-4 illustrates the FIRM for the 1 percent and 0.2 percent annual chance floodplains. The City is not located in a dam inundation hazard area, tsunami hazard area, or sea level rise hazard area. Figure 10-5 identifies the CAL FIRE wildfire severity zones, NEHRP Class D and E soils, and the USGS-defined landslide hazard areas. About half of the City is located in a wildfire severity zone.

Figure 10-4. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

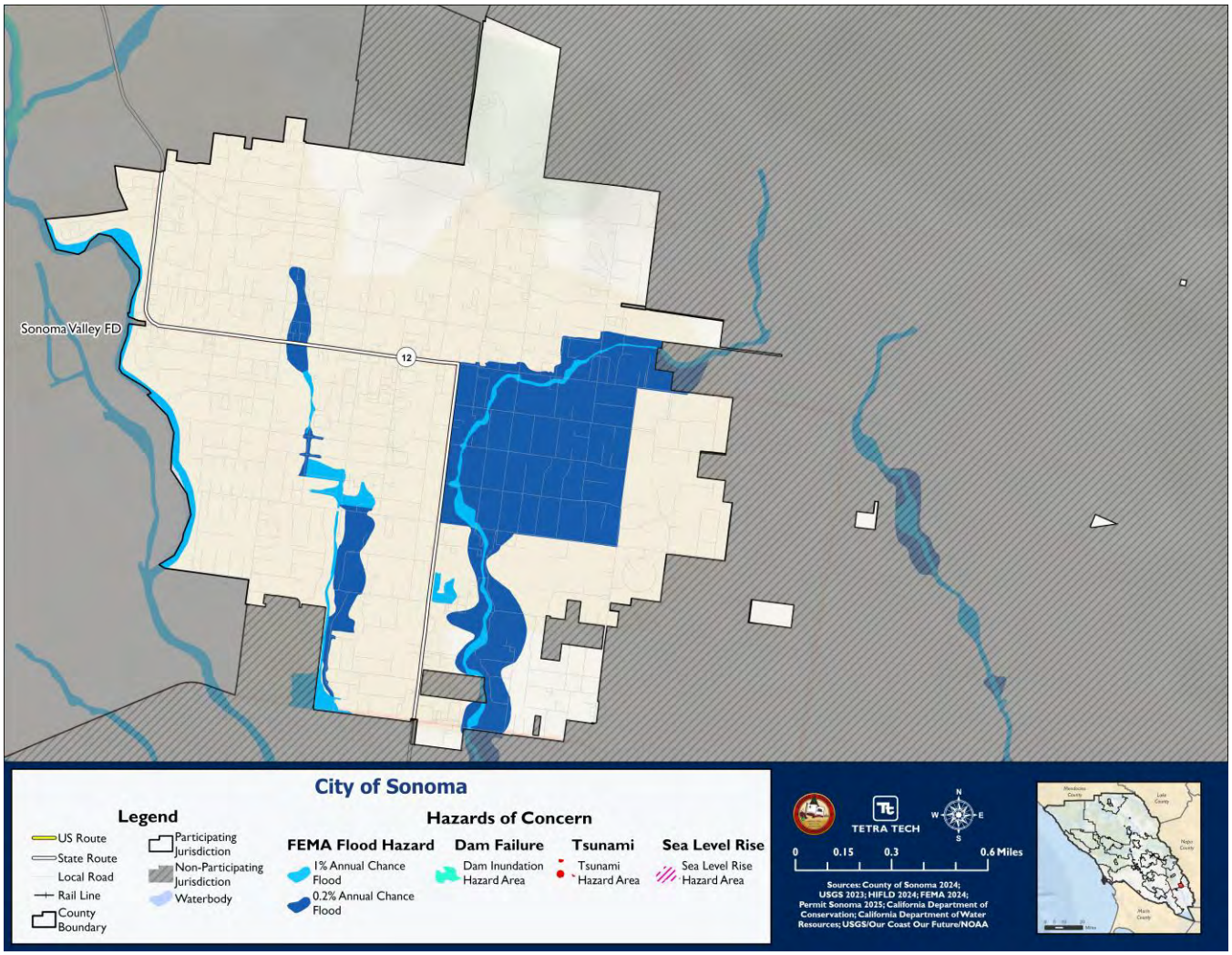
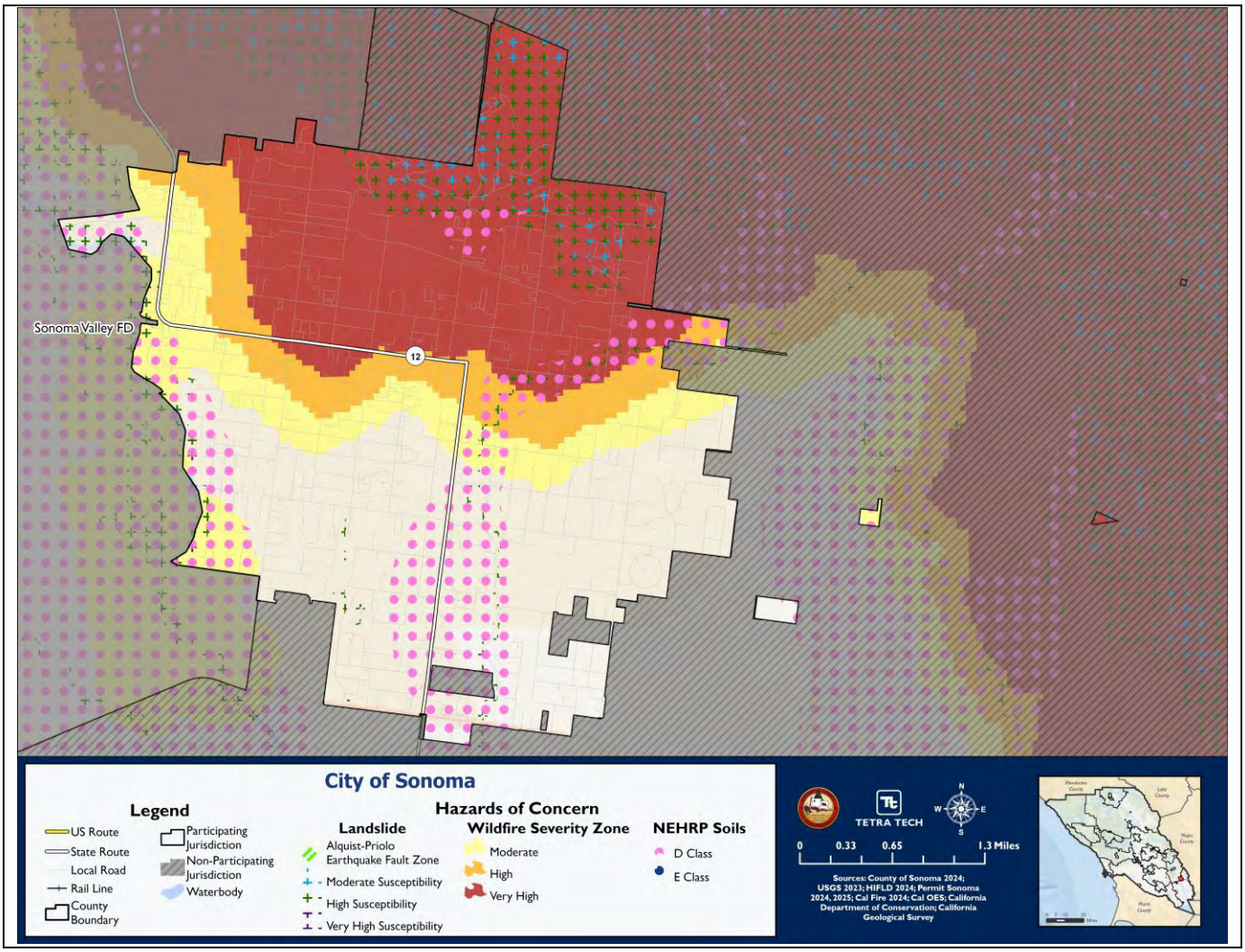


Figure 10-5. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



10.9.2 Hazard Event History

The history of natural and non-natural hazard events in Sonoma is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 10-18 provides details on loss and damage in Sonoma during hazard events since the last hazard mitigation plan update.

Table 10-18. Hazard Event History in the City of Sonoma, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in the City of Sonoma
January 26-29, 2021	Flood and Debris Flow	N/A	A plume of moisture from the tropical Pacific brought an atmospheric river to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	No impact or losses indicated
March 10, 2021	Hail	N/A	A cold upper low moved through the region in early March bringing widespread showers and isolated thunderstorms to the Greater Bay Area. The Santa Rosa Fire Department reported multiple vehicle accidents on US-101 due to accumulating small hail.	No impact or losses indicated
November 8, 2021	Flood	N/A	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	No impact or losses indicated
December 13, 2021	Flood	N/A	A low pressure system from the Gulf of Alaska tapped into sub-tropical moisture from the Central Pacific to drop heavy rain throughout the state. Heavy rain caused flooding on Labath Ave and the closure of SR 12 between Route 116 and 8th St.	No impact or losses indicated
December 1-2, 2022	Extreme Cold Event	N/A	The City of Sonoma opened a warming center in partnership with Sonoma County following a freeze warning issued by the National Weather Service and a Public Health Emergency issued by the Sonoma County Health Department.	$500
December 12-15, 2022	Extreme Cold Event	N/A	The City of Sonoma opened a warming center in partnership with Sonoma County following a freeze warning issued by the National Weather Service.	$9,000
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton.	No impact or losses indicated
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical jet stream from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	No impact or losses indicated
January 21-22, 2024	Flood	N/A	Widespread rainfall and nuisance flooding occurred across the Bay Area. Westbound California Route 116 at Travis Road was flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road and Arata Lane offramps from US Highway 101 northbound were closed due to standing water. Flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; 3 inches of water flooded a trailer	No impact or losses indicated
January 31, 2024	Flood	N/A	A cold front brought widespread rain and high winds through California. A water rescue occurred on Mark West Station Road at Starr Road.	No impact or losses indicated

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in the City of Sonoma
February 4, 2024	Flood	N/A	Two cold fronts caused minor nuisance flooding gusty winds, and widespread rain. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road near Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. Route 12 was closed due to flooding from Fremont Drive to Watmaugh Road. A creek flowed over Mark West Station Road. Mud, dirt, and rock blocked Los Alamos Road.	No impact or losses indicated
November 20-23,2024	Atmospheric River/ Flooding	N/A	An atmospheric river brought heavy rains and strong wind. The City of Sonoma supplied sand bags for all valley residents, mediated downed trees, and dealt with flooding throughout the City, including vacuuming out a storm drain inlet that was overflowing due to impaction.	$5,000

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)
N/A = Not applicable

10.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Sonoma.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

The City of Sonoma reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. The revised rankings account for the changes in community priorities described in Section 10.5 of this annex and in Volume I of this HMP.

Table 10-19 shows the City of Sonoma's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards.

Table 10-19. Hazard Ranking

Hazard	Rank
Dam Failure	No exposure to this hazard
Drought	Medium
Earthquake	Medium
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	Medium
Landslide	Low
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

The dam inundation for high and very high hazard dams described in Volume I does not occur within the City's boundaries; therefore, there is no exposure to the dam failure hazard. Because the city is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities in the city.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to the City of Sonoma.

Table 10-20 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 10-21 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I. The sections below describe local vulnerability to each hazard of local concern.

Table 10-20. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%
NEHRP D & E Soils	19.9%	19.0%	31.1%
1% Annual Chance Floodplain	0.7%	0.6%	8.2%
0.2% Annual Chance Floodplain	21.0%	18.2%	21.3%
Geologic Hazard Area	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	0.5%	0.5%	9.8%
High Landslide Susceptibility Area	3.7%	3.2%	1.6%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	15.6%	19.0%	16.4%
High Fire Hazard Severity Zone	12.0%	12.0%	16.4%
Very High Fire Hazard Severity Zone	25.1%	24.2%	45.9%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Table 10-21. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NEHRP D & E Soils	20.3%	20.1%	20.3%	20.0%	20.3%	20.2%	20.2%	18.2%
1% Annual Chance Floodplain	0.7%	0.6%	0.7%	0.0%	0.7%	0.7%	0.5%	0.0%
0.2% Annual Chance Floodplain	19.5%	19.2%	19.5%	19.2%	19.5%	19.4%	19.3%	18.2%
Geologic Hazard Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	0.2%	0.0%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%
High Landslide Susceptibility Area	3.4%	3.4%	3.4%	3.2%	3.3%	3.4%	3.2%	0.0%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	15.9%	15.9%	15.9%	15.2%	15.9%	15.8%	15.6%	13.6%
High Fire Hazard Severity Zone	10.0%	9.8%	10.0%	9.6%	10.0%	9.9%	9.6%	9.1%

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Very High Fire Hazard Severity Zone	21.2%	21.0%	21.2%	20.8%	21.2%	21.2%	21.1%	18.2%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Drought

As discussed in Volume I, drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain community lifelines are vulnerable to collapse if water is unavailable, such as the water systems lifeline. Six city water tanks are identified as critical facilities vulnerable to drought.

The region and state have a history of prolonged dry, hot weather and have experienced extended periods of drought, which can have severe physical and economic impacts.

Populations most vulnerable to drought are those living in high fire-risk areas and those dependent on agricultural activities that dominate local land use. Extreme drought conditions could result in water shortages that could disproportionately impact unhoused individuals and others without access to clean drinking water. It could raise the cost of water usage, and economically disadvantaged communities may be unable to afford the increased cost for potable water.

The City of Sonoma is proactively planning for the potential of cascading impacts, including increased wildfire risk. To better prepare and respond to future drought events, the City is drafting a Drought Annex to the recently updated City of Sonoma Emergency Operations Plan, which outlines potential long-term impacts on the community and strategies for mitigating drought risk, including providing information on the importance of water conservation to residents and businesses.

Earthquake

As noted in Volume I, buildings on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an earthquake. Almost one-fifth of the buildings in the City (19.9 percent) are on NEHRP Class D and E soils. In addition, 19 community lifeline facilities are on Class D and E soils. This includes daycares, food distribution sites, local bridges, the Sonoma Police Department, schools, shelters, skilled nursing facilities, and solar power facilities. The population living on Class D and E soils make up 20.3 percent of the city's total population and includes 710 people over the age of 65.

While the risk of an earthquake within the city limits is relatively small, the City of Sonoma recognizes the potential strain on resources should such an event occur nearby, as during the 1989 Loma Prieta Earthquake and the 2014 South Napa Earthquake. In large-scale regional emergencies, areas with greater population and impact, such as Santa Rosa or Napa, may receive priority for outside assistance. As a result, the City of Sonoma may experience delays in mutual aid or resource

deployment and should be prepared to rely on locally available personnel, equipment, and supplies in the immediate aftermath of an event.

Additionally, regional transportation corridors used to bring in emergency resources, medical support, and essential goods may be disrupted, further limiting access to outside assistance. These conditions underscore the importance of local preparedness, including continuity of operations planning, pre-identified staging areas, and coordination with community partners to support response and short-term recovery.

An earthquake in a neighboring community could result in requests for city staff to provide mutual aid, for the city to serve as an evacuation center, or other cross-jurisdictional coordination activities. Communication with residents, especially older adults and those with access and functional needs, is critical should an event occur anywhere in the region, as there is potential for panic and overburdening of 911 and other emergency communications systems. These populations would also require additional assistance should there be a need for evacuation, sheltering in place, or other emergency response activities.

Extreme Heat

Extreme heat is unlikely to cause physical damage to buildings, facilities, or infrastructure. The city has six municipal water tanks that are in the water systems community lifeline category. During an extreme heat event, the evaporation of water inside the tanks could increase.

The City of Sonoma has had multiple extended heatwaves in recent years as a result of a changing climate. These events disproportionately impact the City's unhoused population, older adults, under-resourced individuals who may be unable to afford air conditioning, outdoor workers, the medically fragile, and those with access and functional needs.

Sonoma is a close-knit community, and many residents participate in community events. The City is cognizant of providing timely information regarding potentially hazardous conditions around events such as the annual 4th of July Parade downtown, which many older adults and people with access and functional needs participate in.

To address these risks, the City of Sonoma is drafting an Extreme Heat Event Annex to inform staff and community partners of the City's response plans and ongoing efforts to inform the public about resources available during times of intense heat. Special attention is being given to planning for the City's more vulnerable populations listed above. The City is strategically coordinating with community-based organizations to optimize available staff and services.

Extreme Cold

Extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gases. The City of Sonoma has experienced several extreme cold events in the last five years resulting in the activation of emergency warming centers. These activations were focused on the unhoused population, who are disproportionately impacted by freezing temperatures and most at risk from hypothermia and other life-

threatening conditions related to exposure to extreme or extended cold weather. The City of Sonoma, jointly with the County of Sonoma, is updating protocols to specify the unique differences between an emergency warming center activation for public health purposes and an activation in response to a broader extreme cold weather event response. This information will be included in the Extreme Cold Weather Event Annex to be completed this year. This annex will address populations that are most at risk from adverse impacts of prolonged extreme cold weather, including older adults, outdoor workers, individuals who lack resources to afford heat, and those who are medically fragile.

Extreme Wind

The City of Sonoma has experienced severe weather events that included strong winds as a result of its location in the Sonoma valley. Falling trees or branches can cause damage to buildings and infrastructure and can result in power outages. Transportation along the Highway 12 corridor can be interrupted due to downed trees or power lines, impacting evacuation efforts or emergency response.

The City's unhoused population is especially vulnerable to the impacts of extreme wind, as they lack adequate shelter during such an event. In addition, the medically fragile are at increased risk due to the potential of power outages affecting critical medical equipment.

The City will be drafting an Extreme Wind Annex to address the city's response, the cascading hazards that could happen as a result of such an event, and how to adequately plan to support at-risk populations to mitigate impacts from high and sustained wind events.

Flooding

The City has moderate exposure to flooding, mostly due to local creeks and the proximity to larger rivers that could flood during heavy rainfall events and impact homes, transportation corridors, and infrastructure. There are 44 buildings in the 1 percent annual chance floodplain and 1,310 buildings in the 0.2 percent annual chance floodplain. There are five critical bridges in the 1 percent annual chance floodplain and eight critical facilities (banks, daycares, and schools) in the 0.2 percent annual chance floodplain. Table 10-22 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 10-22. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
NATHANSON CREEK	Local Bridge	X	X
Lpj Kids, Llc (Dba Le Petit Jardin)	Daycare	-	X
Sunshine Nursery School	Daycare	-	X
Crescent Montessori School	Daycare	-	X
Creekside High	Secondary Education	-	X
Coldwater Creek (closed 1998)	Geothermal Plant	-	X
Exchange Bank	Bank	-	X
U.S. Bank National Association	Bank	-	X

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
Wells Fargo Bank, National Association	Bank	-	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

People living in low-lying areas and those living in homes or apartments without proper drainage can be especially vulnerable to flooding, as well as those with access and functional needs that require additional assistance to evacuate.

There are 76 people living in the 1 percent annual chance floodplain, including 12 people living with a disability; 2,089 people live in the 0.2 percent annual chance floodplain, including 349 people living with a disability.

Landslide

The City has low exposure to landslide hazards, and no recent history of such an event within the city limits. However, there are 30 buildings in the moderate landslide susceptibility hazard area, 234 buildings in the high landslide susceptibility hazard area, six critical water tanks in the moderate landslide susceptibility hazard area, and one local bridge in the high landslide susceptibility hazard area. This means the City of Sonoma must plan for the potential of such an event as a result of prolonged heavy rain or nearby seismic activity.

Populations most vulnerable to landslides are those living in moderate to high landslide susceptibility areas and those living in moderate wildfire severity zones. There are 20 people living in the moderate landslide susceptibility hazard area and 364 people living in the high landslide susceptibility hazard area. People with limited communication options can be vulnerable as well, as alerts and requests for assistance may be delayed.

Wildfire

With the recently updated fire risk severity maps, a portion of the City of Sonoma is now in a high fire risk zone, due to the region’s amount of vegetation, risk of prolonged drought conditions, and exposure to high winds. Over the past decade, Sonoma County has experienced multiple presidentially declared wildfires that have threatened homes, prompted evacuations, degraded air quality, and impacted regional safety. While only one of these incidents resulted in evacuation warnings or potential structure impacts within city limits, the broader regional effects have significantly impacted the Sonoma community. These impacts have included poor air quality, disruptions to daily life and local services, increased demand on emergency resources, and heightened public concern. This regional context underscores the importance of continued coordination, preparedness, and public communication efforts within the City of Sonoma.

There are 974 buildings in the moderate fire hazard severity zone, 747 buildings in the high fire hazard severity zone, and 1,564 buildings in the very high fire hazard severity zone. There are 10 critical facilities in the moderate fire hazard severity zone (a bank, daycare, fire station, library, local bridge,

communications towers, school, and shelter), 10 critical facilities in the high fire hazard severity zone (banks, daycares, Coldwater Creek Plant, and communications towers), and 28 critical facilities in the very high fire hazard severity zone (banks, daycares, food distribution, local bridges, Sonoma Valley Community Health Center, municipal halls, Sonoma Police Department, shelters, and water tanks).

Unhoused individuals, people with access and functional needs, older adults, and medically fragile residents (especially those with respiratory conditions) are at increased risk during wildfire incidents. Residents lacking transportation and those living near busy transportation corridors are also at elevated risk due to the challenges posed by evacuation and the risk of roadways becoming clogged during a large-scale evacuation.

There are 1,706 people living in the moderate fire hazard severity zone, 1,072 people living in the high fire hazard severity zone, and 2,279 people living in the very high fire hazard severity zone.

Potential Impacts from Hazards of Local Concern

Table 10-23 summarizes available quantitative estimates of potential impacts on community assets for dam failure, flood, and earthquake hazards. In the event of a 500-year earthquake, as many as 164 households could be displaced, 66 people may require shelter, 6.8 percent of the buildings in the City could be damaged, and 84,484 tons of debris could be generated. In the event of a 2,500-year earthquake, as many as 582 households could be displaced, 238 people may require shelter, 16.2 percent of the buildings in the City could be damaged, and 219,264 tons of debris could be generated. In the event of a 1 percent annual chance flood, as many as 108 people could be displaced, 56 people may require shelter, and 305 tons of debris could be generated.

Table 10-23. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	0 people	164 households	582 households	108 people
Population Requiring Shelter	0 people	66 people	238 people	56 people
General Building Damage as % of RCV	0.0%	6.8%	16.2%	<0.1%
Total Debris Generated (tons)	0	84,484	219,264	305

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 10-24 summarizes additional risks specific to the City. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the City.

Table 10-24. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	Per the above risk assessment findings, dam inundation is not expected to have a direct impact on the people, buildings, or critical facilities located in the City.
Drought	Drought conditions can impact Sonoma by reducing water supply, affecting agriculture, and increasing the likelihood of wildfires.
Earthquake	Located within an active seismic region, Sonoma is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the City's population and infrastructure.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources.
Extreme Wind	City of Sonoma may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding from intense rainfall and overflow of nearby waterways can affect residential areas, infrastructure, and transportation.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity.
Wildfire	The City faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety.

10.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, the City of Sonoma identified the following risk-related issues for the community:

- The City's existing Emergency Operations Plan (EOP) lacks dedicated annexes that address the growing threat of extreme heat, extreme cold, and extreme wind events, which require distinct operational strategies.
- The City may need to shelter evacuees from a variety of hazards including dam failure, wildfires, floods, extreme heat or cold, earthquakes, and other emergencies, especially for vulnerable populations such as the unhoused.
- Extreme weather events—including heat waves, cold snaps, and high-wind storms—are becoming more frequent and severe due to climate change. Vulnerable populations, such as people over 65, low-income residents, and individuals with medical conditions, face increased health risks. Additionally, extreme weather can cause power outages, impacting heating and cooling access, and increasing emergency medical responses.
- Public facilities that serve as community cooling, heating, or emergency shelters are vulnerable to power outages during multiple hazard events, limiting their effectiveness.
- Critical facilities and infrastructure provide essential operations for City staff and the public but can experience power outages, limiting their effectiveness.
- Vulnerable populations in mobile homes and older structures are at risk during extreme cold and heat events.

- Vulnerable populations may not have access to cooling devices during extreme heat events. Those who are homebound or without transportation may be put at risk attempting to access cooling centers or other public areas.
- Many residents are unaware of the full scope of hazards that pose a risk to the Sonoma Valley community, as well as the necessary preparedness and response measures. Without proper education, individuals may not take proactive steps to reduce their risks, leading to increased damage and potential loss of life during disasters. Vulnerable populations, such as people over 65, low-income families, and non-English-speaking communities, may face additional barriers to accessing life-saving information.
- Public lands near residential areas face increasing wildfire threats and are located within very high fire hazard severity zones. This is a good location for fire breaks, as it buffers the downtown area from wildland areas.
- Some homeowners lack resources or capacity to meet defensible space requirements and may unintentionally create new hazards such as erosion or landslide risk by removing vegetation indiscriminately. Inappropriate vegetation removal can also disrupt local ecosystems and reduce biodiversity, soil stability, and long-term ecological health.
- Some of the City's critical infrastructure is in high fire zones, Infrastructure hardening will be required to make this infrastructure resistant to fires.
- Evacuation routes in high-risk wildfire zones are vulnerable to road obstructions, downed power lines, and increased congestion during wildfire situations.
- Many transportation routes lack proper fire-resistant buffers, thereby increasing the risk of road closures and preventing effective and quick re-population of the evacuated area after a major disaster event.
- Some critical water infrastructure requires seismic retrofit to ensure flow and delivery of potable water to connections.
- Some structures are located below flood elevations or unnecessarily located in high fire hazard areas.
- The City bridge inventory is currently being assessed to determine if the current number of bridges that are inspected by Caltrans every 2 years is adequate or should be increased. All City-owned vehicular and/or pedestrian bridges need to be assessed for seismic and scour vulnerabilities.
- Heavy rainfall events are overwhelming existing drainage systems, leading to road closures, potential property damage, and limited access for emergency vehicles. Certain areas within the City of Sonoma are prone to this and a variety of issues arise, including the need for significant emergency response.
- Water courses must be maintained to remain free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's best management practices. Multi-jurisdictional effort will be required to meet this goal. Many of these water courses are on private property.
- The City experiences aquifer depletion and reduced local production capacity (independent of Sonoma Water/wholesale aqueduct).

- The City's wells are aging and with changing hazard risks there is a need for thorough assessment.
- If land movement severs the line to Thornsberry Tank, it is likely to cause severe damage to hillside and water outage to residents in Zone 2 (which is in a high fire hazard area).
- City facilities currently have functional vulnerabilities that could lead to loss of staff capabilities in the event of a large scale disaster, power outage, etc.
- Various planning documents and codes lack overall cohesion.
- There are residential structures located within the 1 percent annual chance floodplain.
- Historic resources are an economic and cultural value to the City and when they ae damaged the City prefers that they be repaired rather than demolished.
- Some multifamily buildings are not built to current fire code requirements.
- Changing risks require continuous evaluation and mitigation efforts.
- Details that document significant events (e.g., high water marks, preliminary damage estimates, damage photos, etc.) need to be captured to support future mitigation efforts.
- Limited local notification capabilities result in vehicles and residents entering dangerous areas during floods, landslides, extreme wind events that cause downed trees or power lines, and periods of post-earthquake disruptions.
- Limited adoption of rainwater and graywater systems hinders water conservation efforts.
- Impervious surfaces reduce groundwater recharge and exacerbate drought and flood risks.
- Traditional landscaping contributes to excessive water use and wildfire risk.
- Areas of the city lack adequate tree canopy coverage, which exacerbates extreme heat impacts and increases erosion risk.
- Many privately owned residential buildings may have soft-story vulnerabilities, making them susceptible to collapse during seismic events. These structures pose a significant risk to life safety and property, especially in densely populated areas.

10.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

10.10.1 Past Mitigation Action Status

Table 10-25 indicates progress on the City’s mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 10-25. Status of 2021 Mitigation Actions for the City of Sonoma

Mitigation Actions	Status
Project Number	SCI-1
Hazards Addressed	Earthquake, severe weather, wildfire, flooding
Lead Agency	City of Sonoma
Mitigation Action Description	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SCI-2
Hazards Addressed	Earthquake, severe weather, wildfire, flooding, drought
Lead Agency	City of Sonoma
Mitigation Action Description	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the City's General Plan, Development Code, Urban Water Management Plan, Risk and Resilience Assessment and Emergency Response Plan, Sonoma Water's Water Supply Strategies Action Plan, Greenhouse Gas Emissions Reduction Action Plan, Climate Action Plan, Capital Improvement Program and Flood Damage Prevention Regulations.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	SCI-3
Hazards Addressed	All hazards
Lead Agency	City of Sonoma
Mitigation Action Description	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include

Mitigation Actions	Status
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SCI-4
Hazards Addressed	Severe weather, flooding
Lead Agency	City of Sonoma
Mitigation Action Description	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: • Enforce the flood damage prevention ordinance. • Participate in floodplain identification and mapping updates. • Provide public assistance/information on floodplain requirements and impacts.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SCI-5
Hazards Addressed	Severe weather, flooding, drought
Lead Agency	City of Sonoma
Mitigation Action Description	Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following • Reduce vehicle emissions by adopting vehicle-miles-traveled thresholds in the General Plan as projects are reviewed pursuant to CEQA. • Consider adopting a General Plan policy to protect and acquire and manage ecosystems in buffers zones along rivers & creeks within the City to improve flood control and water quality management. • Consider adopting a General Plan policy to adopt Green Infrastructure that can help reduce run-off and stormwater flows that may otherwise exceed system capacity—infrastructure such as encouraging bio-retention areas (rain gardens); low impact development methods such as green roofs, swales (depressions that capture water) and the use of vegetation or pervious materials instead of impervious surfaces.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Staff has contracted with a consultant to identify VMT Thresholds to vet through a community process in 2025. Also, the City is undergoing a General Plan Update to include additional measures related to climate change and other hazard mitigation measures.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change

Mitigation Actions	Status
If discontinue, explain why	Not Applicable
Project Number	SCI-6
Hazards Addressed	Earthquake, severe weather, wildfire, flooding
Lead Agency	City of Sonoma
Mitigation Action Description	Purchase generators for critical facilities and infrastructure that lack adequate emergency backup power, including Sonoma City Hall complex and pre-designated emergency shelters.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	2 generators have been acquired; however, new transfer switches need to be installed
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	The generators are not functional yet as they are in need of repairs prior to installation.
If discontinue, explain why	Not Applicable
Project Number	SCI-7
Hazards Addressed	Earthquake, flooding, wildfire
Lead Agency	City of Sonoma
Mitigation Action Description	Expedite the funding and retrofit of seismically deficient city-owned bridges and road structures by working with Caltrans and other appropriate governmental agencies, including the replacement of the structurally deficient Chase Street Bridge.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	The retrofit of Chase Street Bridge has been completed. The City is working with Caltrans on a seismic screening of the following bridges: MacArthur over Nathanson Creek, 4th Street East Bridge over Nathanson Creek, France Street Bridge over Nathanson Creek, 2nd Street Bridge over Nathanson creek.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	The City is not currently aware of any seismically deficient bridges

Mitigation Actions	Status
Project Number	SCI-8
Hazards Addressed	Severe weather, flooding
Lead Agency	City of Sonoma
Mitigation Action Description	Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	These are ongoing efforts throughout the year. The City of Sonoma is required to comply with the 2013 Small Phase II MS4 Permit, which encompasses the described provisions. The program is fully funded by the municipality.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable
Project Number	SCI-9
Hazards Addressed	Earthquake
Lead Agency	City of Sonoma
Mitigation Action Description	Conduct an inventory of privately-owned existing or suspected soft-story residential structures as a first step in establishing voluntary or mandatory programs for retrofitting these buildings. Engage consulting services as needed to support activities related to the development of enhanced building codes to help mitigate suspected soft-story residential structures.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable

Mitigation Actions	Status
Project Number	SCI-10
Hazards Addressed	Wildfire
Lead Agency	City of Sonoma
Mitigation Action Description	Establish special funding mechanisms (such as Fire Hazard Abatement Districts or regional bond funding) to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks**.**
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	In coordination with the Sonoma County Fire Chief's Association a special tax was passed "Measure H" While this is one funding mechanism a continued goal should be set to seek additional funding sources in the form of grants and programs and both the State and Federal Level.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Additional funding may be needed to implement programs and manage the maintenance of these mitigation efforts
If discontinue, explain why	Not Applicable
Project Number	SCI-11
Hazards Addressed	Earthquake, severe weather, wildfire
Lead Agency	City of Sonoma
Mitigation Action Description	Conduct periodic fire-safety inspections of all multifamily buildings, as required by State law.
Status	Complete; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Completed with a 100 percent compliance rate
Include in the 2026 HMP or Discontinue?	Include
If included, revise/reword as appropriate	This is an annual requirement and must be left as a goal.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SCI-12
Hazards Addressed	Earthquake, severe weather, wildfire, flooding
Lead Agency	City of Sonoma
Mitigation Action Description	Develop and enforce a repair and reconstruction ordinance to ensure that damaged buildings are repaired in an appropriate and timely manner and retrofitted concurrently. This repair and reconstruction ordinance should apply to all public and private buildings, and also apply to repair of all damage, regardless of cause. Engage consulting services as needed to support activities related to amending building codes related to repair and reconstruction.
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Engage consulting services as needed to support activities related to amending building and development codes related to repair and reconstruction.
If discontinue, explain why	Not Applicable
Project Number	SCI-13
Hazards Addressed	Earthquake, severe weather, wildfire, flooding
Lead Agency	City of Sonoma
Mitigation Action Description	Establish preservation-sensitive measures for the repair and re-occupancy of historically significant privately owned structures, including requirements for temporary shoring or stabilization where needed, arrangements for consulting with preservationists, and expedited permit procedures for suitable repair or rebuilding of historically or architecturally valuable structures. Engage consulting services as needed to support activities related to building codes.
Status	No Progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Engage consulting services as needed to support activities related to building and development codes.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SCI-14
Hazards Addressed	Earthquake, severe weather, wildfire, flooding
Lead Agency	City of Sonoma
Mitigation Action Description	Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major natural disasters. Such contents and equipment includes computers and servers, phones, files, and other tools used by staff to conduct daily business.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Staff turnover necessitates an investigation of past plans and update with current inventory and any needs.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not change
If discontinue, explain why	Not Applicable
Project Number	SCI-15
Hazards Addressed	Earthquake, severe weather, wildfire, flooding, drought
Lead Agency	City of Sonoma
Mitigation Action Description	Support and encourage planning and identification of facilities for the coordination of distribution of water, food, blankets, and other supplies, coordinating this effort with the American Red Cross**.**
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SCI-16
Hazards Addressed	Earthquake, severe weather, wildfire, flooding, drought
Lead Agency	City of Sonoma
Mitigation Action Description	Develop and implement a program to capture and maintain data after significant events (e.g., high water marks, preliminary damage estimates, damage photos, etc.) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Although the need for a systematic post-incident data collection and analysis program has been recognized since the 2021 HMP, implementation has been delayed primarily due to limited staff capacity and the absence of a clearly designated lead department. Collecting and managing this type of data requires coordination across multiple departments (e.g., public works, emergency management, planning), which has presented logistical challenges. However, internal discussions are currently underway to identify a lead and explore tools or processes that could support the effort going forward.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	
If discontinue, explain why	
Project Number	SCI-17
Hazards Addressed	Earthquake, severe weather, wildfire, flooding, drought
Lead Agency	City of Sonoma
Mitigation Action Description	Acquire software and hardware, and associated training, to assist with plan reviews, permitting, inspections, and records retention to help support the identification and mitigation of structures and projects located in hazard prone areas and to quickly and efficiently aid in post-disaster recovery efforts.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Completed City has purchased OpenGov to process building permits and includes identification of hazards and historic resources for each parcel.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed.

10.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 10-25, the City identified the following mitigation efforts completed since the previous HMP:

- Formed a Climate Action Commission and Climate Action Strategies
- Launched an Online Permitting System (Action SCI-17)

- Earthquake retrofit at SVFD Station 5 (Glen Ellen)
- Removed and reconstructed Chase Street Bridge, including new water and sewer line crossings
- Completed reconstruction storm line project at 5th Street East and MacArthur
- Constructed emergency intertie between Valley of the Moon Water District system and City of Sonoma water system
- City-wide tree inventory and canopy study
- Chipper Program equipment purchase and implementation
- Prescribed fire projects at Montini Open Space Preserve, George Ranch, and Glen Ellen
- Generator repair/replacement at SVFD fire stations
- Created a community example for wildfire defensible space and Zone 0 landscaping at SVFD Station 1
- Structural and vegetation hardening completed at SVFD Station 8
- Implemented countywide incident management software (Tablet Command)
- Implemented countywide pre-incident planning mapping solution (Intterra)
- Applied for and received listing with Board of Forestry as a Fire Risk Reduction Community

Since the adoption of the County's first HMP, Sonoma has made significant mitigation progress in the following areas:

- Roadside vegetation projects
- Increased defensible space and vegetation management compliance inspections
- Increased education in wildfire prevention and mitigation strategies
- Fire District purchase of land for a new fire station facility outside city limits, increasing regional response capability
- Increased training and equipment capacity in swift water rescue

10.10.3 Proposed Hazard Mitigation Actions for the HMP Update

The City of Sonoma participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that the City would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 10-26 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 10-26. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	-	-	-	-	-	-	-	-	-	-
Drought	X	X	X	X	X	X	X	X	-	X
Earthquake	X	X	-	X	X	X	X	-	-	X
Extreme Cold	X	X	-	X	X	X	X	-	-	X
Extreme Heat	X	X	X	X	X	X	X	X	-	X
Extreme Wind	X	X	-	X	X	X	X	-	-	X
Flood	X	X	X	X	X	X	X	-	X	X
Landslide	X	X	X	X	X	X	X	X		X
Sea Level Rise	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	X	X	X	X	X	X	X	X	-	X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 10-27 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 10-27. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Repetitive Loss Structures	Low	High	5	1-5 years	8.385	High
HMP Maintenance	Low	Medium	13	1-5 years	8.001	High
Fire Safety Inspections	Low	Medium	7	1-5 years	7.539	High
Data Collection and Analysis	Low	Medium	4	1-5 years	7.308	High
Emergency Evacuation Route	Medium	High	4	1-5 years	7.308	High
Evacuation Support	Medium	High	4	1-5 years	7.308	High
Permeable Surfaces and Water Retention	Medium	High	4	1-5 years	7.308	High
Critical Infrastructure Hardening	Medium	High	2	1-5 years	7.154	High
Retrofit Thornsberry Tank	Medium	High	2	1-5 years	7.154	High
NFIP Compliance	Low	Low	8	1-5 years	6.616	Medium
Stormwater Management Improvements	Medium	Medium	8	1-5 years	6.616	Medium
Ordinance Enforcement	Low	Low	7	1-5 years	6.539	Medium
Defensible Space Program	Medium	Medium	6	1-5 years	6.462	Medium
Extreme Weather Resilience	Medium	Medium	6	1-5 years	6.462	Medium
Planning Integration	Low	Low	6	1-5 years	6.462	Medium
Tree Planting Initiative	Medium	Medium	6	1-5 years	6.462	Medium
Retrofit Bridges and Roads	High	High	5	1-5 years	6.385	Medium
Well Retrofitting	High	High	5	1-5 years	6.385	Medium
Backup Power for Critical Facilities	High	High	4	1-5 years	6.308	Medium
Backup Power for Public Facilities	High	High	4	1-5 years	6.308	Medium
EOP Annexes for Hazards	Medium	Medium	4	1-5 years	6.308	Medium
Hazard Notification System	Medium	Medium	4	1-5 years	6.308	Medium
Insulation Program	Medium	Medium	4	1-5 years	6.308	Medium
Facilities Functionality Assessment	Medium	Medium	2	1-5 years	6.154	Medium
Seismic Retrofitting Water Infrastructure	High	High	2	1-5 years	6.154	Medium
Cooling Device Rebate Program	Medium	Medium	1	1-5 years	6.077	Medium
Community Hazard Awareness	Low	Low	7	1-10 years	5.539	Medium
Historic Resource Ordinance	Medium	Low	4	1-5 years	5.308	Medium
Lawn Replacement	Medium	Low	4	1-5 years	5.308	Medium
Rain Barrels and Graywater Initiative	Medium	Low	4	1-5 years	5.308	Medium
Aquifer Storage and Recovery	High	Medium	3	1-5 years	5.231	Medium
Soft-Story Residential Structure Inventory and Retrofit Program	High	Medium	2	1-5 years	5.154	Medium
Wildfire Risk Reduction	High	Medium	7	1-10 years	4.539	Low

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-SonomaCity-01. EOP Annexes for Hazards: Extreme Heat, Extreme Cold, and Extreme Wind

Lead Agency:	City of Sonoma City Manager
Supporting Agencies:	-
Hazards of Concern:	Extreme Cold, Extreme Heat, Extreme Wind
Description of the Problem:	The City's existing Emergency Operations Plan (EOP) lacks dedicated annexes that address the growing threat of extreme heat, extreme cold, and extreme wind events, which require distinct operational strategies.
Description of the Solution:	Develop and adopt annexes to the City's Emergency Operations Plan specifically for extreme heat, extreme cold, and extreme wind hazards. These annexes will establish clear protocols for preparedness, response, sheltering, resource allocation, public information, and recovery related to these specific events. • Create a city-specific Extreme Heat Response Annex outlining activation triggers for cooling centers, vulnerable population outreach, and coordination protocols. • Develop an Extreme Cold Annex detailing warming strategies, shelter expansion, and public messaging for cold weather events. • Draft an Extreme Wind Annex to address debris management, infrastructure protection, and road closure coordination.
Estimated Cost:	Medium, Staff Time and Consultant support, if needed
Potential Funding Sources:	Local General Fund, FEMA EMPG, Cal OES planning grants
Implementation Timeline:	1-5 years
Objectives Met:	5,6,7,13
Benefits:	Reduces emergency medical incidents related to heatstroke, hypothermia, and wind-related injuries
Impact on Socially Vulnerable Populations:	Provides targeted response protocols for populations most affected by temperature and wind-related hazards—such as unhoused individuals, people over 65, residents of mobile home parks, and those without reliable heating or cooling. Enhances the City's ability to activate shelters or services early and tailor communication and outreach efforts to linguistically diverse and access and functional needs populations.
Impact on Future Development:	Supports resilient community planning by strengthening the City's emergency management framework.
Impact on Critical Facilities/Lifelines:	Improves protection and continuity planning for lifeline services (e.g., power, transportation, communication, emergency shelters) during wind and temperature extremes. Annexes can guide priority restoration strategies and backup power planning for facilities like cooling and warming centers, community centers, and public safety facilities.
Impact on Capabilities:	Significantly increases the City's emergency planning capacity by providing clear, hazard-specific guidance to staff and partner agencies. Enhances interdepartmental coordination and builds institutional knowledge, ensuring readiness for incidents that fall outside traditional fire/flood/earthquake response playbooks.
Climate Change Considerations:	Addresses the rising occurrence and intensity of extreme temperature and wind events linked to climate change.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	Medium

Action 2026-SonomaCity-02. Evacuation Support

Lead Agency:	City of Sonoma City Manager
Supporting Agencies:	Red Cross, SVUSD, County of Sonoma
Hazards of Concern:	Earthquake, Extreme Cold, Extreme Heat, Flood, Landslide
Description of the Problem:	The City may need to shelter evacuees from a variety of hazards including wildfires, floods, extreme heat or cold, earthquakes, and other emergencies, especially for vulnerable populations such as the unhoused.
Description of the Solution:	Enhance readiness of identified shelter facilities, including the City's emergency homeless shelter, to accommodate displaced residents during multi-hazard events. Improve supplies, strengthen outreach to vulnerable populations, and ensure shelter plans are adaptable to a range of emergencies. Update shelter plans; coordinate multi-jurisdictional shelter operations; provide training opportunities for staff and volunteers. (Modified from 2021 SCI-15)
Estimated Cost:	Medium
Potential Funding Sources:	ESG, CDBG, Local General Fund
Implementation Timeline:	1-5 years
Objectives Met:	5,6,13
Benefits:	Improves shelter capacity and flexibility for multi-hazard scenario
Impact on Socially Vulnerable Populations:	Directly benefits unhoused individuals, under-resourced households, and residents with access and functional needs by ensuring shelters are accessible, well-equipped, and capable of serving diverse needs. Targeted outreach and adaptive sheltering strategies help reduce the disproportionate impacts these populations face during disasters.
Impact on Future Development:	May influence site selection and capacity planning for new shelters or facilities that could be used for emergency shelter.
Impact on Critical Facilities/Lifelines:	Ensures key shelter sites remain functional during emergencies through improved backup supplies, infrastructure upgrades, and coordination protocols. Helps maintain continuity of care and basic services when lifelines such as power or transportation are disrupted.
Impact on Capabilities:	Strengthens the City's operational readiness to shelter residents in response to a variety of hazards. Enhances staff and volunteer capacity through training and drills, while aligning sheltering procedures with regional partners for better coordination during large-scale or cross-jurisdictional events.
Climate Change Considerations:	Increased frequency of extreme weather and wildfire events may increase demand for sheltering, especially for the unhoused.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project
CRS Category	Public Information, Emergency Services
Priority	High

Action 2026-SonomaCity-03. Extreme Weather Resilience: Community Cooling, Warming, and Shelter Centers

Lead Agency:	City of Sonoma City Manager
Supporting Agencies:	Sonoma County Department of Emergency Management, County Health Services, Local Government Agencies, Nonprofits
Hazard(s) of Concern:	Extreme Cold, Extreme Heat, Extreme Wind
Description of the Problem:	Extreme weather events—including heatwaves, cold snaps, and high-wind storms—are becoming more frequent and severe due to climate change. Vulnerable populations, such as people over 65, low-income residents, and individuals with medical conditions, face increased health risks. Additionally, extreme weather can cause power outages, impacting heating and cooling access, and increasing emergency medical responses. •
Description of the Solution:	Reduced health risks from extreme weather, increased public safety, enhanced emergency response capabilities: • Establish permanent and mobile climate resilience centers that function as cooling, warming, and emergency shelter spaces during extreme weather events, and emergencies. • Retrofit community centers, and libraries and other spaces with backup generators, efficient HVAC systems, and insulated spaces to provide refuge during extreme heat, cold, and wind events • Enhance a community outreach and transportation program to assist at-risk individuals in accessing climate resilience centers
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program (HMGP), State Climate Resilience Funds, Local Health & Safety Funds, USDA Community Resilience Grants
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,10,12,13
Benefits:	Protects vulnerable populations from life-threatening weather conditions, Improves community preparedness and resilience against extreme weather events, strengthens local emergency response coordination
Impact on Socially Vulnerable Populations:	High—directly benefits low-income individuals, elderly populations, and medically fragile residents
Impact on Future Development:	Encourages climate-resilient infrastructure and building standards
Impact on Critical Facilities/Lifelines:	Ensures continued operation of emergency response and public services
Impact on Capabilities:	Expands fire district and emergency management preparedness for extreme weather events
Climate Change Considerations:	Addresses increasing temperature fluctuations, extreme weather patterns, and energy reliability concerns
Mitigation Category	Structure and Infrastructure Project, Education and Awareness Program
CRS Category	Public Information, Emergency Services
Priority	Medium

Action 2026-SonomaCity-04. Backup Power for Public Facilities

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	Sonoma County, Nonprofits (currently occupying public facilities)
Hazard(s) of Concern:	Earthquake, Extreme Heat, Extreme Wind, Wildfire
Description of the Problem:	Public facilities that serve as community cooling, heating, or emergency shelters are vulnerable to power outages during multiple hazard events, limiting their effectiveness.
Description of the Solution:	Install or upgrade backup power systems at critical public facilities including the library, emergency shelter, community center, and senior center to ensure service continuity during extreme heat, extreme wind, wildfire, and earthquake events. Install generators or solar with battery storage at public shelters and cooling centers.
Estimated Cost:	High
Potential Funding Sources:	FEMA BRIC, State Resilience Grants, City Capital Improvement Funds
Implementation Timeline:	1-5 years
Objectives Met:	5,6,7,13
Benefits:	Maintains essential public services during power outages across multiple hazards.
Impact on Socially Vulnerable Populations:	Ensures continuity of safe spaces and essential services for at-risk populations—including people over 65, medically vulnerable individuals, unhoused residents, and low-income households—during power outages associated with heatwaves, cold snaps, wildfires, and other emergencies. Supports equitable access to cooling/warming centers and emergency shelter.
Impact on Future Development:	Reinforces critical facility planning.
Impact on Critical Facilities/Lifelines:	Significantly increases the resilience of key public facilities that serve as lifelines during emergencies. Backup power systems at shelters, libraries, and community centers ensure continuous access to climate-controlled environments, communications, refrigeration for medications, and charging stations during grid disruptions.
Impact on Capabilities:	Improves the City’s ability to respond effectively during multi-hazard events by keeping core facilities operational. Reduces staff strain during emergencies by enabling pre-designated sites to remain self-sufficient and reduces reliance on external generators or ad hoc solutions.
Climate Change Considerations:	Addresses the intersection of heat waves, wildfires, and grid instability.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	Medium

Action 2026-SonomaCity-05. Backup Power for Critical Facilities

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	City Manager
Hazard(s) of Concern:	Earthquake, Extreme Cold, Extreme Heat, Flood, Landslide, Wildfire
Description of the Problem:	Critical facilities and infrastructure provide essential operations for City staff and the public, but can experience power outages, limiting their effectiveness.
Description of the Solution:	Install or upgrade backup power systems at critical facilities. Purchase generators for critical facilities and infrastructure that lack adequate emergency backup power, including Sonoma City Hall complex.
Estimated Cost:	High
Potential Funding Sources:	PDM,FEMA, BRIC, State Resilience Grants, City Capital Improvement Funds
Implementation Timeline:	1-5 years
Objectives Met:	5,6,7,13
Benefits:	Maintains essential public services during power outages across multiple hazards.
Impact on Socially Vulnerable Populations:	Ensures City staff can provide uninterrupted services to the public at any time.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Ensures critical facilities and infrastructure remain functional during and after disaster events.
Impact on Capabilities:	Ensures critical facilities and infrastructure remain functional during and after disaster events.
Climate Change Considerations:	Addresses the intersection of heat waves, wildfires, and grid instability.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	Medium

Action 2026-SonomaCity-06. Insulation Program for Extreme Cold and Heat Events

Lead Agency:	City of Sonoma City Manager
Supporting Agencies:	-
Hazard(s) of Concern:	Extreme Cold, Extreme Heat
Description of the Problem:	Vulnerable populations in mobile homes and older structures are at risk during extreme cold and heat events.
Description of the Solution:	Implement a local program to insulate older or substandard housing stock. Implement pilot program to retrofit homes and mobile homes with insulation upgrades and improvements in weatherization.
Estimated Cost:	Medium
Potential Funding Sources:	LIHEAP, PG&E CARE/FERA, City Housing Funds
Implementation Timeline:	1-5 years
Objectives Met:	5,6,11,13
Benefits:	Improves home energy efficiency and reduces cold-related health risks.
Impact on Socially Vulnerable Populations:	Improves health and safety for low-income households, people over 65, and residents of mobile homes—many of whom lack sufficient insulation to remain safe during extreme heat or cold. Reduces energy costs and mitigates temperature-related health risks, especially for those with limited mobility or chronic conditions.
Impact on Future Development:	Supports building code updates for thermal efficiency.
Impact on Critical Facilities/Lifelines:	Reduces strain on public heating and cooling centers and the electrical grid during peak demand periods. Contributes to citywide energy efficiency and resilience by improving residential infrastructure.
Impact on Capabilities:	Adds a long-term mitigation layer by addressing the root cause of exposure—poor housing insulation. Reduces reliance on temporary emergency response measures like sheltering or cooling/warming centers, freeing up city capacity for more severe events.
Climate Change Considerations:	Extreme cold and heat events are increasing in our region which has been relatively temperate in past decades.
Mitigation Category	Structure and Infrastructure Project, Education and Awareness Program
CRS Category	Public Information, Preventative Measures
Priority	Medium

Action 2026-SonomaCity-07. Cooling Device Rebate Program for Extreme Heat

Lead Agency:	City of Sonoma Community Development
Supporting Agencies:	County of Sonoma, Homeless Service Providers
Hazard(s) of Concern:	Extreme Heat
Description of the Problem:	Vulnerable populations may not have access to cooling devices during extreme heat events. Those who are homebound or without transportation may be put at risk attempting to access cooling centers or other public areas.
Description of the Solution:	Provide grants or rental subsidies for personal cooling devices or portable A/C units. Implement rebate program for portable cooling units for at-risk populations.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMA, PG&E Resiliency Program
Implementation Timeline:	1-5 years
Objectives Met:	13
Benefits:	Reduces risk of heat-related illness.
Impact on Socially Vulnerable Populations:	Provides life-saving relief to people over 65, individuals with disabilities, and low-income residents who may be homebound, medically fragile, or without access to air conditioning. Reduces reliance on transportation to cooling centers, improving safety for those who would otherwise face heat exposure risks while trying to reach public facilities.
Impact on Future Development:	Supports equity by focusing on vulnerable populations.
Impact on Critical Facilities/Lifelines:	Lowers the burden on community cooling centers and emergency shelters during heat events. Distributes cooling capacity across households, contributing to decentralized resilience.
Impact on Capabilities:	Enhances the City’s ability to manage extreme heat events by empowering residents to shelter in place. Complements existing emergency response efforts and reduces the strain on limited facility space and staff resources.
Climate Change Considerations:	Directly addresses the projected increase in heat waves.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SonomaCity-08. Community Hazard Awareness & Preparedness Education Program

Lead Agency:	SVFD
Supporting Agencies:	City of Sonoma, Sonoma County EM, Local Schools, Community Organizations, Media Outlets
Hazard(s) of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Many residents are unaware of the full scope of hazards that pose a risk to the Sonoma Valley community, as well as the necessary preparedness and response measures. Without proper education, individuals may not take proactive steps to reduce their risks, leading to increased damage and potential loss of life during disasters. Vulnerable populations, such as people over 65, low-income families, and non-English-speaking communities, may face additional barriers to accessing life-saving information.
Description of the Solution:	To enhance community preparedness and resilience, a multi-hazard public education and outreach program will be implemented, focusing on wildfire preparedness, earthquake safety, flood protection, and extreme weather resilience. This initiative will include community workshops and training sessions to educate residence. This initiative will include community workshops and training sessions to educate residents on best practices for hazard mitigation and emergency response. A "Know Your Risk" campaign will be launched, utilizing both digital and printed materials to inform the public about local hazards and effective mitigation actions. To ensure accessibility, evacuation preparedness guides will be distributed in multiple languages, reaching diverse populations. Additionally, annual preparedness fairs will be organized, featuring interactive demonstrations, emergency kit giveaways, and opportunities for residents to engage directly with first responders. To build long-term awareness, partnerships with local schools will integrate hazard education into curriculum-based learning, fostering a culture of preparedness among students. The program will also leverage social media and text alert systems to provide real-time hazard warnings and practical safety tips. Recognizing the importance of inclusive outreach, collaborations with faith-based and community groups will ensure that information reaches all demographics, including vulnerable populations. Through these comprehensive efforts, the program will equip residents with the knowledge and resources necessary to respond effectively to a range of hazards.
Estimated Cost:	Low to Medium
Potential Funding Sources:	City of Sonoma, FEMA HMGP, Community Resilience Grants, Private Sector Sponsorships, Nonprofit and community-based organizations
Implementation Timeline:	1-5 years
Objectives Met:	2,4,5,6,10,12,13

Benefits:	Increased public awareness, improved emergency preparedness, greater community resilience, Reduces loss of life and property damage by ensuring residents understand risks and take proactive steps; Engages historically underserved communities with accessible, multilingual resources; Strengthens partnerships between emergency services and the public; Supports local businesses and organizations in developing their own preparedness plans
Impact on Socially Vulnerable Populations:	High—ensures outreach to non-English speakers, elderly populations, and low-income communities
Impact on Future Development:	Creates a culture of preparedness in the community
Impact on Critical Facilities/Lifelines:	Helps businesses, schools, and essential services plan for hazard events
Impact on Capabilities:	Enhances emergency response effectiveness through community participation
Climate Change Considerations:	Addresses increasing hazard severity and frequency due to climate change
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SonomaCity-09. Wildfire Risk Reduction

Lead Agency:	City of Sonoma Fire
Supporting Agencies:	SVFD, County of Sonoma, CALFIRE, Sonoma Ecology Center
Hazard(s) of Concern:	Landslide, Wildfire
Description of the Problem:	Public lands near residential areas face increasing wildfire threats and are located within Very High Fire Hazard Severity Zones. This is also a good location for fire breaks, as it buffers the downtown area from wildland areas.
Description of the Solution:	Expand fuel management and vegetation clearing on the Sonoma Overlook Trail, Mountain Cemetery, and Montini Ranch Preserve. Conduct mechanical thinning, prescribed burns, and defensible space improvements. Establish special funding mechanisms (such as Fire Hazard Abatement Districts or regional bond funding) to fund reduction in fire risk of existing properties through vegetation management that includes reduction of fuel loads, use of defensible space, and fuel breaks. (Modified 2021 SCI-10)
Estimated Cost:	Medium to High
Potential Funding Sources:	Measure H Tax assessment, FEMA HMGP, CAL FIRE Fire Prevention Grants
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,8,9,13
Benefits:	Reduces wildfire risk and protects public lands and adjacent neighborhoods.
Impact on Socially Vulnerable Populations:	Provides protection for vulnerable communities in fire-prone areas
Impact on Future Development:	Supports public land stewardship and fire-adapted community strategies.
Impact on Critical Facilities/Lifelines:	Protects hospital, fire stations, local government resources including utility infrastructure, evacuation routes, local economy
Impact on Capabilities:	Strengthens regional wildfire response and preparedness
Climate Change Considerations:	Addresses increased wildfire risk due to hotter, drier conditions.
Mitigation Category	Natural Systems Protection
CRS Category	Preventative Measures, Natural Resource Protection
Priority	High

Action 2026-SonomaCity-10. Defensible Space Program

fLead Agency:	SVFC
Supporting Agencies:	City of Sonoma, County of Sonoma
Hazard(s) of Concern:	Landslide, Wildfire
Description of the Problem:	Some homeowners lack resources or capacity to meet defensible space requirements and may unintentionally create new hazards such as erosion or landslide risk by removing vegetation indiscriminately. Inappropriate vegetation removal can also disrupt local ecosystems and reduce biodiversity, soil stability, and long-term ecological health.
Description of the Solution:	Provide technical assistance and financial support to residents for defensible space improvements while ensuring guidance includes best practices that account for local ecology and soil stability to prevent unintended impacts like landslides and minimize ecological disruption. Offer site-specific defensible space consultations; create guidelines for wildfire mitigation that account for erosion control, slope stability, and the preservation of native vegetation.
Estimated Cost:	Medium
Potential Funding Sources:	CalFire Fire Prevention Grants, City General Fund, private partnerships
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,8,9,13
Benefits:	Improves home and neighborhood safety from wildfire, while preserving slope stability.
Impact on Socially Vulnerable Populations:	Supports low-income homeowners, people over 65, and others with limited physical or financial ability to perform defensible space work. Helps reduce fire risk in neighborhoods where compliance may be lower due to resource constraints, increasing overall community safety.
Impact on Future Development:	Encourages responsible defensible space and erosion control practices.
Impact on Critical Facilities/Lifelines:	Reduces wildfire risk near infrastructure corridors, utilities, and evacuation routes by promoting consistent vegetation management. Helps protect areas that, if compromised, could limit emergency access or disrupt services.
Impact on Capabilities:	Improves the City’s mitigation reach by offering hands-on assistance and education, reducing enforcement burden. Promotes responsible vegetation management that aligns fire mitigation with erosion and landslide risk reduction, enhancing both safety and environmental resilience.
Climate Change Considerations:	Balances wildfire mitigation with erosion and landslide risk under changing climate conditions. As hotter, drier conditions increase wildfire frequency, and more intense storms increase erosion potential, the action supports dual resilience goals through ecologically sensitive defensible space practices.
Mitigation Category	Natural Systems Protection. Emergency Action Plan
CRS Category	Public Information, Preventative Measures
Priority	Medium

Action 2026-SonomaCity-11. Critical Infrastructure Hardening

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	SCWA
Hazard(s) of Concern:	Wildfire
Description of the Problem:	Some of the City's critical infrastructure is in high fire zones, infrastructure hardening will be required to make this infrastructure resistant to fires.
Description of the Solution:	Install backup generator automatic transfer switch, steel roofs, etc. Conduct defensible space and fire hardening assessments of city critical infrastructure, ensure buildings, infrastructure, personnel, and equipment is serviceable during and post wildfire events.
Estimated Cost:	Medium
Potential Funding Sources:	PDM, HMGP, City General Funds
Implementation Timeline:	1-5 years
Objectives Met:	3,6
Benefits:	Allows for reduced risk for infrastructure loss due to fire and for continued operations of critical infrastructure during fire.
Impact on Socially Vulnerable Populations:	The ability for continued operations during a fire helps all residents.
Impact on Future Development:	Reducing hazards to existing development precludes need for future development
Impact on Critical Facilities/Lifelines:	Allows for continuance of critical services in the event of a wildfire.
Impact on Capabilities:	Ensures critical facilities and infrastructure remain functional during and after disaster events.
Climate Change Considerations:	Addresses increased risk of fire damage due to fire risk frequency and severity increases due to climate change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	High

Action 2026-SonomaCity-12. Emergency Evacuation Route

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	CALFIRE, Sonoma County Roads/Public Works, Public Utilities, Law Enforcement Partners
Hazard(s) of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Evacuation routes in high-risk wildfire zones are vulnerable to road obstructions, downed power lines, and congestion. Many routes lack proper fire-resistant buffers, increasing the risk of road closures during a major disaster event.
Description of the Solution:	Widening and structurally hardening evacuation corridors to ensure smooth traffic flow in emergency events. Widen and clear key evacuation corridors to improve traffic flow, underground power lines along major evacuation routes to reduce fire risks, install fire-resistant road barriers and safety signage.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA PDM, Federal Highway Administration Grants, State Fire Prevention Funds
Implementation Timeline:	1-5 years
Objectives Met:	1,2,5,6
Benefits:	Safer evacuations, reduced fire spread, improved emergency access, reduced road closures, improved emergency response
Impact on Socially Vulnerable Populations:	High—ensures all residents have access to safe evacuation route
Impact on Future Development:	Underscores the needs for current road design standards and community planning.
Impact on Critical Facilities/Lifelines:	Keeps emergency responders and supply chains moving during disasters
Impact on Capabilities:	Enhances fire district coordination with law enforcement for evacuations
Climate Change Considerations:	Addresses increased wildfire severity due to warming climate
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	High

Action 2026-SonomaCity-13. Seismic Retrofitting Water Infrastructure

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	-
Hazard(s) of Concern:	Earthquake
Description of the Problem:	Seismic retrofit of critical water infrastructure to ensure flow and delivery of potable water to connections
Description of the Solution:	Add seismic retrofits at bridges and known seismic hazard areas. Add redundant loops system isolation valves. Conduct seismic hardening assessments of critical water infrastructure, ensure apparatus personnel and equipment is serviceable during and post seismic events, install gas shutoff valves as needed.
Estimated Cost:	High
Potential Funding Sources:	City general fund, FEMA.
Implementation Timeline:	1-5 years
Objectives Met:	3,13
Benefits:	Lower risk of potential loss of critical water infrastructure in the event of an earthquake. Be able to provide continued potable water access during the event of an earthquake. Potential reduced costs opting for seismic retrofitting opposed to water infrastructure replacement if it were to be significantly damaged in the event of an earthquake.
Impact on Socially Vulnerable Populations:	Helps reduce risk of potential loss of water flow of potable water in the event of an earthquake.
Impact on Future Development:	Positive impact on future development with the intention of strengthening critical water infrastructure that can withstand the event of an earthquake in order to provide continued potable water flow.
Impact on Critical Facilities/Lifelines:	Reduces risk of major damage to critical facilities, reduces significant cost from future damage
Impact on Capabilities:	Ensures critical water infrastructure remains functioning during disasters and available for response and recovery capabilities
Climate Change Considerations:	Potentially reduces risk of loss of potable water by securing water infrastructure to withstand the event of an earthquake, during a time when the state is in a water shortage exacerbated by climate change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	Medium

Action 2026-SonomaCity-14. Repetitive Loss Structures

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	Fire Department
Hazard(s) of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	Structures located below flood elevations and structures unnecessarily located in high fire hazard areas.
Description of the Solution:	Relocate or elevate structures flood elevations and relocated structures or facilities or components thereof to lower fire hazard areas. Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas. (2021 SCI-1)
Estimated Cost:	Low
Potential Funding Sources:	HMGP, PDM, FMA
Implementation Timeline:	1-5 years
Objectives Met:	1,3,4,10,11
Benefits:	Eliminates potential of hazardous structures from exacerbating dangerous conditions during disasters.
Impact on Socially Vulnerable Populations:	Reduces risk of structures in hazard prone areas from causing additional damage to critical water sources, or evacuation routes.
Impact on Future Development:	Mitigates impacts of structures located in high hazard zones from impacting nearby zones with potential future development opportunities.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Shifting water levels and increased fire risk due to changing climate have shifted which properties are located in high risk zones and should be continually evaluated for overall community safety.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	High

Action 2026-SonomaCity-15. Retrofit Bridges and Roads

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	-
Hazard(s) of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	The City bridge inventory is currently being assessed to determine if the current number of bridges that are inspected by Caltrans every 2 years is adequate or should include more bridges. All City owned vehicular and/or pedestrian bridges need to be assessed for seismic and scour vulnerabilities.
Description of the Solution:	The City is working with Caltrans on a seismic screening of the following bridges: MacArthur over Nathanson Creek, 4th Street East Bridge over Nathanson Creek, France Street Bridge over Nathanson Creek, 2nd Street Bridge over Nathanson creek. Expedite the funding and retrofit of seismic and/or hydrologic deficient city-owned bridges and road structures by working with Caltrans and other appropriate governmental agencies.
Estimated Cost:	High
Potential Funding Sources:	Federal Highway Bridge Program (through Caltrans), Staff Time, General Funds
Implementation Timeline:	1-5 years
Objectives Met:	3,4,10,11,13
Benefits:	Ensures transportation routes remain functioning during disasters. Reduces significant potential replacement costs.
Impact on Socially Vulnerable Populations:	Ensures transportation routes utilized by socially vulnerable populations are structurally sound and built to withstand disaster events.
Impact on Future Development:	Strengthens bridge and roadway infrastructure to enable traffic flow throughout the City.
Impact on Critical Facilities/Lifelines:	Ensures transportation corridors remain functioning, and residents are able to evacuate and/or move freely to/from critical facilities before or during an event.
Impact on Capabilities:	Supports transportation capabilities of all City operations.
Climate Change Considerations:	Changing water levels, fire risk, and climate-related hazards require continuous analysis of structural integrity of bridges.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SonomaCity-16. Stormwater Management Improvements

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	Sonoma Water, Sonoma County Public Works, Sonoma County Emergency Management
Hazard(s) of Concern:	Flooding
Description of the Problem:	Heavy rainfall events are overwhelming existing drainage systems, leading to road closures, potential property damage, and limited access for emergency vehicles. Certain areas within the City of Sonoma are prone to this and a variety of issues arise including the need for significant emergency response.
Description of the Solution:	Improved drainage, reduced flood risk, enhanced emergency response. Target hazard areas historically known to flood and work with internal and external stakeholders and property owners to improve infrastructure to mitigate frequency of events. Assess repetitive flood hazard areas, complete video inspection of existing storm drains to accomplish condition assessment. Complete modifications as identified.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA FMA, State Water Resources Control Board Grants
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,6,9,10,12,13
Benefits:	Less property damage, safer roads, faster response times, decrease in calls for service
Impact on Socially Vulnerable Populations:	Reduces risk in low-income flood-prone areas.
Impact on Future Development:	May require zoning adjustments.
Impact on Critical Facilities/Lifelines:	Prevents flooding in neighborhoods, around critical facilities, and across evacuation routes
Impact on Capabilities:	Strengthens local flood control capabilities and emergency response times.
Climate Change Considerations:	Prepares for more frequent heavy rainfall events.
Mitigation Category	Structure and Infrastructure Project, Natural Resource Protection
CRS Category	Preventative Measures, Structural Flood Control Projects
Priority	Medium

Action 2026-SonomaCity-17. Ordinance Enforcement

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	Other Sonoma County Agencies
Hazard(s) of Concern:	Flood, Landslide
Description of the Problem:	Watercourses must be maintained to remain free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices. Multi-jurisdictional effort will be required to meet this goal. Many of these watercourses are on private property.
Description of the Solution:	Hold multi-jurisdictional event whose goal is to define current issues with maintaining watercourses that will lead to fewer obstructions in critical drainage facilities. Enforce provisions under creek protection, stormwater management, and discharge control ordinances designed to keep watercourses free of obstructions and to protect drainage facilities to conform with the Regional Water Quality Control Board's Best Management Practices.
Estimated Cost:	Low
Potential Funding Sources:	HMGP, PDM, FMA, FSR, County Zone 3A, Staff Time, General Funds
Implementation Timeline:	1-5 years
Objectives Met:	1,2,6,8,10,11,13
Benefits:	Conformance with Regional Water Quality Control Board bmps. Reduce risk of flooding due to clogged drainage.
Impact on Socially Vulnerable Populations:	Reduces risk in low-income flood-prone areas.
Impact on Future Development:	Future development subject to the enforced applicable creek protection and stormwater management provisions during design and constructions phases.
Impact on Critical Facilities/Lifelines:	Prevents flooding in neighborhoods, around critical facilities, and across evacuation routes.
Impact on Capabilities:	Strengthens local flood control capabilities and emergency response times.
Climate Change Considerations:	Reduce risk of potential during extreme wet weather events exacerbated by climate change.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	Medium

Action 2026-SonomaCity-18. Aquifer Storage and Recovery

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	SCWA, GSA
Hazard(s) of Concern:	Drought, Wildfire
Description of the Problem:	The City is experiences aquifer depletion and reduced local production capacity (independent of Sonoma Water/wholesale aqueduct).
Description of the Solution:	Utilize 2017 ASR feasibility study to determine and prioritize potential projects for ASR groundwater banking. Recharge depleted aquifer with potable water during wet season for recovery during dry season.
Estimated Cost:	High
Potential Funding Sources:	City General Fund, FEMA HMA
Implementation Timeline:	1-5 years
Objectives Met:	2,6,10
Benefits:	Recovery of potable water when it is plentiful results in increased aquifer yields.
Impact on Socially Vulnerable Populations:	Potentially provides additional groundwater during drought conditions.
Impact on Future Development:	Potential positive impacts on development from increased water supply.
Impact on Critical Facilities/Lifelines:	Potentially increases lifespan of water production wells.
Impact on Capabilities:	Strengthens regional water management.
Climate Change Considerations:	Proactive planning as groundwater levels continue to change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SonomaCity-19. Well Retrofitting

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	SCWA
Hazard(s) of Concern:	Drought, Earthquake, Wildfire
Description of the Problem:	The City's wells are aging and with changing hazard risks there is a need for thorough assessment.
Description of the Solution:	Complete mitigatory well rehabilitation projects including drilling, casing, seals, motors, site controls, backup power, alternative and redundant treatment methods. Assess water storage capacities and vulnerabilities related to seismic, wildfire, and drought needs. Provide rehabilitation and permanent back up power at well facilities as needed.
Estimated Cost:	High
Potential Funding Sources:	City General Fund, FEMA HMA
Implementation Timeline:	1-5 years
Objectives Met:	3,6,10,12,13
Benefits:	Recovery or production well rehabilitation retains current capacity and can potentially increase storage abilities.
Impact on Socially Vulnerable Populations:	Potentially provides additional groundwater during drought conditions.
Impact on Future Development:	Potential positive impacts on development from increased water supply.
Impact on Critical Facilities/Lifelines:	Increases lifespan of water production wells.
Impact on Capabilities:	Strengthens regional water management and reduces costs from future damage.
Climate Change Considerations:	Proactive planning for groundwater storage as water levels change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	Medium

Action 2026-SonomaCity-20. Retrofit Thornsberry Tank

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	-
Hazard(s) of Concern:	Landslide
Description of the Problem:	If land movement severs line to Thornsberry Tank, likely severe damage to hillside and water outage to residents in Zone 2 (which is in a high fire hazard area).
Description of the Solution:	Complete mitigatory retrofitting repairs including supply line redundancies and emergency interconnects, upgrades to flexible joints and other items that ensure structural integrity and flexibility to account for land movements. Provide alternative or redundant supply lines, and emergency interconnects to decrease Thornsberry Tank supply main landslide hazard, and/or retrofit with flexible joints or restraints to protect line in event of landslide. Add VFD pump controls at Thornsberry Pump Station.
Estimated Cost:	Medium
Potential Funding Sources:	Water Enterprise Fund, FEMA HMA
Implementation Timeline:	1-5 years
Objectives Met:	3,13
Benefits:	Reduces the risk of a loss of a water source and reduces risk of significant damage resulting from loss of tank and infrastructure.
Impact on Socially Vulnerable Populations:	Provides additional reliability for existing drinking water supply
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Reduces risk of catastrophic landslide damage.
Climate Change Considerations:	Accounts for changing risk of landslide and/or earth movement.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	High

Action 2026-SonomaCity-21. Facilities Functionality Assessment

Lead Agency:	City of Sonoma Building Division
Supporting Agencies:	Division of Emergency Preparedness
Hazard(s) of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	City facilities currently have functional vulnerabilities that could lead to loss of staff capabilities in the event of a large scale disaster, power outage, etc.
Description of the Solution:	Complete a facilities assessment to identify vulnerabilities and prioritize projects that will ensure City capabilities remain uninterrupted during events. Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major natural disasters. Such contents and equipment includes computers and servers, phones, files, and other tools used by staff to conduct daily business. Upgrade to remote facility access via key cards with one-time remote authorizations, upgrade phone and internet network infrastructure and backups to ensure continuity during high system traffic or downed services.
Estimated Cost:	Medium
Potential Funding Sources:	City General Fund, HMGP, PDM, FMA
Implementation Timeline:	1-5 years
Objectives Met:	5,6
Benefits:	Increases ability to maintain facility operations, maintain contact to orchestrate necessary tasks, and access resources during a hazardous event. Reduces the risk of injury to a city worker who may otherwise have to encounter hazards to access a facility.
Impact on Socially Vulnerable Populations:	Ensures City's ability to provide notifications, resources, and services to socially vulnerable populations at all times.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Ensures functionality of all City buildings including those serving as critical lifelines.
Impact on Capabilities:	Increases ability to maintain facility operations, maintain contact to orchestrate necessary tasks, and access resources during a hazardous event.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	Medium

Action 2026-SonomaCity-22. Planning Integration

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	-
Hazard(s) of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Flood, Landslide, Wildfire
Description of the Problem:	Various planning documents and codes lack overall cohesion.
Description of the Solution:	Integrate items included in this Annex into other City plans, codes, and action plans. Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the City's General Plan, Development Code, Urban Water Management Plan, Risk and Resilience Assessment and Emergency Response Plan, Sonoma Water's Water Supply Strategies Action Plan, Greenhouse Gas Emissions Reduction Action Plan, Climate Action Plan, Capital Improvement Program and Flood Damage Prevention Regulations.
Estimated Cost:	Low
Potential Funding Sources:	City General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,6,9,12
Benefits:	Ensures continuity of government, improves overall understanding of planning priorities and objectives, and increases likelihood of successful implementation of actions.
Impact on Socially Vulnerable Populations:	Better City government functioning improves lives of all residents.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Ensures a well-functioning City government that can oversee all critical functions.
Impact on Capabilities:	Addresses capability challenges ahead of time and mitigates risk of interruption.
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	Medium

Action 2026-SonomaCity-23. NFIP Compliance

Lead Agency:	City of Sonoma Community Development
Supporting Agencies:	-
Hazard(s) of Concern:	Flood, Landslide
Description of the Problem:	Residential structures located within the 100 year flood plain.
Description of the Solution:	As these homes are modified or mobile homes replaced, staff need to follow NFIP to limit impacts from future flooding. Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: *Enforce the flood damage prevention ordinance. * Participate in floodplain identification and mapping updates. * Provide public assistance/information on floodplain requirements and impacts.
Estimated Cost:	Low
Potential Funding Sources:	FEMA HMA, General Funds, Staff Time
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,8,10,11,12,13
Benefits:	Limits impacts from flooding.
Impact on Socially Vulnerable Populations:	Will protect many of our mobile homes that house people over 65 and lower income residents in our community which have limited resources.
Impact on Future Development:	Future development must account for and mitigate risk of changing flood maps.
Impact on Critical Facilities/Lifelines:	Ensures mitigatory steps are taken to provide consistent access to lifelines.
Impact on Capabilities:	Mitigating risk ensures City operates at full capability at all times.
Climate Change Considerations:	Accounts for changing risk of flood in the City.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Projects, Education and Awareness Programs
CRS Category	Public Information, Preventative Measures
Priority	Medium

Action 2026-SonomaCity-24. Historic Resource Ordinance

Lead Agency:	City of Sonoma City Manager
Supporting Agencies:	Building Division
Hazard(s) of Concern:	Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	Historic resources are an economic and cultural value to the City and when damaged the City does not want them demolished but rather repaired.
Description of the Solution:	Develop an ordinance and process to follow for effected historic resources in the City. Establish preservation-sensitive measures for the repair and re-occupancy of historically significant privately owned structures, including requirements for temporary shoring or stabilization where needed, arrangements for consulting with preservationists, and expedited permit procedures for suitable repair or rebuilding of historically or architecturally valuable structures. Engage consulting services as needed to support activities related to building codes.
Estimated Cost:	Medium
Potential Funding Sources:	HMGP, PDM, Staff Time, General Funds
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,12
Benefits:	Creates guidance and streamlines process for impacted historic resources to be put back into service.
Impact on Socially Vulnerable Populations:	Will include historically significant buildings in underserved communities will be preserved.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Accounts for changing hazard risks in the City.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	Medium

Action 2026-SonomaCity-25. Fire Safety Inspections

Lead Agency:	City of Sonoma Building Division
Supporting Agencies:	Fire Deparment
Hazard(s) of Concern:	Earthquake, Wildfire
Description of the Problem:	Existing multifamily buildings are not built to current fire code requirements.
Description of the Solution:	Periodic inspections ensure the smoke detectors, fire, sprinklers, etc. are in working order. Conduct periodic fire-safety inspections of all multifamily buildings, as required by State law.
Estimated Cost:	Low
Potential Funding Sources:	City General Fund
Implementation Timeline:	1-5 years
Objectives Met:	2,3,4,8,11,12,13
Benefits:	Ensures safety of housing.
Impact on Socially Vulnerable Populations:	Provides homeowners in underserved communities peace of mind regarding the safety of their housing.
Impact on Future Development:	Creates a culture of fire preparedness among housing developers and multifamily housing unit owners.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Decreases risk of multifamily units causing or exacerbating the scale of future wildfires.
Climate Change Considerations:	Accounts for changing locations have high fire risk.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Preventative Measures, Emergency Services
Priority	High

Action 2026-SonomaCity-26. HMP Maintenance

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	-
Hazard(s) of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Changing risks require continuous evaluation and mitigation efforts.
Description of the Solution:	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
Estimated Cost:	Low
Potential Funding Sources:	City General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,5,6,7,8,9,10,11,12,13
Benefits:	Improves City capabilities to respond to and recover from disasters.
Impact on Socially Vulnerable Populations:	Positively impacts all residents through reduced disaster risk and improved City planning and response.
Impact on Future Development:	Improved mitigation strategies provide bedrock for responsible future development.
Impact on Critical Facilities/Lifelines:	Positive impact on critical facilities and lifelines through assessment of and improvements to City buildings, infrastructure, and functionality.
Impact on Capabilities:	Mitigating risk ensures City operates at full capability at all times.
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulation
CRS Category	Public Information
Priority	High

Action 2026-SonomaCity-27. Data Collection and Analysis

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	-
Hazard(s) of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Details that document significant events (e.g., high water marks, preliminary damage estimates, damage photos, etc.) need to be captured to support future mitigation efforts.
Description of the Solution:	Implement a plan that facilitates the documentation of significant events. Develop and implement a program to capture and maintain data after significant events —including flooding, earthquakes, wildfire, high wind events, and periods of extreme heat or cold. This may include high water marks, damage photos, debris mapping, utility disruption reports, heat-related health impacts, and preliminary damage estimates. The data collected will support post-incident evaluations and guide future mitigation efforts, updates to the Emergency Operations Plan, and the maintenance of the Hazard Mitigation Plan.
Estimated Cost:	Low
Potential Funding Sources:	City General Fund
Implementation Timeline:	1-5 years
Objectives Met:	6,8,10,13
Benefits:	Improves understanding of risk and ways to mitigate those risks. Improves response and recovery planning.
Impact on Socially Vulnerable Populations:	Understanding risk specifically in areas where socially vulnerable populations reside, travel, and access services ensures consideration in planning processes.
Impact on Future Development:	Documenting high water marks, damage photos, and utility disruptions after significant events enables planners and developers to make informed decisions that reduce future risk and guide resilient infrastructure design.
Impact on Critical Facilities/Lifelines:	Continuous documentation of events ensures understanding of changes to risk level at critical facilities and lifelines.
Impact on Capabilities:	Ensures continuity of capability levels through risk assessment and mitigation.
Climate Change Considerations:	As climate change drives more frequent, severe, and unpredictable hazard events—such as extreme heat waves, intense storms, high wind events, and shifting flood patterns—systematic data collection becomes essential for understanding evolving risks. This action helps the City adapt by capturing localized impacts and trends over time, enabling more responsive and forward-looking mitigation strategies.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures, Emergency Services
Priority	High

Action 2026-SonomaCity-28. Hazard Notification System

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	County PIO, Sonoma Sheriff
Hazard(s) of Concern:	Earthquake, Extreme Wind, Flood, Landslide
Description of the Problem:	Limited local notification capabilities result in vehicles and residents entering dangerous areas during floods, landslides, downed trees or power lines from extreme wind events, and post-earthquake disruptions.
Description of the Solution:	Develop a comprehensive road closure and hazard notification system to inform the public in real-time about road conditions and closures. Partner with navigation platforms and disseminate alerts via text messages, apps, and local communication channels. Develop an app or SMS-based alert system outside of the Nixle Alert system; partner with navigation providers to flag hazardous road segments.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMGP, Cal OES Grants, City General Fund
Implementation Timeline:	1-5 years
Objectives Met:	5,8,10,13
Benefits:	Reduces exposure to hazardous road conditions during multiple types of emergencies.
Impact on Socially Vulnerable Populations:	Improves access to timely, easy-to-understand hazard information for residents who may not use traditional emergency alert systems or social media. Helps protect unhoused individuals, non-English speakers, and those with limited mobility from unintentionally entering dangerous areas during emergencies.
Impact on Future Development:	Improves transportation safety planning and public alert systems.
Impact on Critical Facilities/Lifelines:	Supports the protection and effective use of transportation corridors, emergency access routes, and utility response routes during multi-hazard events. Helps reduce risk to lifeline infrastructure from secondary impacts such as traffic accidents in hazard zones.
Impact on Capabilities:	Expands the City’s communication toolkit beyond traditional emergency systems (like Nixle or IPAWS). Improves the timeliness and specificity of public safety messaging and enhances coordination with public works and emergency response teams to manage dynamic hazard conditions.
Climate Change Considerations:	Addresses more frequent and severe storm events increasing road hazards.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Public Information, Emergency Services
Priority	Medium

Action 2026-SonomaCity-29. Rain Barrels and Graywater Systems

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	Sonoma Ecology Center, Sonoma-Marin Water Saving Partnership, Sonoma Water
Hazard(s) of Concern:	Drought
Description of the Problem:	Limited adoption of rainwater and graywater systems hinders water conservation efforts.
Description of the Solution:	Provide incentives or subsidies for the installation of rain barrels and graywater systems for residential and commercial properties. Implement program to provide rebates for rain barrels and graywater systems; provide installation workshops.
Estimated Cost:	Medium
Potential Funding Sources:	State water conservation grants, City rebate programs
Implementation Timeline:	1-5 years
Objectives Met:	1,4,9,13
Benefits:	Increases water conservation and reduces demand on municipal water supplies.
Impact on Socially Vulnerable Populations:	Reduces water costs for households with limited income by promoting water reuse and conservation. Workshops and rebates make these systems more accessible to residents who might otherwise be unable to afford or install them.
Impact on Future Development:	Encourages residential water conservation retrofits.
Impact on Critical Facilities/Lifelines:	Reduces pressure on the municipal water system during drought conditions and supports sustainable water use across neighborhoods, including near critical infrastructure.
Impact on Capabilities:	Builds community-level resilience to drought by decentralizing water conservation efforts. Enhances public awareness and supports broader sustainability education initiatives.
Climate Change Considerations:	Prepares community for drier conditions.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SonomaCity-30. Permeable Surfaces and Water Retention

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	-
Hazard(s) of Concern:	Drought, Flood
Description of the Problem:	Impervious surfaces reduce groundwater recharge and exacerbate drought and flood risks.
Description of the Solution:	Increase the use of permeable surfaces and install water retention features in public landscaping and infrastructure. Install permeable pavement in public spaces; amend ordinances to incentivize permeable landscaping.
Estimated Cost:	Medium
Potential Funding Sources:	Stormwater utility fees, grants, City General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1,4,9,13
Benefits:	Reduces runoff, mitigates flood risk, improves groundwater recharge.
Impact on Socially Vulnerable Populations:	Improves stormwater management and reduces localized flooding in areas where drainage infrastructure may be outdated or under-resourced, which often includes underserved neighborhoods.
Impact on Future Development:	Promotes low-impact development (LID) principles.
Impact on Critical Facilities/Lifelines:	Improves stormwater system performance near roads, utility corridors, and public buildings, reducing the likelihood of infrastructure disruption during heavy rain events.
Impact on Capabilities:	Supports climate adaptation through low-impact development strategies. Enhances planning and public works departments' ability to meet environmental and flood mitigation goals.
Climate Change Considerations:	Helps address higher storm intensities and prolonged droughts.
Mitigation Category	Local Plans and Regulations, Natural Systems Protection
CRS Category	Preventative Measures
Priority	High

Action 2026-SonomaCity-31. Lawn Replacement

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	SVFD, Sonoma Ecology Center, Sonoma-Marin Water Saving Partnership, Sonoma Water
Hazard(s) of Concern:	Drought, Wildfire
Description of the Problem:	Traditional landscaping contributes to excessive water use and wildfire risk.
Description of the Solution:	Create and promote a lawn replacement program emphasizing drought-tolerant and Firewise landscaping. Continue city-funded rebate program for lawn conversion; promote Firewise landscaping workshops.
Estimated Cost:	Medium
Potential Funding Sources:	CalFire Fire Prevention Grants, City water conservation programs
Implementation Timeline:	1-5 years
Objectives Met:	1,4,9,13
Benefits:	Reduces water use and wildfire vulnerability.
Impact on Socially Vulnerable Populations:	Provides access to drought-tolerant and fire-adapted landscaping options for homeowners who may not have the resources to convert traditional lawns without support. Reduces both wildfire and water cost burdens.
Impact on Future Development:	Encourages sustainable and fire-adapted landscaping.
Impact on Critical Facilities/Lifelines:	Minimizes risk of fire spread around public buildings and in neighborhoods close to critical infrastructure. Can be integrated into landscaping for city facilities and open spaces.
Impact on Capabilities:	Promotes community-wide resilience to drought and fire. Supports code enforcement and sustainability teams through education and incentives rather than mandates.
Climate Change Considerations:	Supports resilience to prolonged drought and wildfire conditions.
Mitigation Category	Education and Awareness Program, Natural Systems Protection
CRS Category	Public Information
Priority	Medium

Action 2026-SonomaCity-32. Tree Planting Initiative

Lead Agency:	City of Sonoma Public Works
Supporting Agencies:	Nonprofit organizations such as Sonoma Ecology Center
Hazard(s) of Concern:	Drought, Extreme Heat, Landslide
Description of the Problem:	Areas of the city lack adequate tree canopy coverage, which exacerbates extreme heat impacts and increases erosion risk.
Description of the Solution:	Implement a citywide tree planting initiative with a focus on underserved neighborhoods. Integrate tree planting into public projects and incentivize private property participation. Establish a city tree planting program; incentivize tree planting in private yards; integrate tree canopy goals into public works and parks projects.
Estimated Cost:	Medium to High
Potential Funding Sources:	AL FIRE Urban & Community Forestry Grant Program, City Tree Fund, PG&E Community Resilience Grants, private partnerships
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,9,13
Benefits:	Reduces urban heat island effect, improves air quality, stabilizes soil to reduce erosion and landslide risk, and enhances community well-being.
Impact on Socially Vulnerable Populations:	Improves quality of life and reduces urban heat island effects in neighborhoods with historically less investment in green infrastructure. Provides long-term benefits for cooling, shade, and air quality in lower-income and rental-heavy areas.
Impact on Future Development:	Encourages tree planting in new developments and infrastructure projects.
Impact on Critical Facilities/Lifelines:	Provides erosion control and soil stabilization near roads, flood-prone zones, and public infrastructure. Supports shading and cooling for buildings, reducing utility strain during heat events.
Impact on Capabilities:	Aligns tree planting goals with climate resilience and equity objectives. Supports urban forestry and public works in making data-driven, location-prioritized planting decisions.
Climate Change Considerations:	Provides cooling benefits to help mitigate extreme heat, improves carbon sequestration, and supports climate adaptation.
Mitigation Category	Local Plans and Regulations, Natural Systems Protection
CRS Category	Preventative Measures, Natural Resource Protection
Priority	Medium

Action 2026-SonomaCity-33. Soft-Story Residential Structure Inventory and Retrofit Program Development

Lead Agency:	City of Sonoma Building Division
Supporting Agencies:	-
Hazard(s) of Concern:	Earthquake
Description of the Problem:	Many privately-owned residential buildings may have soft-story vulnerabilities, making them susceptible to collapse during seismic events. These structures pose a significant risk to life safety and property, especially in densely populated areas.
Description of the Solution:	Conduct a comprehensive inventory of existing or suspected soft-story residential buildings. Use the findings to inform the development of voluntary or mandatory retrofit programs. Engage consulting services to support technical assessments and the creation of enhanced building codes aimed at mitigating seismic risks in these structures.
Estimated Cost:	High
Potential Funding Sources:	City general fund, FEMA HMGP
Implementation Timeline:	1-5 years
Objectives Met:	3, 13
Benefits:	Identification of vulnerable structures; Potential reduction in earthquake-related injuries and fatalities.
Impact on Socially Vulnerable Populations:	Many soft-story buildings are multi-family units housing low-income or elderly residents. Retrofitting improves safety for these groups.
Impact on Future Development:	Encourages safer building practices and informs future zoning and construction standards.
Impact on Critical Facilities/Lifelines:	Not applicable
Impact on Capabilities:	Enhances local planning and building code enforcement capabilities; builds technical expertise.
Climate Change Considerations:	Earthquake risk is not directly influenced by climate change, but resilient infrastructure supports broader adaptation goals.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection
Priority	Medium

11. TOWN OF WINDSOR

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Town of Windsor with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the Town. The annex presents a general overview of Windsor, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

11.1 HAZARD MITIGATION PLANNING TEAM

The Town of Windsor identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many Town departments. The Planning Division represented the community on the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The Town officials who participated in the development of the annex are listed below and shown in Table 11-1. Additional documentation of the Town's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Kim Jordan, Planner III

Address: 9291 Old Redwood Highway, Windsor, California 95492

Phone Number: 707-838-5331

Email: kjordan@townofwindsor.ca.gov

Alternate Point of Contact: Kristina Owens, Government Operations Manager

Address: 9291 Old Redwood Highway, Windsor, California 95492

Phone Number: 707-838-1100

Email: kmowens@townofwindsor.ca.gov

NFIP Administrator: Doug Hughes, Building Official

Address: 9291 Old Redwood Highway, Building 400, Windsor, California 95492

Phone Number: 707-838-5341

Email: dhughes@townofwindsor.ca.gov

Table 11-1. Additional Contributors

Name	Department	Position	HMP Contribution
Kim Jordan	Community Development	Planner III	Project Manager, All Aspects of Annex
Kristina Owens	Town Manager	Government Operations Manager	Project Manager, All Aspects of Annex
Mike Cave	Public Works	Deputy Director of Operations	All Aspects, except outreach,
Carl Euphrat	Public Works	Deputy Director of Engineering	All Aspects, except outreach,
Garrett Broughton	Public Works	Senior Civil Engineer	All Aspects, except outreach,
Olivia Lemen	Parks and Facilities	Director	Outreach, Mitigation Actions
Tim Ricard	Town Manager	Economic Development Manager	Outreach, Mitigation Actions
Doug Hughes	Community Development	Building Official	Mitigation Actions, Capability Assessment, Flood-related Sections, Adaptive Capacity, Hazard Ranking
Skye Barnett	Community Development	Senior Building Inspector	Growth and Development Trends
Patrick Streeter	Community Development	Community Development Director	Annex review, Mitigation Actions
Jon Davis	Town Manager	Town Manager	Changes in Community Priorities, Hazard Ranking, Adaptive Capacity
Greg Piccinini	Police Department	Police Chief	Mitigation Actions, Annex Review
Cyndi Foreman	Sonoma County Fire District	Fire Marshal	Mitigation Actions, Annex Review

11.2 COMMUNITY PROFILE

The Town of Windsor spans 7.4 square miles of mostly flat terrain bordered by hills and located 5 miles north of Santa Rosa. U.S. Highway 101 runs through the town, providing direct access to San Francisco (58 miles south) and Sacramento (72 miles east). Low hills separate the Town from the Russian River 2 miles to the west. The town is 20 miles from the Pacific Ocean.

Windsor's cultural history dates back thousands of years to early inhabitation by the Pomo people. European exploration began in the early 1800s, with permanent settlement by 1851. The arrival of a railroad in 1872 spurred agricultural growth, and the area continued to evolve with the establishment of a nearby air base during World War II and a housing boom in the 1980s. Windsor officially incorporated as a town in 1992.

Today, Windsor is governed by a Town Council consisting of a mayor and four district-elected council members. The mayor is elected at large for a two-year term, while council members serve four-year terms. The Town Manager, appointed by the Council, oversees daily operations.

According to the U.S. Census, the 2020 population of Windsor was 26,344, a 1.72 percent decrease from the 2010 Census. The 2023 American Community Survey estimated that the 2023 population of Windsor was 26,179; this estimate is used throughout the HMP.

Some populations are at greater risk from hazard events because of decreased resources or physical abilities for responding during a hazard, and the location and construction quality of their housing. Data from the 2023 American Community Survey indicates that 4.7 percent of residents are 5 years of age or younger, 17.1 percent are 65 years of age or older, 2.8 percent are non-English speaking, 4.7 percent live below the poverty threshold, 10.4 percent have disabilities, 2.6 percent live in a single parent household, and 3.6 percent have no vehicle access.

In 2024, the total homeless population in the Town of Windsor was reported as 26 individuals, all of them unsheltered (Sonoma County 2024).

11.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the Town of Windsor completed specific activities to collect input on hazards and vulnerability from the people the Town serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

During the public review process, the Town held multiple meetings with commissions and the Town Council to gather input and ensure transparency. Most feedback involved minor edits, but key recommendations included adding a mitigation action for wildfire smoke and air quality, equipping warming and cooling centers with proper filtration, and improving evacuation information. The Town collaborated with the County and consultants on revisions. Other suggestions, such as posting evacuation details and sharing information with businesses and hotels, were noted for implementation through ongoing capabilities. Overall, the Town demonstrated a structured approach to addressing concerns and integrating meaningful changes.

Public engagement efforts are summarized below and shown in Figure 11-1 through Figure 11-6.

Figure 11-1. Flyers



Figure 11-2. Presentation

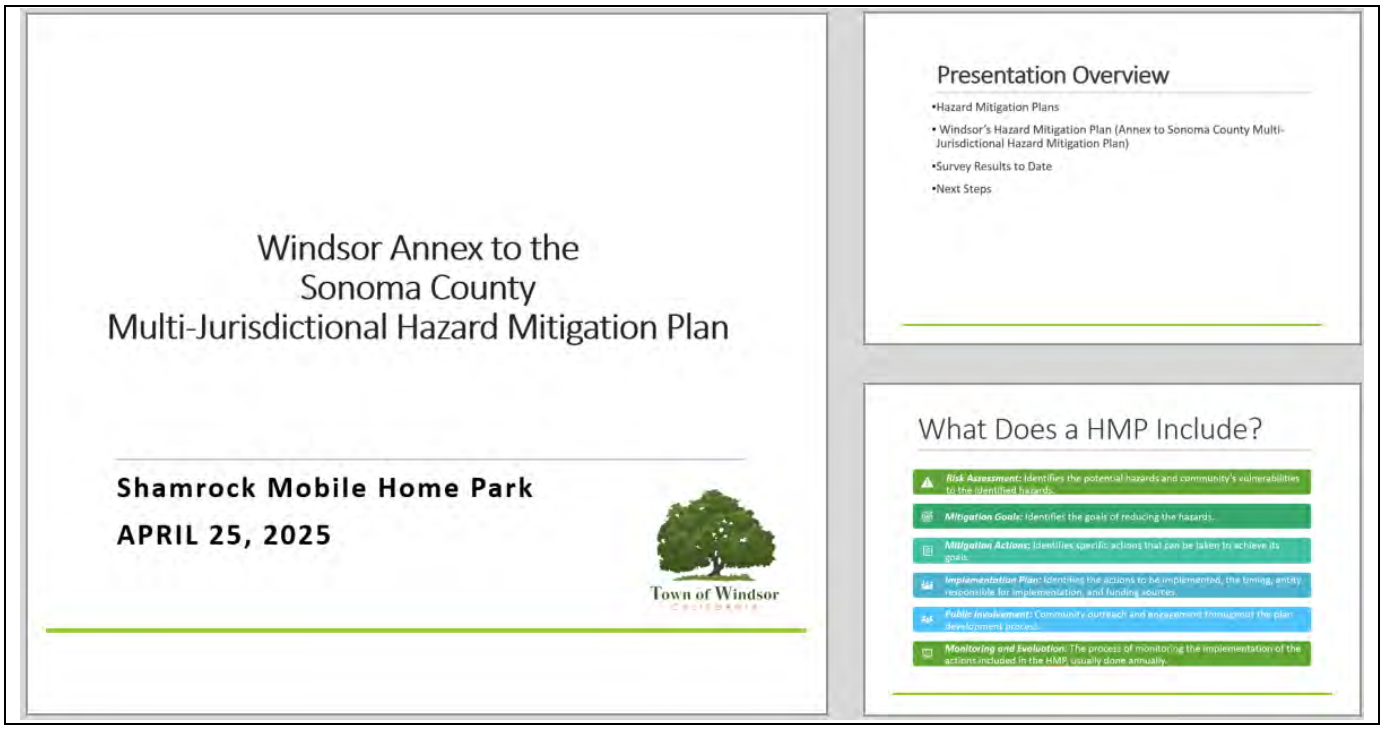
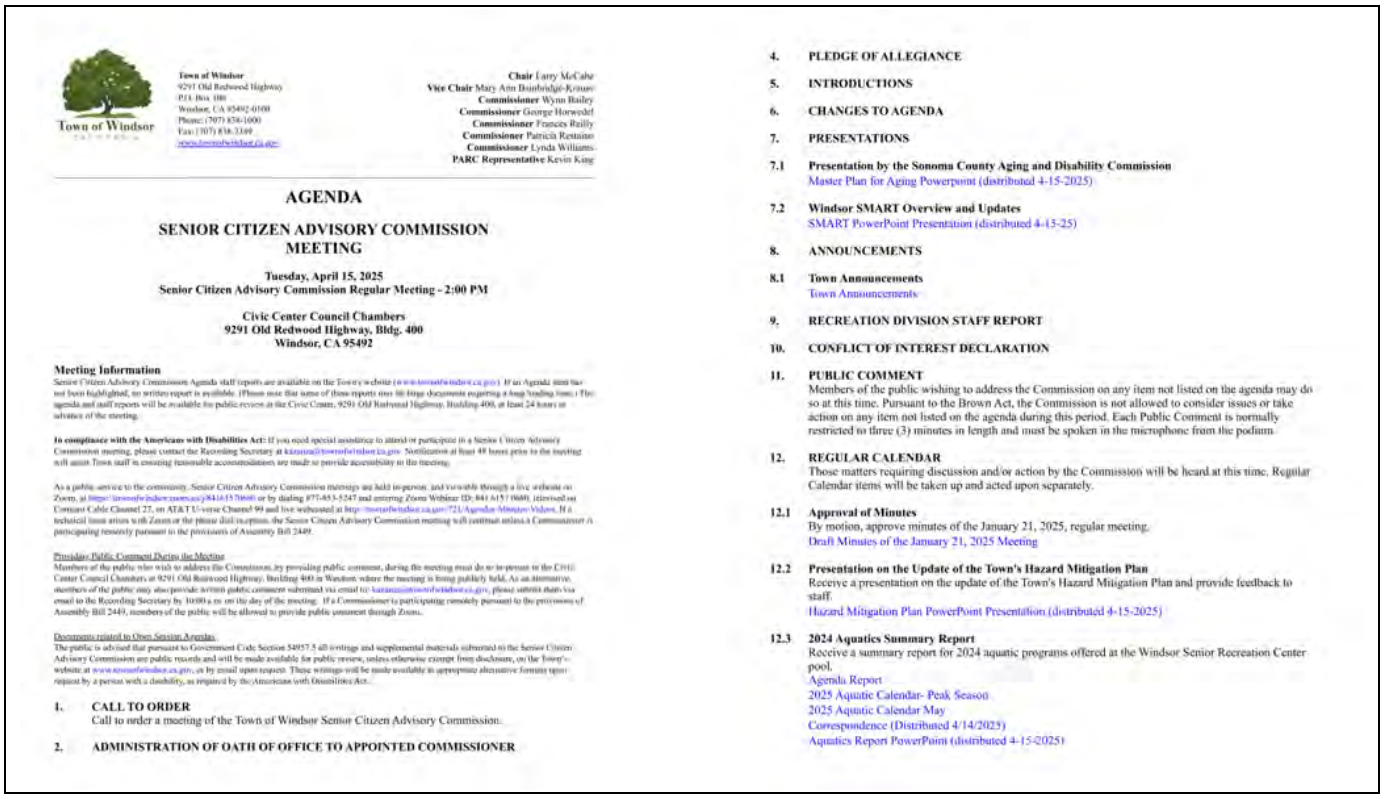


Figure 11-3. Senior Citizen Advisory Presentation Agenda



Town of Windsor

Town of Windsor
9291 Old Redwood Highway
P.O. Box 100
Windsor, CA 95492-0100
Phone: (707) 838-1000
Fax: (707) 838-7349
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Chair Larry McCabe
Vice Chair Mary Ann Bombridge-Krauss
Commissioner Wynn Bailey
Commissioner George Horwedel
Commissioner Frances Reilly
Commissioner Patricia Restaino
Commissioner Lynda Williams
PARC Representative Kevin King

AGENDA

SENIOR CITIZEN ADVISORY COMMISSION MEETING

Tuesday, April 15, 2025
Senior Citizen Advisory Commission Regular Meeting - 2:00 PM

Civic Center Council Chambers
9291 Old Redwood Highway, Bldg. 400
Windsor, CA 95492

Meeting Information

Senior Citizen Advisory Commission Agenda staff reports are available on the Town's website (www.townofwindsor.ca.gov). If an Agenda item has not been highlighted, no written report is available. (Please note that some of these reports may be large documents requiring a long loading time.) The agenda and staff reports will be available for public review at the Civic Center, 9291 Old Redwood Highway, Building 400, at least 24 hours in advance of the meeting.

In compliance with the Americans with Disabilities Act: If you need special assistance to attend or participate in a Senior Citizen Advisory Commission meeting, please contact the Recording Secretary at kmunn@townofwindsor.ca.gov. Notification at least 48 hours prior to the meeting will assist Town staff in ensuring reasonable accommodations are made to provide accessibility to the meeting.

As a public service to the community, Senior Citizen Advisory Commission meetings are held in-person, and viewable through a live webcast on Zoom, at https://townofwindsor.zoom.us/j/84161570660 or by dialing 877-853-5247 and entering Zoom Webinar ID: 841 6157 0660, televised on Comcast Cable Channel 27, on AT&T U-verse Channel 99 and live webcasted at http://townofwindsor.ca.gov/721/Agendas-Minutes-Videos. If a technical issue arises with Zoom or the phone dial-in option, the Senior Citizen Advisory Commission meeting will continue unless a Commissioner is participating remotely pursuant to the provisions of Assembly Bill 2449.

Providing Public Comment During the Meeting

Members of the public who wish to address the Commission by providing public comment during the meeting must do so in-person in the Civic Center Council Chambers at 9291 Old Redwood Highway, Building 400 in Windsor, where the meeting is being publicly held. As an alternative, members of the public may also provide written public comment submitted via email to kmunn@townofwindsor.ca.gov, please submit them via email to the Recording Secretary by 10:00 a.m. on the day of the meeting. If a Commissioner is participating remotely pursuant to the provisions of Assembly Bill 2449, members of the public will be allowed to provide public comment through Zoom.

Documents related to Open Session Agendas

The public is advised that pursuant to Government Code Section 54957.5 all writings and supplemental materials submitted to the Senior Citizen Advisory Commission are public records and will be made available for public review, unless otherwise exempt from disclosure, on the Town's website at www.townofwindsor.ca.gov, or by email upon request. These writings will be made available in appropriate alternative formats upon request by a person with a disability, as required by the Americans with Disabilities Act.

1. **CALL TO ORDER**
Call to order a meeting of the Town of Windsor Senior Citizen Advisory Commission.

2. **ADMINISTRATION OF OATH OF OFFICE TO APPOINTED COMMISSIONER**

4. **PLEDGE OF ALLEGIANCE**

5. **INTRODUCTIONS**

6. **CHANGES TO AGENDA**

7. **PRESENTATIONS**

7.1 **Presentation by the Sonoma County Aging and Disability Commission**
Master Plan for Aging Powerpoint (distributed 4-15-2025)

7.2 **Windsor SMART Overview and Updates**
SMART PowerPoint Presentation (distributed 4-15-25)

8. **ANNOUNCEMENTS**

8.1 **Town Announcements**
Town Announcements

9. **RECREATION DIVISION STAFF REPORT**

10. **CONFLICT OF INTEREST DECLARATION**

11. **PUBLIC COMMENT**
Members of the public wishing to address the Commission on any item not listed on the agenda may do so at this time. Pursuant to the Brown Act, the Commission is not allowed to consider issues or take action on any item not listed on the agenda during this period. Each Public Comment is normally restricted to three (3) minutes in length and must be spoken in the microphone from the podium.

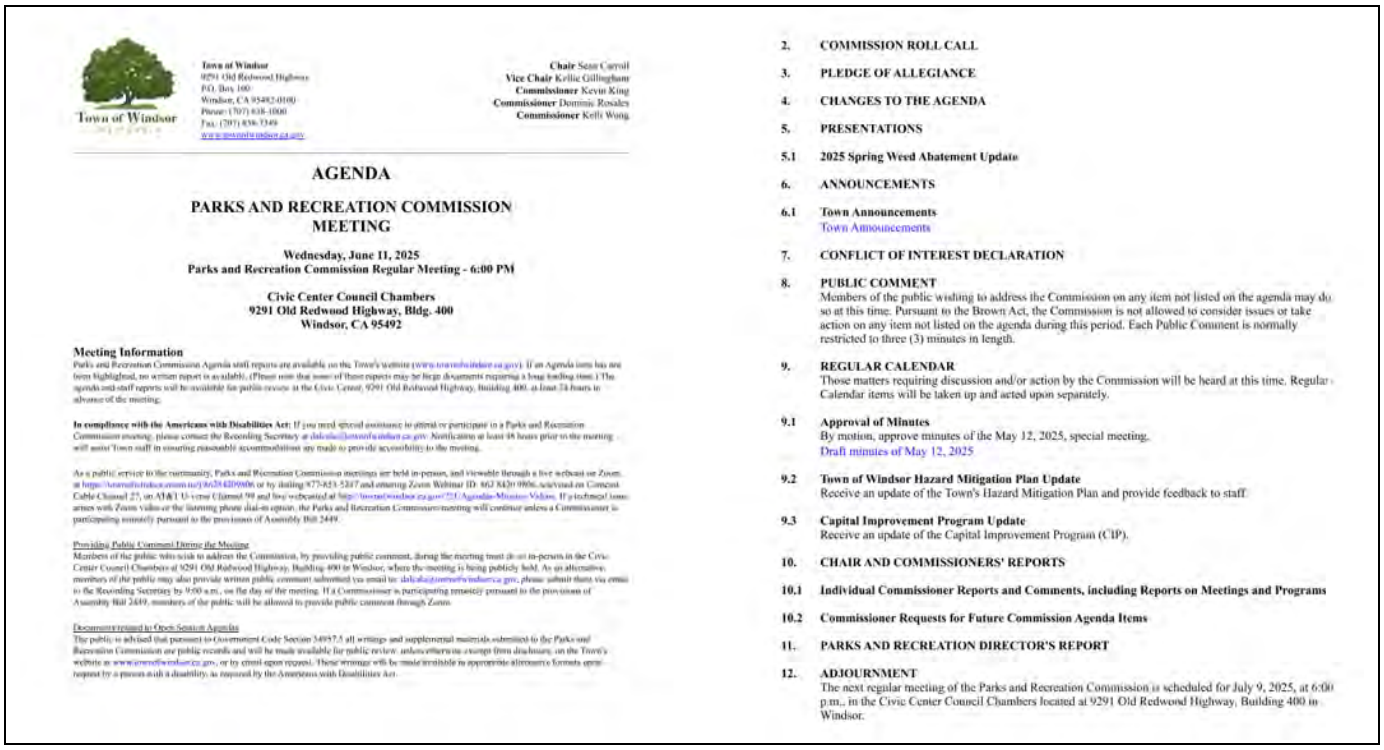
12. **REGULAR CALENDAR**
Those matters requiring discussion and/or action by the Commission will be heard at this time. Regular Calendar items will be taken up and acted upon separately.

12.1 **Approval of Minutes**
By motion, approve minutes of the January 21, 2025, regular meeting.
Draft Minutes of the January 21, 2025 Meeting

12.2 **Presentation on the Update of the Town's Hazard Mitigation Plan**
Receive a presentation on the update of the Town's Hazard Mitigation Plan and provide feedback to staff.
Hazard Mitigation Plan PowerPoint Presentation (distributed 4-15-2025)

12.3 **2024 Aquatics Summary Report**
Receive a summary report for 2024 aquatic programs offered at the Windsor Senior Recreation Center pool.
Agenda Report
2025 Aquatic Calendar- Peak Season
2025 Aquatic Calendar May
Correspondence (Distributed 4/14/2025)
Aquatics Report PowerPoint (distributed 4-15-2025)

Figure 11-4. Parks and Recreation Commission Meeting Agenda



Town of Windsor
9291 Old Redwood Highway
P.O. Box 100
Windsor, CA 95492-0100
Phone: (707) 838-1000
Fax: (707) 838-7349
www.townofwindsor.ca.gov

Chair Sean Carroll
Vice Chair Kellie Gillingham
Commissioner Kevin King
Commissioner Dominic Rosales
Commissioner Kelli Wong

AGENDA

PARKS AND RECREATION COMMISSION MEETING

Wednesday, June 11, 2025
Parks and Recreation Commission Regular Meeting - 6:00 PM

Civic Center Council Chambers
9291 Old Redwood Highway, Bldg. 400
Windsor, CA 95492

Meeting Information

Parks and Recreation Commission Agenda staff reports are available on the Town's website (www.townofwindsor.ca.gov). If an Agenda item has not been highlighted, no written report is available. (Please note that some of these reports may be large documents requiring a long loading time.) The agenda and staff reports will be available for public review at the Civic Center, 9291 Old Redwood Highway, Building 400, at least 24 hours in advance of the meeting.

In compliance with the Americans with Disabilities Act: If you need special assistance to attend or participate in a Parks and Recreation Commission meeting, please contact the Recording Secretary at dalcala@townofwindsor.ca.gov. Notification at least 48 hours prior to the meeting will assist Town staff in ensuring reasonable accommodations are made to provide accessibility to the meeting.

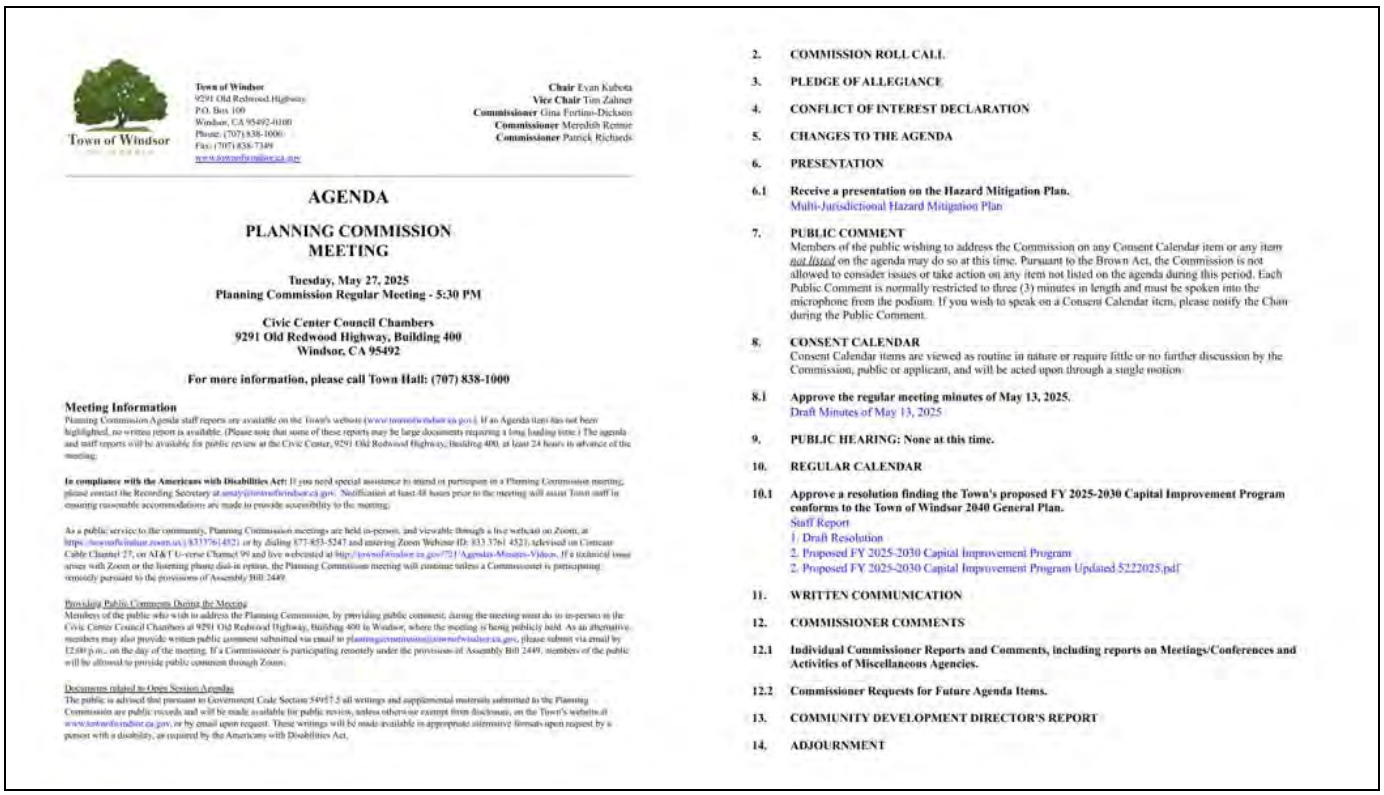
As a public service to the community, Parks and Recreation Commission meetings are held in-person, and viewable through a live webcast on Zoom, at https://townofwindsor.zoom.us/j/86284209006 or by dialing 877-853-5247 and entering Zoom Webinar ID: 862 8420 9006, televised on Comcast Cable Channel 27, on AT&T U-verse Channel 99 and live webcasted at http://townofwindsor.ca.gov/721/Agendas-Minutes-Videos. If a technical issue arises with Zoom video or the listening phone dial-in option, the Parks and Recreation Commission meeting will continue unless a Commissioner is participating remotely pursuant to the provisions of Assembly Bill 2449.

Providing Public Comment During the Meeting
Members of the public who wish to address the Commission, by providing public comment, during the meeting must do so in-person in the Civic Center Council Chambers at 9291 Old Redwood Highway, Building 400 in Windsor, where the meeting is being publicly held. As an alternative, members of the public may also provide written public comment submitted via email to: dalcala@townofwindsor.ca.gov, please submit them via email to the Recording Secretary by 9:00 a.m., on the day of the meeting. If a Commissioner is participating remotely pursuant to the provisions of Assembly Bill 2449, members of the public will be allowed to provide public comment through Zoom.

Documents related to Open Session Agendas
The public is advised that pursuant to Government Code Section 54957.5 all writings and supplemental materials submitted to the Parks and Recreation Commission are public records and will be made available for public review, unless otherwise exempt from disclosure, on the Town's website at www.townofwindsor.ca.gov, or by email upon request. These writings will be made available in appropriate alternative formats upon request by a person with a disability, as required by the Americans with Disabilities Act.

2. **COMMISSION ROLL CALL**
3. **PLEDGE OF ALLEGIANCE**
4. **CHANGES TO THE AGENDA**
5. **PRESENTATIONS**
5.1 **2025 Spring Weed Abatement Update**
6. **ANNOUNCEMENTS**
6.1 **Town Announcements**
Town Announcements
7. **CONFLICT OF INTEREST DECLARATION**
8. **PUBLIC COMMENT**
Members of the public wishing to address the Commission on any item not listed on the agenda may do so at this time. Pursuant to the Brown Act, the Commission is not allowed to consider issues or take action on any item not listed on the agenda during this period. Each Public Comment is normally restricted to three (3) minutes in length.
9. **REGULAR CALENDAR**
Those matters requiring discussion and/or action by the Commission will be heard at this time. Regular Calendar items will be taken up and acted upon separately.
9.1 **Approval of Minutes**
By motion, approve minutes of the May 12, 2025, special meeting.
Draft minutes of May 12, 2025
9.2 **Town of Windsor Hazard Mitigation Plan Update**
Receive an update of the Town's Hazard Mitigation Plan and provide feedback to staff.
9.3 **Capital Improvement Program Update**
Receive an update of the Capital Improvement Program (CIP).
10. **CHAIR AND COMMISSIONERS' REPORTS**
10.1 **Individual Commissioner Reports and Comments, including Reports on Meetings and Programs**
10.2 **Commissioner Requests for Future Commission Agenda Items**
11. **PARKS AND RECREATION DIRECTOR'S REPORT**
12. **ADJOURNMENT**
The next regular meeting of the Parks and Recreation Commission is scheduled for July 9, 2025, at 6:00 p.m., in the Civic Center Council Chambers located at 9291 Old Redwood Highway, Building 400 in Windsor.

Figure 11-5. Planning Commission Meeting Agenda



Town of Windsor
9291 Old Redwood Highway
P.O. Box 100
Windsor, CA 95492-0100
Phone: (707) 838-1000
Fax: (707) 838-7349
www.townofwindsor.ca.gov

Chair Evan Kubota
Vice Chair Tim Zahner
Commissioner Gina Fortino-Dickson
Commissioner Meredith Remmer
Commissioner Patrick Richards

AGENDA

PLANNING COMMISSION MEETING

Tuesday, May 27, 2025
Planning Commission Regular Meeting - 5:30 PM

Civic Center Council Chambers
9291 Old Redwood Highway, Building 400
Windsor, CA 95492

For more information, please call Town Hall: (707) 838-1000

Meeting Information

Planning Commission Agenda staff reports are available on the Town's website (www.townofwindsor.ca.gov). If an Agenda item has not been highlighted, no written report is available. (Please note that some of these reports may be large documents requiring a long loading time.) The agenda and staff reports will be available for public review at the Civic Center, 9291 Old Redwood Highway, Building 400, at least 24 hours in advance of the meeting.

In compliance with the Americans with Disabilities Act: If you need special assistance to attend or participate in a Planning Commission meeting, please contact the Recording Secretary at smay@townofwindsor.ca.gov. Notification at least 48 hours prior to the meeting will assist Town staff in ensuring reasonable accommodations are made to provide accessibility to the meeting.

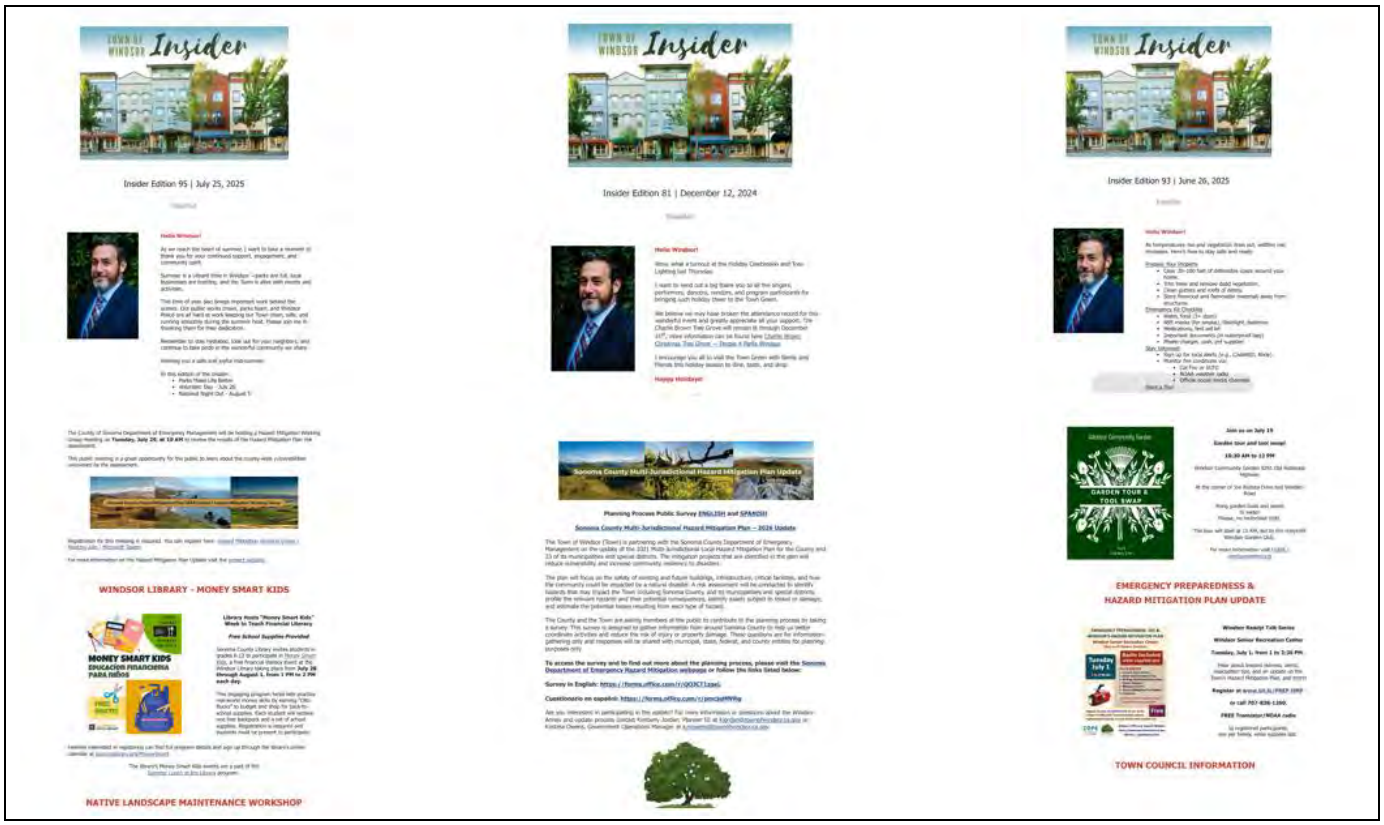
As a public service to the community, Planning Commission meetings are held in-person, and viewable through a live webcast on Zoom, at https://townofwindsor.zoom.us/j/83337614521 or by dialing 877-853-5247 and entering Zoom Webinar ID: 833 3761 4521, televised on Comcast Cable Channel 27, on AT&T U-verse Channel 99 and live webcasted at http://townofwindsor.ca.gov/721/Agendas-Minutes-Videos. If a technical issue arises with Zoom or the listening phone dial-in option, the Planning Commission meeting will continue unless a Commissioner is participating remotely pursuant to the provisions of Assembly Bill 2449.

Providing Public Comments During the Meeting
Members of the public who wish to address the Planning Commission, by providing public comment, during the meeting must do so in-person in the Civic Center Council Chambers at 9291 Old Redwood Highway, Building 400 in Windsor, where the meeting is being publicly held. As an alternative, members may also provide written public comment submitted via email to planningcommission@townofwindsor.ca.gov, please submit via email by 12:00 p.m., on the day of the meeting. If a Commissioner is participating remotely under the provisions of Assembly Bill 2449, members of the public will be allowed to provide public comment through Zoom.

Documents related to Open Session Agendas
The public is advised that pursuant to Government Code Section 54957.5 all writings and supplemental materials submitted to the Planning Commission are public records and will be made available for public review, unless otherwise exempt from disclosure, on the Town's website at www.townofwindsor.ca.gov, or by email upon request. These writings will be made available in appropriate alternative formats upon request by a person with a disability, as required by the Americans with Disabilities Act.

2. **COMMISSION ROLL CALL**
3. **PLEDGE OF ALLEGIANCE**
4. **CONFLICT OF INTEREST DECLARATION**
5. **CHANGES TO THE AGENDA**
6. **PRESENTATION**
6.1 **Receive a presentation on the Hazard Mitigation Plan.**
Multi-Jurisdictional Hazard Mitigation Plan
7. **PUBLIC COMMENT**
Members of the public wishing to address the Commission on any Consent Calendar item or any item *not listed* on the agenda may do so at this time. Pursuant to the Brown Act, the Commission is not allowed to consider issues or take action on any item not listed on the agenda during this period. Each Public Comment is normally restricted to three (3) minutes in length and must be spoken into the microphone from the podium. If you wish to speak on a Consent Calendar item, please notify the Chair during the Public Comment.
8. **CONSENT CALENDAR**
Consent Calendar items are viewed as routine in nature or require little or no further discussion by the Commission, public or applicant, and will be acted upon through a single motion.
8.1 **Approve the regular meeting minutes of May 13, 2025.**
Draft Minutes of May 13, 2025
9. **PUBLIC HEARING: None at this time.**
10. **REGULAR CALENDAR**
10.1 **Approve a resolution finding the Town's proposed FY 2025-2030 Capital Improvement Program conforms to the Town of Windsor 2040 General Plan.**
Staff Report
1. Draft Resolution
2. Proposed FY 2025-2030 Capital Improvement Program
2. Proposed FY 2025-2030 Capital Improvement Program Updated 5222025.pdf
11. **WRITTEN COMMUNICATION**
12. **COMMISSIONER COMMENTS**
12.1 **Individual Commissioner Reports and Comments, including reports on Meetings/Conferences and Activities of Miscellaneous Agencies.**
12.2 **Commissioner Requests for Future Agenda Items.**
13. **COMMUNITY DEVELOPMENT DIRECTOR'S REPORT**
14. **ADJOURNMENT**

Figure 11-6. Town of Windsor Insider Newsletter



11.3.1 Planning Commission Presentation and Public Review Draft Notification

A PowerPoint presentation was delivered at the Planning Commission meeting on October 28, 2025. The same presentation was utilized for additional outreach sessions, including the November 5 Town Council Meeting, the November 12 Parks and Recreation Commission Meeting, and the November 10 presentation at the Senior Recreation Center.

To ensure broad awareness of the public review draft of the HMP, multiple notification channels were used:

- The draft was posted on the Town's project webpage.
- An announcement was distributed via the Town's Water Smart email list, reaching all utility billing customers (over 5,500 emails).
- The Town's Business Newsletter shared the notice with more than 850 businesses.
- Notifications were sent to the Interested Parties List, compiled during earlier outreach phases from individuals who signed up for email updates.
- All Town boards and commissions received the announcement.
- Property managers and contacts for mobile home parks and affordable housing locations previously visited were notified.

- The notice was shared with WeAct, a local community organization.
- The availability of the public review draft HMP for public comment was announced during the Senior Citizens Advisory Commission meeting on October 21, as timing constraints prevented inclusion on the formal agenda.

These efforts reflect a multi-channel approach designed to maximize community engagement and ensure equitable access to information about the HMP review process. These outreach efforts can be found in Appendix D (Outreach Documentation).

The Town combined outreach for all of these areas with information on Citizens Organized to Prepare for Emergencies (COPE) and disaster preparedness through the Town's Windsor Ready! series to encourage greater attendance. Additionally, giveaways of NOAA emergency radios, with hand crank, USB, and solar charging capabilities, were included while supplies lasted.

11.3.2 Outreach to Underserved Communities and Vulnerable Populations

The following targeted outreach was made to underserved communities and vulnerable populations:

- **Disabled residents**—Some people with disabilities reside in the Town's mobile home parks and affordable housing developments. The Town provided information to the owners and managers of mobile home park and low-income housing developments to share with residents. The information was available in English and Spanish. The Town visited each mobile home park and low-income housing development to make a presentation if possible.
- **Multi-cultural Spanish-speaking community**—Information was made available in Spanish, as well as English. The Town identified people and organizations to work with for reaching out to the Hispanic community. Town staff engaged these people and organizations to determine the most effective way to reach out to and gather input from this community.
- **Low-income residents—**The Town made information about the HMP update available at affordable housing developments in the Town by contacting property managers and/or owners of affordable housing projects. When/if possible, the Town made a presentation to residents at these housing developments.
- **Mobile home park residents—**The Town's mobile home parks include lower-income, senior, veterans, and disabled residents. The Town has done presentations of its Windsor Ready! emergency preparedness series at mobile home parks. The Town included information about the HMP update in Windsor Ready! presentations and provided information about the update to mobile home park managers and leaders to share with the greater mobile home park community.
- **Native American communities**—The Town provided information on the HMP to the leaders of each tribe for which Windsor has received information from the Native American Heritage Commission (NAHC) as being connected with Windsor, as well as Native-led nonprofits. This included tribes that have or will have housing developments in or near the Town. One of the housing developments that will be built in the near future is for low-income tribal members.

- **Senior citizens**—The Town has a Senior Citizen Advisory Commission (SCAC) and a Senior Center. Town staff gave a presentation to the SCAC on the HMP update. The SCAC meets quarterly, and the intent was to provide two presentations to this group during the HMP process. SCAC commissioners reached out to other seniors to spread the word about the HMP update. The Town also visited the two low-income senior apartment developments to provide information to the manager about the HMP, and presented about the HMP update to the residents. Information on the HMP was also made available at the Senior Center.
- **Veterans**—The Town has an affordable housing project for low-income veterans. The Town conducted a presentation at Windsor Veterans Village and distributed go bags and radios.
- **Faith-based organizations—**The Town has several churches that provide support services to the community, such as food pantries, clothing, and access to medical services. The Town reached out to these churches to provide information on the HMP and to see how to best reach their members and the residents they support.

11.3.3 Outreach Results

Through its outreach efforts, the Town identified the following community concerns related to natural hazards, to be integrated into the plan as appropriate:

- Wildfire is the hazard of greatest concern. Wildfire smoke is also a concern.
- Earthquake is increasing as a hazard of concern.
- Single points of access at some locations (such as at some mobile home parks), which cause delays in evacuation (such as occurred during the Kincade Fire), are a concern. Residents asked if there are plans to provide public transit during evacuations.
- Evacuation for people that do not have a vehicle, that do not drive, or that have limited mobility is a concern. A request was made that SMART and/or bus service be made available and be free for evacuation.
- Reducing traffic delays and creating greater road capacity for evacuations (as is done in some areas for hurricane evacuations) to reduce the delays that were experienced during the evacuations for the Kincade Fire was recommended.
- Evacuating with pets is a concern, since people do not want to leave without their pets.
- There is a need to provide more information on evacuation routes by posting at Town-wide locations and providing QR codes
- Evacuation and hazard notifications for people with limited or no technology is a challenge because many people, especially low-income seniors in affordable housing, do not have a SMART phone or do not have a habit of carrying it with them or having it turned on.
- There is localized flooding that results in partial or complete road closures (e.g., at Cali Calmecac School on Starr Road, Conde Lane by Windsor Mobile Country Club, Old Redwood Hwy and Shiloh Road by Windsor Redwoods Apartments).
- Fire hazards and flooding are created in the county by not being able to remove brush in culverts and creek beds. Some of this results in flooding in the Town, such as in the area of Old Redwood Highway and Shiloh Road.

- Center medians on Old Redwood Highway impede evacuation.

11.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the Town of Windsor invited stakeholders relevant to the planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the Town to participate in the 2026 HMP update.

11.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from the Sonoma County Fire District (SCFD), which plays a critical role in hazard mitigation and emergency response, since SCFD provides fire service within the Town. The district contributed valuable insights into wildfire risk, evacuation planning, and coordination with water infrastructure for fire suppression. Its involvement helped shape mitigation strategies that align with operational capabilities and existing emergency response protocols, ensuring a more resilient and prepared community.

11.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. This included the Town of Windsor's Town Council, Planning Commission, Administrative Hearing Officer, Community Development Department, Public Works Department, and Building Official.

11.4.3 Neighboring Communities

Neighboring jurisdictions and institutions were invited to participate in the planning process to promote regional coordination and address shared risks. This included the County, adjacent cities, and tribal nations.

- County of Sonoma
- City of Healdsburg
- City of Santa Rosa
- Lytton Rancheria
- Kashia
- Graton Rancheria
- Dry Creek Rancheria Band of Pomo Indians

- Mishewal-Wappo Tribe of Alexander Valley
- Cloverdale Rancheria of Pomo Indians
- Middletown Rancheria
- Guidiville Indian Rancheria

11.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged key representatives from the local business community, property management, and educational institutions to ensure a well-rounded perspective on hazard mitigation.

The Windsor Chamber of Commerce, Eugene Burger Property Management (representing downtown merchants and the Town Green Village Association), and the Hispanic Chamber of Commerce were invited to participate in the hazard mitigation planning process. The Town's Economic Development Manager proved information to the Windsor Chamber of Commerce about the update to the HMP.

The Windsor Unified School District was invited to participate in the hazard mitigation planning process. This collaboration helped ensure the plan reflects the priorities of both the private and public sectors and supports ongoing community-wide mitigation efforts.

11.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process.

- Pastor Laurie Bayen, Windsor Community United Methodist Church
- Reverend Mary Beene, Windsor Presbyterian Church
- Our Lady of Guadalupe Church
- Pastor Brandon Philpott, New Song Church
- Pastor Greg Martinez, Vid Verdadera
- Nuestra Comunidad
- Somos Windsor
- Circuit Riders

11.4.6 Other Stakeholders

The local historical society and a local climate action group were invited to participate in the hazard mitigation planning process.

- Windsor Historical Society
- WeAct, Windsor

11.5 CHANGES IN COMMUNITY PRIORITIES

The Town is focusing on actions that reduce the impacts of drought, flooding, and wildfire. This may result in changes to priorities for individual mitigation actions. The current plan implemented many actions that were related to preparedness, such as the evacuation zones and routes, the Windsor Ready! series, and the identification of shelter locations. These are now considered part of the Town's ongoing capabilities. The Town also designated all properties in Town limits that were not designated as High or Moderate on the Fire Hazard Severity Zones (FHSZ) Map from the State Fire Marshal as a Moderate fire hazard severity zone, in order to implement requirements for building hardening, and amended the Zoning Code to include firesafe landscaping and fencing requirements. The priorities are now shifting to structure and infrastructure projects as funding allows and the preparation of plans, such as a Continuity of Operations Plan, Dam Failure Annex to the EOP, and Debris Management Plan.

11.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Windsor performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day government operations. For the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Windsor to identify opportunities for integrating mitigation concepts into ongoing Town procedures.

11.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities include the plans, policies, codes, and ordinances that help prevent or reduce the impacts of hazards. The sections below outline the relevant planning documents, codes, and regulations that were reviewed and considered for updates based on new data or insights gained during the HMP update process. Additionally, the HMP Team evaluated existing plans against a comprehensive list of hazard mitigation-related capabilities. The absence of certain types of plans,

policies, codes, or ordinances was not interpreted as a gap in local capabilities. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 11-2 summarizes the codes, ordinances, and regulations available to the Town of Windsor.

Table 11-2. Town of Windsor Codes, Ordinances, and Regulations

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Code	Windsor Municipal Code, Title 7, Building and Housing, Chapter 2, California Code of Regulations The Town adopted an amended map from the State Fire Marshal that designates all areas in Town Moderate that were not identified as High or Moderate on the FHSZ map from the State Fire Marshal.	The Town's building code includes provisions designed to strengthen and elevate construction to withstand various hazard forces, such as flooding, wind, and seismic activity. These codes meet or exceed the standards outlined in the National Flood Insurance Program (NFIP), ensuring safe building practices in flood-prone areas. Additionally, the Town has adopted development standards that address storm surge, wind damage, and earthquakes. As part of its hazard mitigation efforts, the Town has also designated all areas not designated High or Moderate on the FHSZ Map from the State Fire Marshal (February 24, 2025) as Moderate in order to retain the current requirements for compliance with specific state building standards that harden buildings and, thereby, reducing wildfire risk. These integrated code requirements play a critical role in enhancing community resilience and reducing vulnerability to natural hazards by hardening new buildings and substantial additions to better resist wildfire.	Municipal	Building Official
Flood Damage Prevention Ordinance	Windsor Municipal Code Title 9, Chapter 1 (Floodplain Management)	The Zoning Map includes a Flood Hazard Overlay Zone (-FH) and the Zoning Code includes a Flood Hazard Overlay District (Zoning Code Section 17.18.040) that generally corresponds with the 100-year floodplain with specific requirements for development in the 100-year flood plain. The 2040 General Plan Health and Safety Element includes policies that address flooding. Municipal Code Title IX – Flood Damage, Flood Control and Drainage includes requirements for development in the floodplain and prohibits development in the floodplain and floodway. The Building Official is the Floodplain Administrator. The Building Official and Public Works engineers work together to implement the requirements of the ordinance.	Municipal	Community Development Department, Public Works Department

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Zoning/Land Use Code	Windsor Zoning Code, Municipal Code Title 17	The Town's Zoning Code demonstrates partial alignment with the comprehensive plan in discouraging development within natural hazard areas. It includes a Floodplain Overlay Zone, which sets specific conditions for land use in flood-prone areas, helping to manage risk and guide safer development. The recently adopted Zoning Code (effective December 20, 2024) also incorporates hazard mitigation actions related to firesafe landscaping and fencing, further supporting resilience goals. However, the ordinance does not currently prohibit development within, or the filling of, wetlands, floodways, or floodplains—representing an area for potential improvement. Additionally, while the zoning code does not offer density bonuses to encourage development outside of hazard areas, the General Plan includes policies that allow for clustering and density transfers in environmentally sensitive areas. These policies, though environmentally focused, could be expanded to more directly address hazard avoidance in future updates.	Municipal	Community Development Department
Subdivision Code	Windsor Subdivision Ordinance, Municipal Code Title 16, Chapter 8	The current subdivision ordinance was adopted in 2009. It is in need of updating, but there is currently no timeline for updating it. When the Subdivision Ordinance is updated, there would be an opportunity to integrate the HMP.	Municipal	Public Works, Community Development Department
Site Plan Code	Zoning Ordinance, Title 17, Article 5, Chapter 17.56 (Site Plan and Design Review) and Article 3, Chapter 17.22 (Environmental Preservation Standards)	The Zoning Code has requirements for creek side development, tree preservation and protection, but no requirements related to site planning to avoid hazards. The Zoning Code also requires Site Plan and Design Review approval for certain types of approvals, but does not require hazard avoidance or minimization.	Municipal	Community Development Department
Stormwater Management Code	Municipal Code Title 9, Chapter 4 (Stormwater Quality) 2020 Storm Drainage Master Plan (approved by Town Council 3/4/2020)	While the requirements of this code do not specifically address hazards, the requirements do help address flooding by addressing stormwater.	Municipal	Public Works Department
Growth Management	Municipal Code Title 16, Chapter 4 (Growth Control). Voter approved Urban Growth Boundary (UGB) that is in place until 2040.	The Growth Control Ordinance does not address development in hazard areas. The UGB does avoid agricultural and "open space" lands and community separators. This buffers the Town from wildland fires and avoids hillside development and areas of potential landslide.	Municipal	Community Development Department

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Environmental Protection Ordinance	Zoning Code, Title 17, Article 3, Chapter 27.22 (Environmental Standards)	The Zoning Code includes requirements related to creek side development and tree protection and preservation. There is an opportunity to include other requirements for environmental protection. The 2040 General Plan includes policies to protect public health and safety in the Health and Safety Element and for the protection of natural resources and the environment in the Environmental Resources Element.	Municipal	Community Development Department
Wellhead Protection	Porter Cologne Act 1969	The Town of Windsor complies with the Porter Cologne Act requirements. The County regulates, permits, and inspects wells in Windsor.	State and County	Sonoma County
Emergency Management Ordinance	Windsor Municipal Code, Title 3, Chapter 19, Civil Defense and Disaster	The Emergency Management Ordinance section of the Municipal Code was originally adopted in 1992, when the Town was incorporated and needs to be updated to current best practices for emergency management.	Municipal	Town Manager's Office
Climate Change Ordinance	Climate Emergency Resolution (Resolution 3548-19); General Plan Policy ER-5.21 incorporating Municipal Climate Action Plan by reference. Municipal Climate Action Plan	The Town does not have a climate change ordinance. The 2040 General Plan, including the Public Health and Safety Element, includes policies that address Climate Change Adaptation, GHG Emissions, Flood, Earthquake, Drought, Extreme Heat, and Wildfire. In 2019, the Town Council adopted a Climate Emergency Resolution (Resolution 3548-19) that identifies specific measures that are currently being undertaken to address climate change and additional measures that the Town should implement. The 2040 General Plan includes a Qualified Greenhouse Gas Emissions Reduction Plan. The Town does not have a town-wide Climate Action Plan. The Town has a Greenhouse Gas Reduction Plan for Town operations. The Town has a Climate Adaptation Plan (Windsor Ready!). The Town has a Municipal Climate Action Plan that is a policy document, but it does not include objective standards, quantified standards or actions, or requirements.		Public Works Department, Community Development Department
Other	Climate Resilience Plan Vulnerability Assessment	The Vulnerability Assessment included as part of the Town's Climate Resilience Plan is not a code but is used as a reference to understand the hazards that affect vulnerable "assets" (People, Buildings, Infrastructure, Natural Systems, Economy) of a given area of Town.		Community Development (Planning), Public Works (Sustainability Coordinator)

Planning Documents

Table 11-3 summarize the planning documents available to the Town of Windsor.

Table 11-3. Town of Windsor Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General Plan	2040 Windsor General Plan	The Town has integrated the Hazard Mitigation Plan (HMP) into its General Plan through Policy PHS-1.1, which ensures the HMP remains FEMA-approved and addresses climate change and adaptation strategies. This integration aligns with Assembly Bill 2140 and helps reduce risk by embedding hazard mitigation into land use planning. Although the General Plan Land Use Diagram does not show natural hazard areas, the Health and Safety Element includes figures that do, including Seismic Shaking Potential (Figures PHS-4 and PHS-5, Faults and Liquefaction Zones (Figures PHS-6 and PHS-7), Flood Hazard Zones (PHS-8), Dam Inundation (Figure PHS-9) Wildfire Hazard Severity Zones (PHS-10), as well as Residential Parcels with Evacuation Constraints (PHS-1), Evacuation Zones (PHS-2), and Evacuation Routes (PHS-3). Policies discourage development in hazard zones. Policy LU-2.7 (Clustering Residential Development) allows residential uses to be clustered when environmentally sensitive areas are present on a site. This policy could be applied to areas that include hazards. An additional policy could be added, or this policy could be amended to specifically identify hazard areas in addition to environmentally sensitive areas. This is a potential area of improvement. While developable land is limited, most of what remains lies outside hazard areas, allowing for some future growth with reduced risk exposure.	Municipal	Community Development
Capital Improvement Plan	5-Year Capital Improvement Projects	CIP projects have included projects that address hazards, such as flooding. However, the HMP is not explicitly integrated into the CIP. The CIP is a 5-year plan that is reviewed and updated every 2 years as part of the Town's biennial budget process. Each year the budget is reviewed and adjusted as needed, including CIP projects to be undertaken in that budget year. Town departments review the hazard mitigation measures included in the hazard mitigation plan as part of the CIP and budget process and identify measures to include in the budget.	Municipal	Public Works, Parks and Recreation
Stormwater Management Plan	2020 Storm Drainage Master Plan, approved by Town Council 3/4/2020	The SDMP evaluates the Town's storm drain system, models stormwater flows, and identifies projects to address deficiencies. The SDMP addresses impacts related to flooding. The Town has a 5-year Storm Drain CIP. While the SDMP does not specifically integrate the HMP, it does address flooding impacts by identifying areas of potential flooding and identifying projects that remedy the potential impacts.	Municipal	Public Works
Stormwater Pollution Prevention Plan (SWPPP)	Municipal Code Title 9, Chapter 4 (Storm Water Quality), Article 3 Regulations and Requirements	The Municipal Code requirements for storm water quality are not currently integrated with the HMP. The Town of Windsor follows state regulations for each development project. Municipal Code Section 9-4-300 Requirements for Reducing Pollutants in Storm Water implements the requirement for a SWPPP.	Municipal	Public Works

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Open Space Plan	2040 General Plan Environmental Resources Element Open Space Section	The General Plan Land Use Diagram includes an Open Space designation, which applies to creeks, the golf course, and similar areas. The Environmental Resources Element of the General Plan includes the Open Space section, which includes the Goal ER-1: Preserve open space land for the continuation of commercial agricultural and productive uses, the protection and use of natural resources, the enjoyment of scenic beauty and recreation, and the protection from natural hazards. The General Plan includes the following Environmental Resources policies: ER-1.1 Open Space Preservation. The Town shall seek to preserve open space resources (i.e., productive farmlands, outdoor recreation areas, biological habitats, visually prominent landforms, Alquist-Priolo Special Study Zones, and flood hazard areas) through avoidance of development in these areas. ER-1.3 Reducing Development in Significant Threat Areas. The Town shall ensure that areas that pose significant threats to public health and safety, such as steep slopes, regulatory floodways, and the Alquist-Priolo Special Study Zone, are predominantly maintained as open space. There are no policies in the General Plan Health and Safety Element to avoid development in hazard areas. This could be an opportunity to integrate the HMP. The General Plan includes policies and requirements to address hazards. The General Plan does not prioritize open green spaces, particularly in areas with high impervious surface coverage. Similarly, it lacks a comprehensive approach to increasing tree cover to mitigate the urban heat island effect, though a few policies address this issue in limited contexts. For example, Policy M-6.3 and Policy ER-5.16 encourage and require shade trees in parking lots to reduce heat, but implementation lacks specific standards for coverage. Policy ER-5.17 proposes planting 500 urban shade trees, and Policy ER-5.18 supports tree preservation in parking lots and public rights-of-way, though these efforts are not backed by enforceable zoning requirements. While the Zoning Code includes tree preservation provisions, most developments opt to pay an in-lieu fee rather than retain existing trees or plant replacement mitigation trees. Although there is a tree planting program for public property, it currently lacks available locations for new plantings, and no targeted efforts are planned for high-heat areas.	Municipal	Community Development Department
Urban Water Management Plan	2015 UWMP, finalized June 2016 (State regulations require an updated UWMP every 5 years). The 2020 UWMP is being updated now.	The Town is currently working with a consultant on the scope of work to determine a new update. Any new updates will be added to the Town's existing adopted plan.	Municipal	Public Works

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Economic Development Strategy	New Economic Development Strategic Plan (EDSP) was adopted May 2025.	EDSP includes objectives related to business resilience, supporting diverse industries, and ensuring economic continuity in the face of disruption. While these goals align with principles of hazard preparedness, they do not directly address mitigating for natural hazards. This represents a gap in planning that could be addressed in future updates to strengthen the community's overall resilience.	Municipal	Economic Development Manager/Town Manager's Office
Community Wildfire Protection Plan	Sonoma County Community Wildfire Protection Plan	The Community Wildfire Protection Plan (CWPP) is incorporated into the County's Hazard Mitigation Plan. The CWPP identifies wildfire risks and mitigation measures across the County, and lists community-driven Risk Reduction Priorities and specific project recommendations that agencies and community groups can use to develop projects to reduce wildfire risk.	County	Permit Sonoma
Transportation Plan	The Town does not have one. County of Sonoma Transportation Plan	The County of Sonoma is currently developing a Transportation Plan for countywide emergency response during an emergency.	County	County of Sonoma
Climate Action/ Resilience/ Sustainability Plan	Climate Emergency Resolution; Municipal CAP; Windsor Ready! Plan (Climate Adaptation Plan and Vulnerability Assessment) accepted by Town Council February 2022	The 2040 General Plan Health and Safety Element includes policies that address Climate Change Adaptation. In 2019, the Town Council adopted a Climate Emergency Resolution (Resolution 3548-19) that identifies specific measures that are currently being undertaken to address climate change and additional measures that the Town should implement. The 2040 General Plan includes a Qualified Greenhouse Gas Emissions Reduction Plan. The Town does not have a town-wide Climate Action Plan. The Town has a Greenhouse Gas Reduction Plan for Town operations. The Town has a Climate Adaptation Plan (Windsor Ready!). The Town has a Municipal CAP that includes objectives but is not quantified and does not include any required actions. The Climate Adaptation Plan and the General Plan Health and Safety Element identify areas at high risk of natural disasters, such as wildfire-prone areas. However, the plan does not include specific actions for post-disaster recovery, aside from provisions in the Zoning Code for temporary housing. Some updates in the new Zoning Code and the updated Public Health and Safety Element align with mitigation actions from the Local Hazard Mitigation Plan (HMP), particularly those related to wildfire. These plans do not identify socially vulnerable or underserved communities at high risk, nor does it align actions to address their needs with the HMP. Regarding climate goals, the General Plan includes measurable carbon emission reduction targets, and the Municipal Greenhouse Gas (GHG) Reduction Plan outlines actionable strategies. However, the Municipal Climate Action Plan and the Climate Emergency Resolution lack specific, implementable measures.	Municipal	Sustainability Coordinator, Public Works, Community Development

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Agriculture Plan	Zoning Code; General Plan, Environmental Resources Element (Agricultural Resources)	The Zoning Code includes Section 17.22.010 (Agricultural Preservation), which requires buffers between agricultural uses and development to protect the agricultural use. The General Plan includes policies to protect agricultural uses (ER-2.1: Agricultural Uses and ER-2.4: Agricultural and Open Space Preservation), requires a buffer between development and agricultural uses (ER-2.2: Agricultural Buffers), and requires a disclosure for development close to agricultural uses (ER-2.3: Disclosure of Agricultural Activity). The intent of this is to protect agricultural uses, not to address hazards. These buffers do create separation between development and wildland areas that could help mitigate wildfire spread.	Municipal	Community Development

Response and Recovery Planning Documents

Table 11-4 summarizes the response and recovery planning documents for the Town of Windsor.

Table 11-4. Town of Windsor Response and Recovery Plans

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	Adopted October 16,2024 Town Council Resolution No. 3969-24	The EOP integrates the HMP. The EOP specifically references the current HMP, including referring to the hazard assessment, mitigation actions identified, and the Town's ongoing mitigation projects.	Municipal	Town Manager's Office
Threat Hazard Identification and Risk Assessment	Disaster Preparedness Assessment Report and Action Plan for Windsor Water District Wastewater Treatment, Reclamation, and Disposal Facility (WRF) July 27, 2023	This plan includes a risk assessment for the Wastewater Treatment facility, including identifying potential risks to the facility, including natural hazards. However, the plan does not specifically integrate the Hazard Mitigation Plan.	Municipal	Public Works

Integration

The Town of Windsor has made meaningful progress in integrating hazard mitigation into its planning framework, particularly through the 2040 General Plan. Policy PHS-1.1 formally incorporates the HMP into the Public Health and Safety Element, ensuring alignment with FEMA requirements and Assembly Bill 2140. This integration embeds hazard mitigation into land use planning and climate adaptation strategies. The General Plan also includes policies discouraging development in hazard-prone areas and identifies natural hazard zones through figures in the Health and Safety Element, though the Land Use Diagram itself does not.

The Zoning Code, Building Code, and Flood Damage Prevention Ordinance (Windsor Municipal Code Title 9, Chapter 1- Floodplain Management) further support hazard mitigation. These codes include overlays and standards for floodplains, seismic zones, and wildfire-prone areas. The Town's designation as a High and Moderate Fire Severity Zone requires compliance with certain state building standards, enhancing wildfire resilience. However, the Subdivision Ordinance and Zoning Code lack direct hazard mitigation provisions. The Subdivision Ordinance is due for an update. The Zoning Code

Environmental Preservation Standards (Chapter 17.22) and the Site Plan and Design Review (Chapter 17.56) could be updated to integrate the HMP.

The Capital Improvement Plan (CIP) includes projects that address hazards such as flooding, and Town departments review HMP measures during the budget process. However, the HMP is not explicitly integrated into the CIP, representing an opportunity for stronger alignment. Similarly, the Storm Drainage Master Plan helps manage flood risk but is not directly tied to the HMP.

The Open Space Plan, embedded in the General Plan's Environmental Resources Element, supports hazard mitigation by preserving areas such as floodplains and steep slopes. However, it lacks enforceable mechanisms to prevent development in hazard zones. The Climate Emergency Resolution, Municipal Climate Action Plan, and Windsor Ready! Climate Adaptation Plan identify climate-related risks and goals but fall short of including measurable, enforceable actions. The Urban Water Management Plan and Economic Development Strategic Plan are not currently integrated with the HMP, and the latter does not address economic resilience to natural hazards.

The Town's Emergency Management Ordinance (included in the Municipal Code) is outdated (1992) and needs revision to reflect current emergency response practices. The Zoning Code includes Environmental Preservation Standards for Agricultural Preservation, Creekside Development, and Tree Preservation and Protection. The Town regulates and tracks growth through its Growth Management Ordinance. While the Environmental Preservation Standards and Growth Management Ordinance contribute indirectly to hazard mitigation, they could be strengthened to more explicitly support HMP goals.

While the Town of Windsor has made progress in aligning several planning documents and regulatory tools with the HMP there remain key opportunities to strengthen this integration and enhance community resilience through targeted updates and policy enhancements:

- Update the Subdivision Ordinance and Zoning Code to include hazard avoidance standards, such as siting restrictions in floodplains, wildfire zones, and landslide-prone areas.
- Revise the Emergency Management Ordinance to align with modern emergency planning and recovery frameworks.
- Strengthen the Zoning Code by avoiding development in high-risk areas and promoting development in safer zones.
- Integrate the HMP into the Capital Improvement Plan by formally linking mitigation priorities to infrastructure investments.
- Enhance the Municipal Climate Action Plan with measurable targets, enforceable standards, and alignment with HMP mitigation strategies.
- Incorporate hazard mitigation into the Economic Development Strategic Plan, particularly to address economic resilience and recovery.
- Expand the General Plan Open Space policies and the Zoning Code Environmental Preservation Standards and Site Plan and Design Review Standards to include enforceable protections for hazard-prone areas.

- Improve coordination across departments to ensure consistent application of hazard mitigation policies in planning, permitting, and capital projects.

11.6.2 Development and Permitting Capability

Table 11-5 summarizes the capabilities of the Town of Windsor to oversee and track development. To expand these capabilities, the Town could identify permits issued in hazard areas through new permitting software, if it has the capability.

Table 11-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	The Planning Division (Community Development Department) oversees entitlement approvals (use permit, site plan and design review, subdivisions, etc.).
Are permits tracked by hazard area? (For example, floodplain development permits.)	No.	When reviewing permits, the Town determines whether the site is in the floodplain or floodway to ensure compliance with these requirements. The Town's permit tracking system is not able to track permits by hazard area. The Town is in the process of getting a new permit tracking system and would like to include the hazard areas as a layer(s)
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	Yes	The inventory needs to be updated.
Describe the level of buildout in your jurisdiction.	N/A	The Town is mostly built out. There are opportunities within Town limits to redevelop and add development to existing sites. The Town annexed land in the northwestern part of Town in 2020. This area provides the greatest opportunity for new development. There are areas that are able to be annexed to the Town. The Town currently has no plan to annex any areas. Annexation is typically initiated by the property owner.

11.6.3 Administrative and Technical Capability

Table 11-6 summarizes the administrative bodies and programs available to support mitigation initiatives in the Town. To expand and improve these capabilities, the Town could explore the creation of a mitigation planning committee, environmental commission, open space board, or economic development commission.

Table 11-6. Administrative Capabilities

Resources	Available?	Comment
Planning Board	Yes	Planning Commission
Zoning Board of Adjustment	Maybe	Community Development Director serves as the Town's Administrative Hearing Officer.
Planning Department	Yes	Planning Division, Community Development Department
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Public Works Department
Construction/Building/Code Enforcement Department	Yes	Building Division, Community Development Department The Town contracts for code enforcement services.
Emergency Management/Public Safety Department	Yes/No	The Town Manager serves as the Town's Emergency Management Director while Public Safety is contracted with Sonoma County Sheriff Department. The Town does not have its own fire department because it is served by Sonoma County Fire District.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes/	Public Works / Parks Tree trimming for Town property and public right-of-way
Mutual aid agreements	Yes	Shelter – EMMA (County, WUSD, American Red cross, and Nuestra Comunidad) Transportation Training – SCFD PGE - PSPS
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	H/R policies and procedures, but no manual. Job descriptions do not include hazard identification or mitigation functions.
Other	N/A	-

Table 11-7 summarizes potential staff and personnel resources available to the Town and their current responsibilities that contribute to hazard mitigation.

Table 11-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Staff planners and engineers. Contract for services when subject matter expertise is needed.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Staff professionals. Contract for services when needed, such as structural engineers, surveyors, and inspection.
Planners or engineers with an understanding of natural hazards	Yes	Staff professionals. Contract for services when needed.
Staff with expertise or training in benefit/cost analysis	Yes	Staff professionals. Contract for services when needed.
Professionals trained in conducting damage assessments	Yes	Building Division staff is Safety Analysis Program (SAP) trained. Training “updated” every three years.
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Staff in Public Works, Community Development, and Parks and Facilities utilize GIS. Public Works and Community Development contract for GIS services. No specific staff are assigned to this function. The Town is in the process of consolidating its GIS systems and may have the capacity to include the County’s hazard layers for the Town into its GIS.
Staff that work with socially vulnerable populations or underserved communities	Yes	Town Manager’s Office staff Parks and Recreation staff Nuestra Comunidad non-profit
Environmental scientists familiar with natural hazards	Yes	Geologist in Public Works. Contract for services when needed.
Surveyors	Yes	Contract through Public Works when needed.
Emergency manager	Yes	The Town Manager functions as the Town’s Emergency Manager. The Government Operations Manager coordinates emergency management throughout the Town and with other agencies.
Grant writers	Yes	Town staff looks for grant opportunities and writes grant applications. Contract for assistance when needed.
Resilience Officer	Yes	Sustainability Coordinator, Public Works Department
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	There are engineers that deal with stormwater, but not a position with this title. Public Works has staff that may fall under “environmental specialist.” Government Operations Manager

11.6.4 Fiscal Capability

Table 11-8 summarizes financial resources available to Windsor.

Table 11-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes (water and sewer)
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Likely only through grants
Open Space Acquisition funding programs	Sonoma County Agricultural and Open Space District grants have been used. These include a requirement for a Town match.
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Unknown

11.6.5 Education and Outreach Capability

Table 11-9 summarizes the education and outreach resources available to Windsor.

Table 11-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Town Clerk serves as PIO
Personnel skilled or trained in website development	Yes	Town contracts with Civic Plus with department champion for administrative duties. Administrators upload and remove content on the Town's website.
Hazard mitigation information available on your website	Yes	The Town's current Local Hazard Mitigation Plan is available on the Town's website as a document but not a dedicated page.
Social media for hazard mitigation education and outreach	Yes	Facebook, Nextdoor, and Instagram, are the Town's social media platforms. Each Town department has a social media champion that will write and post. There is no specific department designated to social media for hazard mitigation education and outreach.
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Town Emergency Council as required by Municipal Code Title III, Chapter 19 (Civil Defense and Disaster), includes one member of the public.

Outreach Resources	Available?	Comment
Warning systems for hazard events	Yes	Town website – Emergency Alert, SoCo Alerts, Nixle, social media, Town Electronic banner, SCFD electronic banner, Windsor Library electronic banner, Wireless Emergency Alert (WEA) System. On Red Flag days, Red Flags are flown outside fire stations. During evacuations, Hi-Lo sirens are used by the Police Department to notify residents of the need to evacuate.
Natural disaster/safety programs in place for schools	Yes	WUSD is incorporating: https://docs.google.com/document/d/1Y0ELvbh-EvmadnFQyqGTNrtTaurF23Mo/edit
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Nuestra Comunidad
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Windsor COPE, Northern Sonoma County COPE, CERT, Windsor Ready! Talk Series, Windsor Ready! Emergency Guide, Emergency Prep Help, WaterSmart, Nuestra Comunidad, electronic banners located at Windsor Central Exit, SCFD and Windsor Library.

11.6.6 Community Classifications

Table 11-10 summarizes classifications for community programs available to Windsor.

Table 11-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	Yes	3	December 23, 2019
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	1	March 27, 2023
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	No	-	-

11.6.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 11-11 summarizes the adaptive capacity for each identified hazard of concern and the Town’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 11-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Not Applicable
Tsunami	Not Applicable
Wildfire	Moderate

11.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Section 11.1 is responsible for maintaining this information.

The Town has adopted the NFIP minimum floodplain management criteria via local regulation. The Town's Muni Code Section 9-1-305 adopted the Flood Insurance Rate Map (FIRM) dated April 2, 1991, and all amendments and/or revisions are adopted by reference and made a part of the chapter. The Building Official is responsible for implementing the requirements of the NFIP by requiring permits for all development within SFHAs shown on the latest FIRM. The Building Official reviews proposed development for compliance with applicable floodplain standards, including elevation or floodproofing, floodway restrictions, and certification requirements. Compliance is enforced through permit conditions, inspections, and documentation, with enforcement actions taken as necessary to address non-compliant development and maintain consistency with NFIP.

The Town implements the substantial improvement/substantial damage provisions of its floodplain management regulations by requiring property owners, following a damaging event or proposed improvement, to submit a detailed cost estimate prepared by a licensed contractor, along with documentation of the structure's pre-event market value, typically based on an appraisal or local tax-assessed value. Cost estimates are reviewed and evaluated in accordance with FEMA P-758, which defines costs that must be included and excluded when determining substantial improvement or substantial damage. The Chief Building Official uses this documentation to determine whether the cost of repairs or improvements equals or exceeds 50 percent of the structure's market value. If that threshold is met, the structure is classified as substantially damaged or substantially improved and must be brought into full compliance with current floodplain management standards as a condition of permit approval. The jurisdiction documents the determination and enforces compliance through its permitting authority.

While the Town participates in the NFIP, it does not participate in the CRS. Table 11-12 provides a summary of NFIP compliance in Windsor.

Table 11-12. NFIP Compliance

Question	Comments
What local department is responsible for floodplain management?	Community Development, Public Works
Are any certified floodplain managers on staff in your jurisdiction?	Yes Deputy Director of Water and Environmental Management, Public Works Department
Do you have access to resources to determine possible future flooding conditions from climate change?	No. These would likely be obtained through consultant services or through online resources like FEMA, ABAG/MTC, Cal OES, etc.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No Private property flooding is currently not an issue for Windsor. Most flooding is related to public property/open space areas (such as the golf course) and roadways.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Town staff review permits for compliance with the Town's floodplain management ordinance and identify FIRM designations for property owners.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Substantial improvement is defined by the Town's Municipal Code regulations in Title IX – Flood Damage, Flood Control, and Drainage. The Building Official determines whether a proposed structure meets the definition of a substantial improvement.
What are the barriers to running an effective NFIP program in the community, if any?	Private property flooding is not a significant enough hazard issue compared to others. The Town can better use resources elsewhere. There has not been interest/request for this.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2019

Question	Comments
What is the local law number or municipal code of your flood damage prevention ordinance?	Municipal Code Title IX – Flood Damage, Flood Control, and Drainage Floodplain Management became part of the Town's Municipal Code in 2008 (Ord. No. 2008-235). It was previously a standalone ordinance, separate from the Municipal Code.
What is the date that your flood damage prevention ordinance was last amended?	Ordinance was amended in 2008 (Ord. No. 2008-249) to add Storm Water Quality (Chapter 4).
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	Meets
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	The Zoning Code includes a Flood Hazard Overlay zoning district – Section 17.18.040 Flood Hazard Overlay Zone (-FH).
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	The Town is not part of the CRS program. Staff are not aware of community interest in the CRS program.

11.7.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the Town. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. Table 11-13 summarizes the repetitive loss and severe repetitive loss properties in the Town.

Table 11-13. Repetitive Loss Summary

Type of Repetitive Loss	Residential	Non-Residential
Repetitive Loss Properties (NFIP definition)	1	1
Repetitive Loss Properties (FMA definition)	0	0
Severe Repetitive Loss Properties (NFIP definition)	1	0
Severe Repetitive Loss Properties (FMA definition)	2	0

Source: (FEMA 2024)

Note: See Appendix C for definitions of repetitive loss types presented in this table.

11.7.2 Flood Vulnerability Summary

Table 11-14 provides a summary of flood vulnerability in the Town.

Table 11-14. Flood Vulnerability Summary

NFIP Topic	Comments
Describe areas prone to flooding in your jurisdiction.	Table 11-18 identifies area within the Town that have flooded over the past five years and are a good indicator for flood prone areas. Flooding tends to be in public right-of-way and roadways, rather than private property.
Do you maintain a list of properties that have been damaged by flooding?	No. Private structures are not typically damaged by flooding in Windsor.
Do you maintain a list of property owners interested in flood mitigation?	No. Staff are not aware of property owners requesting flood mitigation assistance.
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	The Town is not aware of any requests from property owners for assistance with mitigation.
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	No
How do you make Substantial Damage determinations?	Substantial damage is defined by the Town's Municipal Code regulations in Title IX – Flood Damage, Flood Control, and Drainage. The Building Official would make this determination.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	None
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes

11.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 11-15 through Table 11-17.

As part of implementing one of the mitigation actions in the 2021 HMP, the Town has applied the Moderate Fire Hazard Severity Zone designation to all areas within the town limits that are not designated by the State Fire Marshal as Moderate or High on the Fire Hazard Severity Zone Map (February 24, 2025). As part of this designation, projects are required to implement certain state fire standards, which are identified in the Town's adopted Building Code. This applies to all new construction, including major additions.

Table 11-15. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2020 New Construction Permits Issued	32	0	1	33
2020 Permits Issued within SFHA	0	0	0	0
2021 New Construction Permits Issued	12	3	0	15
2021 Permits Issued within SFHA	0	0	0	0
2022 New Construction Permits Issued	22	14	1	37
2022 Permits Issued within SFHA	0	0	0	0
2023 New Construction Permits Issued	26	2	3	31
2023 Permits Issued within SFHA	0	0	0	0
2024 New Construction Permits Issued	24	3	1	28
2024 Permits Issued within SFHA	3	0	0	3

SFHA = Special Flood Hazard Area

Table 11-16. Recent Major Development and Infrastructure from 2019 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Storage Pro	Commercial Mini-storage	0/8	5855 Pruitt Ave. 059-271-110	Partial Flood Hazard Zone (Pruitt Creek)	Completed 2020
Veterans Village	Residential Multi-family	60/10	9500 Oak Park St. 066-060-070	No	Completed 2021
Kittyhawk Warehouse	Commercial	0/1	1145 Kitty Hawk Blvd. 164-240-016	No	Completed 2021
Encore Events	Commercial /Industrial	0/1	1001 American Way 164-550-018	No	Completed 2023
280 and 330 Arata Lane Subdivisions	Residential SFDs	12/12	10021 Los Amigos Rd/161-500-036; 10015 Los Amigos Rd; 161-500-035; 339 Graciela Dr/161-500-033; 345 Graciela Dr/161-500-034; 351 Graciela Dr/161-500-041; 357 Graciela Dr/161-500-042; 363 Graciela Dr/161-500-043; 340 Graciela Dr/161-500-031; 346 Graciela Dr/161-500-032; 352 Graciela Dr/161-500-038; 358 Graciela/161-500-039; 364 Graciela Dr/161-500-040	No	Completed 2023
Redwood Views	Residential	52/3	8470 Old Redwood Hwy. 164-050-050	No	Completed 2024
Shiloh Terrace	Residential	134/2	65 Shiloh Rd. 163-171-043	No	Under Construction Estimated completion 2025

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Shiloh Crossing	Mixed Use 173 multi-family units with small commercial component	173/2	295 Shiloh Rd. 163-171-039	No	Under Construction Estimated completion 2025
Portello (aka Victoria Oaks) Subdivision	Residential Detached and attached SFD	89/89	Del Roble Ln Victory Ln Portello Ln Pool Creek Ln Spanish Oak Dr Atascadero Dr Calabazas Dr Acorn Wy	Partial Flood Hazard Zone (Pool Creek)	Completed Spring 2025
Shiloh Mixed Use	Mixed Use 29 multi-family units and neighborhood market	29/4	1180 and 1200 Shiloh Rd. APNs164-150-012 and -064	No	Under Construction Estimated completion 2025
19th Hole Subdivision	Residential Detached SFD	11/11	0 19th Hold Dr. 164-570-001 through -011	Flood Hazard Zone (Pool Creek)	Under Construction
Old Redwood Hwy Village	Residential	29/29	0, 6114 and 6122 Old Redwood Hwy. 163-172-019, -020, -021	No	Under Construction Estimated completion 2025
Maywood Subdivision	Residential 8 Detached SFD	8/8	6500 and 6516 Old Redwood Hwy. 163-012-016 and -017	No	Under Construction Estimated completion 2025

a. Only location-specific hazard zones or vulnerabilities identified.

Table 11-17. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Overlook Subdivision Phases 1 and 2	Residential	14/14	164-560-001 through -013	No	Approved
Shiloh Apartments	Mixed Use 60 multi-family units and small commercial component	60/6	164-350-001 0 Gold Course Dr	Partial Flood Hazard Zone (Pool Creek)	Approved
Heritage Park Apartments	Residential Multi-family	33/3	8685 Old Redwood Hwy. 164-100-023	No	Under Construction
Richardson Street Mixed-Use (aka Windsor Place)	Mixed-Use Commercial and Residential	30/1	9100 Richardson St. 066-100-068	No	Approved
McClelland Hotel	Commercial	160/1	550 McClelland Dr. 066-010-067	No	Approved
Shiloh Business Park	Industrial	0/3	5937 Pruitt Ave. 059-271-095	Flood Hazard Zone (Pruitt Creek)	Approved

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Clearwater Senior Living	Mixed Use Senior Living (141 senior apartments, 71 assisted living, 34 memory care), 10 apartments and commercial	256/6	059-271-059	Flood Hazard Zone (Pool Creek)	Approved
Estates at Ross Ranch	Residential	31/31	1295 Jensen Ln. 162-020-004	No	Approved
Mill Creek	Residential	360/16	8703, 8711, 8713, 8777 Bell Rd., 8820 Larsen Wy 164-010-020, 164-020-005, 164-020-006, 164-020-007, 164-020-008, 164-020-041, 066-170-013, & 066-170-033	Flood Hazard Zone (Windsor Creek) 164-020-041 only	Approved
Duncan Village	Residential	16/13	484 Wall St. 066-081-092	No	Approved
Redwood Glen Apartments	Residential	43/1	8550 and 8560 Old Redwood Hwy. 164-080-038 and -002	No	Approved
Kashia	Residential	54/5	10221 Old Redwood Hwy. 164-040-008	No	Approved
DenBeste Warehouse	Commercial	0/1	700 American Way 163-270-002	No	Approved
Chevron Gas Station	Commercial	0/2	9120 Old Redwood Hwy. 161-070-066	No	Approved
Shell Gas Station	Commercial	0/2	9033 Old Redwood Hwy. 066-100-062	No	Approved
Windsor Gardens Apartments	Residential	12/12	6100 Old Redwood Hwy 13-172-017	No	Approved
Sherlock Homes Subdivision	Residential	7/7	260 Arata Ln. 161-050-060	No	Approved
Hembree Lane Oaks Subdivision	Residential	24/24	7842 Hembree Ln. 163-080-047	No	Approved
Quail Acres Subdivision	Residential	301/301	325 Arata Ln./161-020-053 259 Arata Ln./161-020-060 0 Arata Ln./ 161-020-058	No	Approved
The Artesian of Windsor Assisted Living and Memory Care	Residential/ Commercial	64/3	6675 Old Redwood Hwy. 163-011-066	No	Approved
The Mews at Pool Creek	Residential	29/25	6405 Old Redwood Hwy. 163-011-036	Flood Hazard Area (Pool Creek)	Under Review
Cora Creek	Residential	106/2	8975 Conde Ln. 164-020-023	Flood Hazard Area (Windsor Creek)	Approved

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
BoDean Company Asphalt Plant	Industrial	0/1	470 Caletti Ave. 059-271-103	No	Under Review
Windsor Hotel	Commercial	115/1	160 Arata Ln. 161-050-069	No	Under Review
Los Amigos Cottages	Residential	32/32	263 Arata Ln. 162-020-049	No	Under Review
Arata North Subdivision	Residential	55/55	161-020-064 and -065	No	Under Review

a. Only location-specific hazard zones or vulnerabilities identified.

As noted above, three building permits were issued in SFHAs over the past five years, and about 100 units are currently under construction in known flood areas. Development within the SFHAs associated with Pool, Pruitt, and Windsor Creeks will continue within the next 5 years. Therefore, the overall vulnerability has increased since the previous plan was adopted.

11.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Windsor's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

11.9.1 Hazard Area

Maps of probable hazard areas in the Town are shown in Figure 11-7 and Figure 11-8. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Windsor has significant exposure.

Figure 11-7. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

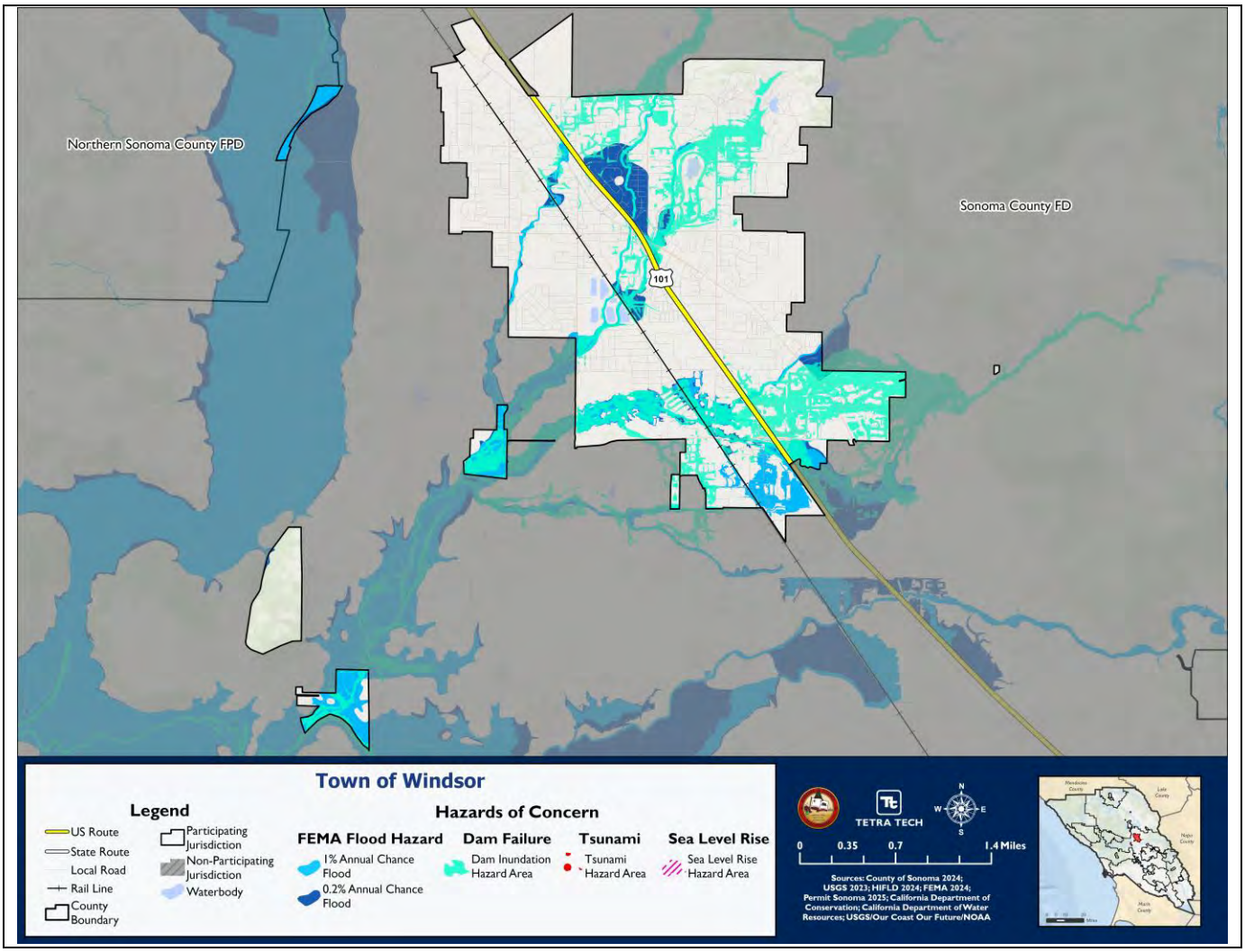
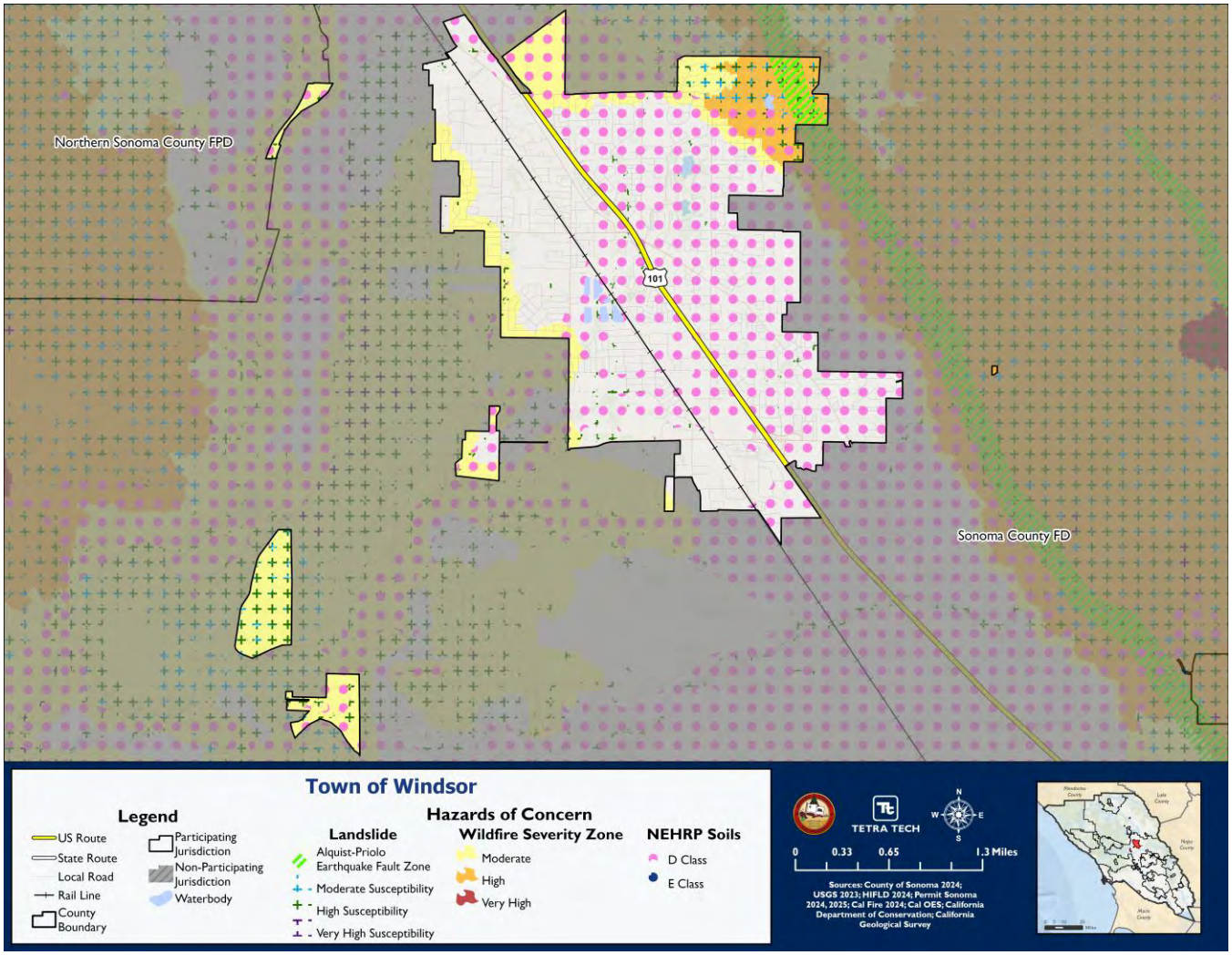


Figure 11-8. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



11.9.2 Hazard Event History

The history of natural and non-natural hazard events in the Town of Windsor is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 11-18 provides details on loss and damage for the Town during hazard events since the last hazard mitigation plan update.

Table 11-18. Hazard Event History for the Town of Windsor, 2021-2025

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
January 26-29, 2021	Flood and Debris Flow	A plume of moisture from the tropical Pacific brought an Atmospheric River to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	The Town experienced residual road flooding, downed trees, and temporary road closures. Storm summary: Road Flooding • Old Redwood Hwy @ Dawn Way • Arata Ln @ HWY 101 offramp • Old Redwood Hwy @ Pleasant Ave • Pleasant Ave @ Sugar Maple Ln • Road Closed • Polaris Drive No expenses reported to Cal OES.
March 10, 2021	Hail	A cold upper low moved through the region in early March bringing widespread showers and isolated thunderstorms to the Greater Bay Area. The Santa Rosa Fire Department reports multiple vehicle accidents on US-101 due to accumulating small hail.	The Town experienced residual road flooding, downed trees, and temporary road closures. Storm summary: Road Flooding • Old Redwood Hwy @ Dawn Way • Arata Ln @ HWY 101 offramp • Old Redwood Hwy @ Pleasant Ave • Pleasant Ave @ Sugar Maple Ln • Road Closed • Polaris Drive No expenses reported to Cal OES.
August 19,2021	Public Safety Power Shutoff (PSPS)	A low-pressure system will continue to exit the Central Rockies today and any remaining north to northeast winds will diminish across Northern California during the first half of the day. The National Weather Service still have Red Flag Warnings in effect for a large portion of northern California, and they will expire later today.	No impact to the Town of Windsor Link to PG&E documentation HazMat-Prog - PSPS - All Documents PG&E Community Wildfire Program

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
November 8, 2021	Flood	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	The Town experienced residual road flooding, downed trees, and temporary road closures. Storm summary: Road Flooding • Old Redwood Hwy @ Dawn Way • Arata Ln @ HWY 101 offramp • Old Redwood Hwy @ Pleasant Ave • Pleasant Ave @ Sugar Maple Ln • Road Closed • Polaris Drive Down Trees • Judit Court • Pleasant Park – Pleasant Avenue • Shiloh Road No expenses reported to Cal OES.
December 13, 2021	Flood	A low pressure system descended from the Gulf of Alaska southward along the entire Pacific Coast and tapped into sub-tropical moisture originating from the Central Pacific to drop heavy rain throughout the state. Heavy rain caused flooding on Labath Ave and the closure of SR 12 between Route 116 and 8th St.	The Town experienced residual road flooding, downed trees, and temporary road closures. Storm summary: Road Flooding • Old Redwood Hwy @ Dawn Way • Arata Ln @ HWY 101 offramp • Old Redwood Hwy @ Pleasant Ave • Pleasant Ave @ Sugar Maple Ln • Road Closed • Polaris Drive No expenses reported to Cal OES.
January 9, 2023	Flood DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton. A 43-year old woman from Ukiah was recovered on the 10th after her car got stuck in floodwaters.	The Town declared a local emergency adopting Resolution 3813-23. The Town experienced residual road flooding, downed trees, and temporary road closures with reported damages. Summary • Windsor Rd flooded at Pool creek • Windsor Rd from Mitchell to Shiloh is closed The Town submitted expenses of $40k, of which $10k was allocated to Emergency Protective Measures for a rented generator for the water reclamation plant, and $30k for a downed tree resulting in damage to Shiloh/Mayacama Tank Sight 3, the removal of the tree and replacement of fencing surrounding the tank sight. Town Manager/Director of Emergency Services Proclamation Declaring a Local Emergency (Resolution No. 3813-23).

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
February 17-20, 2023	Flood/Wind	National Weather Service issued a hazardous weather alert for heavy rain, winds, lighting, and beach/marine hazards. The weather pattern had two systems, System 1 bringing wind, rain, and beach concerns for February 17 and then System 2 bringing rain, wind and thunder storms from February 18 to 20, 2023. NWS upgraded to an Atmospheric River between Category 2 to 5 resulting in significant runoff, local flooding, and down trees. Per the National Weather Service (NWS), the ongoing storm system has a small chance of causing Wireless Emergency Alerts (WEA) to be sent to residents of Sonoma County. Wireless Emergency Alerts (WEAs) A WEA may be sent by NWS to residents of Sonoma County beginning at 11pm 2.18 and extending through 8am 2.19 WEAs may be sent for any of the following threats: Flash Flooding (<15% chance) Severe Thunderstorm (<10% chance) Tornado (<3% chance)	The Town's emergency services partner Sonoma County Fire District had no power resulting in the SCFD DOC to run off generator for over 48 hours. The Town experienced residual road flooding, downed trees, and temporary road closures. Summary: Flooding • Caletti Avenue @ Shiloh Road • Conde Lane @ Oakfield • Old Redwood Highway @ Dawn Way • Arata Lane east of Marcella Lane • Shiloh Road east of Hembree Ln. Westbound lane only • Windsor Road @ Pool Creek ROAD CLOSED due to flooding • Windsor Road @ Shiloh Road • Windsor Road @ Mitchell Lane No expenses reported to Cal OES.
March 9, 2023	Flood DR-4699-CA EM-3592-CA CA23-3	Sub-tropical jet stream aided in advecting sub-tropical moisture plume from over the Central Pacific into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	The Town experienced residual road flooding, downed trees, and temporary road closures. Summary of events: • Flooding resulting in closing Highway 101 at Shiloh Northbound offramp due to flooding. • Windsor Road between Shiloh Road and Mitchell Lane due to flooding at Pool Creek. • Old Redwood Highway at Dawn Way. • Highway 101 at Arata Lane Northbound offramp has standing water. • Northbound Old Redwood Highway at county line. • Roadside flooding on Eastbound Shiloh Road. No expenses reported to Cal OES.

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
January 31, 2024	Flood	A quick-moving cold front came through California on January 31, bringing widespread rain and high winds. A water rescue occurred on Mark West Station Road at Starr Road.	The Town experienced residual road flooding, downed trees, and temporary road closures. Summary: Flooding resulting in closing • Windsor Road @ Pool Creek from Mitchell Ln to Shiloh Road • Eastbound Shiloh Road between Conde Lane and Highway 101 • Starr Road @ Indiana • Southbound Conde Lane, south of Oakfield Lane. • Flooded: Merner Lane @ Old Redwood Highway – all lanes flooded, encroaching into Old Redwood Highway – road signs out. • Flooded: Eastbound Reiman Lane at Oak Way – flooded with road signs • Flooded: Westbound Shiloh Road @ Hembree Lane – right lane flooded with road signs. • Flooded: Southbound Conde Lane, south of Oakfield lane – road signs out. • Flooded: Merner Lane @ Old Redwood Highway – all lanes flooded, encroaching into Old Redwood Highway – road signs out. • Flooded: Eastbound Reiman Lane at Oak Way – flooded with road signs • Flooded: Westbound Shiloh Road @ Hembree Lane – right lane flooded with road signs. No expenses reported to Cal OES.

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
February 4, 2024	Flood	A quickly-moving cold front came through the region on the 17th, causing minor nuisance flooding and gusty winds. A second, deeper but slower moving, system followed the next day with widespread rain and gusty winds. A warm front associated with this low came through the region late on Sunday the 18th, followed by the associated cold front and associated thunderstorms on Monday the 19th. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two different spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road before and after Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound California Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. California Route 12 was closed until 8 AM due to flooding from Fremont Drive to Watmaugh Road. Creek flowing over Mark West Station Road after heavy rainfall. Mud, dirt, and rock blocking Los Alamos Road.	The Town experienced residual road flooding, downed trees, and temporary road closures. The Town experienced residual road flooding, downed trees, and temporary road closures. Summary: FLOODED ROADWAYS • Starr Road North of Woody Creek • Reiman Lane @ Oak Way • Westbound Shiloh Road @ Hembree Lane • Old Redwood Highway @ Pleasant Avenue • Arata Lane @ Brooks Road South HAZARDOUS CAUTIONS – Debris in roadways, cleanup underway. • Lakewood Drive • Hembree Lane • Foothill Drive The Town's Parks department was impacted significantly with damages to the following: East Division • Robbins Park *1 large tree down "tree company will be scheduled", 1 large manzanita down, 1 large limb. • PO Park 1 limb • Esposti Park 1 large Eucalyptus limb • Emerson ln multiple medium limbs • Pleasant Ave 2 medium trees with resident fence damage • 1 medium pear tree down Leaf Haven X Hembree Blocking sidewalk completely. Dan will handle this today • Small to medium limbs in the areas of Shade Tree, Vinecrest, Billington, skylark and the Soundwall. West Division • Fence down on starburst wind related • Starr Creek Park 1 medium tree down • Los Robles Park lots of medium limbs • South Division • Trione Circle Large redwood limb into resident fence. No damage to fence. Being mitigated and in contact with resident • Trione Circle medium/large Eucalyptus limb down North Division • Hiram Lewis Park large Willow tree from resident down with fence damage. The tree has a Beehive inside we are attempting to save. Currently in communication with resident and beekeepers. Trail is closed until we hear the Bee plan then will proceed with tree company • Multiple limbs down in Lakewood Islands • Fractured limb hazard on Los Amigos x Pallard currently being mitigated. The event also impacted roadways due to debris and a power pole snapped.

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
			The Town experienced significant power outages with the following being reported: • Widespread Power Outages affecting traffic signals. Road signs have been deployed. Proceed with caution! • Shiloh Road @ Old Redwood Highway • Shiloh Road Northbound Highway 101 offramp • Shiloh Road Southbound Highway 101 onramp • Shiloh Road @ Skylane Blvd No expenses reported to Cal OES.
July 2, 2024	Public Safety Power Shutoff (PSPS)	Winds associated with the second period of north winds have tapered off and all clear has been declared for every area impacted by the PSPS event. Crews are patrolling lines now to ensure they are safe to reenergize. As a result, we have removed the PSPS warning from the forecast today. Temperatures are extremely hot today with widespread temperatures to 110+ in interior valleys. The heat event will ease slightly on the 4th of July for areas near the coast as a sea breeze and some marine cloudiness returns, but extremely hot conditions continue for the next week or longer across the interior. In fact, temperatures in Redding, Red Bluff, Fresno and Bakersfield may exceed 110 for a solid week in a row. The extreme heat wave is rapidly drying out fuels, leading to a swift increase in the fire potential and potential for spread on any new ignitions or existing incidents.	No reported impacts on the Town of Windsor Link to PG&E documentation HazMat-Prog - PSPS - All Documents -PG&E Community Wildfire Program
November 20 – 23, 2024	Flood	A strong atmospheric river made landfall in Sonoma County on Wednesday, November 20. Heavy rain persisted through Friday, November 23, with record rainfall of approximate 13 inches. National Weather Service issued a Wind Advisory, Flood Advisory, and Flood Watch during this period. The Sonoma County OA reported 2 deaths due to the event with creek, stream and river flooding. Mudslides occurred in unincorporated areas with flooding trapping individuals in commercial establishments. The Russian River crested at 34.68ft at Moderate flood stage and Mark West Creek at Mirabel Heights crested at 64.75 ft at Moderate/Major flood stage on Friday. The County declares local emergency ratified by the County Board of Supervisors on December 3, 2024.	Roadside flooding in Windsor started by noon on Old Redwood Highway at Merner Drive, Pleasant Avenue, and Bluebird Drive at the Palms Center, and Reiman Way. The Town had a total of 5 total road closures by Thursday that included Highway 101 Northbound exit at Shiloh Road. Impacts included storm drainage blockage resulting in Brianne Court to flood with residential properties having limited access. The Sonoma County OA reported 2 deaths due to the event with creek, stream and river flooding. Mudslides occurred in unincorporated areas with flooding trapping individuals in commercial establishments. The Russian River crested at 34.68ft at Moderate flood stage and Mark West Creek at Mirabel Heights crested at 64.75 ft at Moderate/Major flood stage on Friday. No expenses reported to Cal OES.

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
December 13 - 16, 2024	Flood	A strong atmospheric river made landfall in Sonoma County on Friday, December 13. Multiple advisories and warnings were issued for the event that ended on December 15. Flood advisory remains in effect for interior Sonoma County until Monday, 12.16 due to lingering small stream and urban flooding. Rainfall: 5.98 inches High Wind Warning and Advisory was issued with a Coastal Flood Advisory resulting in Minor coastal flooding expected due to high tides. Flooding of lots, parks, and roads with only isolated road closures along the SF Bay. An additional High Surf Advisory was in effect as well.	Roadside flooding in Windsor started by noon on Old Redwood Highway at Pleasant Avenue at 10PM. Additional locations were impacted and road closures occurred on December 14 Windsor Road @ Pool Creek between Mitchell Lane & Shiloh Road No damage or expenses reported to Cal OES.

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
February 4 - 7, 2025	Flood	An emergency proclamation was issued in response to the impacts from the storms. Evacuation orders have been issued for low-lying areas around the Russian River due to an anticipated crest of 36.6 feet. Excessive rainfall has caused landslides and flooding throughout the County. A Frost Advisory has been issued for expected low overnight temperatures over the next two days. **Emergency Proclamation:** The County Executive issued an emergency proclamation in response to the winter storms on February 4 at 6:00 PM. **Evacuation Orders:** Sonoma County Sheriff's Office has issued an Evacuation Order for low lying areas along the Russian River. Everyone along the Russian River from unincorporated Healdsburg to Jenner located at 36 feet or below is under the evacuation order. https://socoemergency.org/ A Temporary Evacuation Point (TEP) has been established at Garrett Hall at the Sonoma County Fairgrounds for evacuees. **EOC Activation:** The Sonoma County EOC will be opening at 6:00 AM on February 5th in response to the ongoing issues across the County. **Rainfall/Flooding Updates** **Flood Warning** A Flood Warning is in effect from this evening until further notice for the Russian River at Guerneville and points downstream. Moderate stream flooding is continuing. **Flood Watch** A Flood Watch remains in effect through 4:00 AM Wednesday morning for the rest of the County. Excessive runoff may result in flooding of rivers, creeks, streams, and other low-lying areas. Flooding may occur in areas with poor drainage or urban areas. **Additional Rainfall:** Additional rainfall is expected through Friday, with an additional 1-2" possible and another atmospheric river Thursday into Friday.	Impacts to Windsor were extensive and not all locations could be identified with major corridors being closed. A summary of all locations reported to 2/4/25 at 3:45pm: Both PG&E and Sonoma County Fire District activated their own DOC to respond to calls and emergencies being reported. **Closed and reopened** • Arata Lane between Biggs Lane to Marciella Lane • Old Redwood Highway @ Dawn Way • Camelot Drive @ Jane Drive • 7014 & 7015 Edenburgh Court **Road CLOSURE – Flooded** • Bell Road – behind Windsor Mobile Country Club • Conde Lane @ American Wy to Shiloh Road • Camelot Drive @ Jane Drive • Northbound Hwy 101 offramp @ Shiloh Road • Eastbound Shiloh Road @ Conde Lane to SB Hwy 101 onramp • Windsor Road @ Pool Creek between Mitchell Lane & Shiloh Road • Northbound Hwy 101 offramp @ Arata Lane – vehicle stranded waiting on tow **Flooding – Road Open** • 13th Hole @ Eagle Drive • Eaton Ct • Hastings Ct @ North Hampton • 8109 Conde Lane @ Windsor Mobile Country Club • Polaris Drive @ Orion Drive • Foothill @ Valley Vista St to Espana Wy • Hembree Lane @ Skylark St • Starr Road @ Buckingham Drive • Gumview Road @ Kidd Road **Other** • Starr Road – Traffic Control down to 1 lane The Town experienced damage to Hiram Lewis Tennis courts at $31k but wasn't reported to Cal OES. Additional nuisance was worked at Edinburgh Court with residual mud creeping into the roadway from a local creek (Pool Creek) located behind the homes. No damages were reported or submitted through DEM or Cal OES.

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
		Frost Advisory: A Frost Advisory has been issued for from 11:00 PM tonight until 9:00 AM Wednesday. Expected overnight temperatures will be in the low 30's across the Interior Valleys, with coldest locations expected in Sonoma Valley. Expected Impacts: • 32 ft - Flood stage. Minor flooding. Lower Mill Street in Guerneville and Old Bohemian Highway in Monte Rio are expected to flood. • 32.5 ft - In Guerneville the intersection of HWY 116 and Neeley Rd is closed. Mays Canyon Rd by the old rodeo grounds is closed. A Wind Advisory was issued and expanded with gusts to reach 60mph with chances of thunderstorms with continued rain to Friday, February 7. Widespread gusty winds of 25 to 35 mph • Locally stronger (35+ mph) gusts are possible across the interior North Bay Mountains with some potential for isolated strong gusts to mix down into the valleys • Monitoring winds on Monday afternoon/evening around the time of cold frontal passage • Temperatures in the low to mid 30s across the valleys and mid to upper 30s in the higher terrain • Temperatures drop further next weekend into the low to mid 30s The rain overnight over-preformed expectations and caused minor to moderate urban and stream flooding with several reports of landslides across the North Bay. Notably, the Russian River at Guerneville is now expected to reach minor flood stage early Wednesday morning. The main band of rain will move very slowly across the rest of the Bay Area today, with increasing intensity as the cold front moves through in the afternoon. This will also bring strong southerly winds and an increasing chance for thunderstorms, especially for areas south and east of San Francisco.	

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in Windsor
		With potential thunderstorms and strong winds, there is an outside chance for storms to start rotating, and, while unlikely, a landfalling waterspout or weak tornado cannot be ruled out. A break on Wednesday before more moderate rain and wind return Thursday. Cold weather sets in for the weekend, with most inland areas dropping into the low 30s. Once it arrives, the cold weather will persist into early next week.	

11.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for the Town of Windsor.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Table 11-19 shows the Town of Windsor's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 11-19. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flood	Low
Landslide	Low

Hazard	Rank
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

Because the Town is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities in Windsor .

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to the Town of Windsor.

Table 11-20 summarizes the percentage of the jurisdiction's general buildings and community lifelines located in the mapped hazard areas for the hazards of local concern. Table 11-21 shows the percentage of the jurisdiction's total population and socially vulnerable populations in each of these hazard areas. Additional details on these results are provided in the hazard profiles in Volume I.

Table 11-20. Vulnerability of Community Assets to Mapped Hazards of Local Concern

Mapped Hazard Area[a]	Number of Buildings	Value of Buildings	Community Lifelines
Dam Failure High and Extremely High Inundation Area	6.2%	6.2%	13.3%
NEHRP D & E Soils	63.6%	62.0%	69.3%
1% Annual Chance Floodplain	1.3%	2.0%	14.7%
0.2% Annual Chance Floodplain	6.2%	6.8%	21.3%
Geologic Hazard Area	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	0.4%	0.6%	0.0%
High Landslide Susceptibility Area	2.7%	2.9%	10.7%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	11.1%	10.6%	8.0%
High Fire Hazard Severity Zone	2.4%	2.7%	2.7%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

Table 11-21. Populations Living in Mapped Hazard Areas

Mapped Hazard Area[a]	Total Population	People Under 5	People Over 65	Non-English Speakers	People With Disabilities	People Living in Poverty	Single Parent Household	No Vehicle Access
Dam Failure High and Extremely High Inundation Area	5.0%	4.9%	5.0%	4.9%	4.9%	4.9%	5.0%	4.9%
NEHRP D & E Soils	67.8%	67.8%	67.8%	67.8%	67.8%	67.8%	67.7%	67.5%
1% Annual Chance Floodplain	0.8%	0.7%	0.8%	0.7%	0.8%	0.7%	0.7%	0.6%
0.2% Annual Chance Floodplain	6.2%	6.1%	6.2%	6.1%	6.2%	6.1%	6.1%	6.1%
Geologic Hazard Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Landslide Susceptibility Area	0.4%	0.3%	0.4%	0.3%	0.4%	0.3%	0.3%	0.0%
High Landslide Susceptibility Area	2.6%	2.5%	2.6%	2.4%	2.6%	2.5%	2.5%	2.5%
Very High Landslide Susceptibility Area	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Sea Level Rise	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tsunami	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Moderate Fire Hazard Severity Zone	11.5%	11.4%	11.5%	11.4%	11.5%	11.4%	11.4%	11.0%
High Fire Hazard Severity Zone	2.8%	2.8%	2.8%	2.7%	2.8%	2.8%	2.8%	2.5%
Very High Fire Hazard Severity Zone	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

a. See the hazard profiles in Volume I for definitions of each mapped hazard area.

There are 724 buildings in the Town that are located in the high hazard **dam failure** inundation area; 416 residential buildings, 292 commercial buildings, seven industrial buildings, and nine buildings in the government, religion, agriculture, and education category. There are 10 critical facilities in the high hazard dam inundation area: a bank, local bridges, Brooks Elementary School, a state bridge, and a water well. There are 1,303 people living in the high hazard dam inundation area, including 222 people over age 65.

Drought is unlikely to cause physical changes to buildings, facilities, or infrastructure. However, certain community lifelines are vulnerable to collapse if water is unavailable, such as the water systems lifeline. Two municipal water tanks and a municipal water well are identified as critical facilities vulnerable to drought. The total population of the Town (26,179 people) could be impacted by a drought if water rationing is implemented. In particular, the 4,471 people over age 65 are vulnerable to dehydration in drought conditions.

Buildings located on National Earthquake Hazards Reduction Program (NEHRP) Class D and E soils are more likely to be damaged during an **earthquake**. Almost two-thirds of the buildings in Windsor (63.6 percent) are located on NEHRP Class D and E soils. In addition, 52 community lifeline facilities

are located on Class D and E soils. This includes banks, daycares, Sonoma County Fire District Headquarters, Windsor Regional Library, local bridges, the Civic Center, Windsor Post Office, schools, shelters, solar arrays, state bridges, Providence Urgent Care, veterinary offices, and a water well. Two-thirds of the Town's residents (67.8 percent) live on Class D and E soils, including 3,033 people over age 65.

Extreme heat is unlikely to cause physical damage to buildings, facilities, or infrastructure. The Town has two municipal water tanks that are water system community lifelines. During an extreme heat event, the evaporation of water inside the tanks could increase. Individuals who do not have access to air conditioning are vulnerable to health complications during extreme heat episodes. In particular, the 4,471 people above age 65 and 1,223 individuals living below the poverty line could be at risk for heat stroke, especially those who fall into both categories.

Extreme cold is unlikely to cause physical damage to buildings and facilities, although it has the potential to freeze and burst building infrastructure that contains liquids or gases. Extreme cold also presents a risk to populations that do not have access to heating, such as the 26 people experiencing homelessness.

Extreme wind may cause superficial damage to buildings, especially when the wind triggers falling trees or branches that land on roofs, windows, or doors. In addition, the 2,728 people with disabilities or the 4,471 people over age 65 may experience difficulty walking through strong gusts of wind.

The Town has low exposure to **flooding**, with 150 buildings in the 1 percent annual chance floodplain and 729 buildings in the 0.2 percent annual chance floodplain. There are 11 critical facilities (local bridges and a bank) located in the 1 percent annual chance floodplain and five critical facilities (banks, a daycare, a local bridge, and a veterinary hospital) located in the 0.2 percent chance annual floodplain. There are 203 people living in the 1 percent annual chance floodplain, including 21 people living with a disability. There are1,616 people living in the 0.2 percent annual chance floodplain, including 168 people living with a disability. Table 11-22 identifies critical facilities in the community located in the 1 percent and 0.2 percent annual chance floodplains.

Table 11-22. Critical Facilities Flood Vulnerability

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
Pool Creek – Old Redwood Hwy	Local Bridge (20C0086)	X	X
Pool Creek – Windsor Rd	Local Bridge (20C0337)	X	X
Pool Creek – Hembree Lane	Local Bridge (20C0053)		
East Windsor Creek – Old Redwood Hwy	Local Bridge (20C0502)	X	X
Windsor Creek – Conde Ln	Local Bridge (20C0506)	X	X
Windsor Creek – Windsor Rd	Local Bridge (20C0540)	X	X
Pruitt Creek – Conde Ln	Local Bridge (20C0550)	X	X
Windsor Creek – Natalie Dr	Local Bridge (20C0577)	X	X
East Windsor Creek – Bell Rd	Local Bridge 20C0578)	X	X

Name	Type	1% Annual Chance Event	0.2% Annual Chance Event
Pool Creek – Golf Course Dr	Local Bridge (20C0579)	X	X
Pool Creek – Conde Ln	Local Bridge (20C0580)	X	X
Exchange Bank	Bank	X	X
RRFW 8-11	River wells	X	X
Pruitt Creek – Shiloh Rd	Local Bridge (20C0575)	-	X
Wells Fargo Bank, National Association	Bank	-	X
Wine Country Veterinary Hospital	Veterinary	-	X
Redwood Credit Union	Bank	-	X
Kinder Club and Children's Circle Preschools	Daycare	-	X

Source: County of Sonoma; California Energy Commission; Caltrans; HIFLD; USACE NID

The Town has low exposure to **landslide**, with 44 buildings in the moderate landslide susceptibility hazard area and 318 buildings in the high landslide susceptibility hazard area. There are eight critical facilities in the high landslide susceptibility hazard area (Foothill Regional Park Dam, a daycare, local bridges, and water tanks). There are 103 people living in the moderate landslide susceptibility hazard area and 673 people living in the high landslide susceptibility hazard area.

The Town has moderate exposure to **wildfires**, with 1,300 buildings in the moderate fire hazard severity zone and 278 buildings in the high fire hazard severity zone. There are six critical facilities in the moderate fire hazard severity zone (local bridges, a shelter, a state bridge, and a water tank) and two critical facilities in the high fire hazard severity zone (Lakewood Tank Site and Shiloh Tank Site). There are 3,011 people living in the moderate fire hazard severity zone and 730 people living in the high fire hazard severity zone.

Potential Impacts from Hazards of Local Concern

Table 11-23 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. In the event of a dam failure, 2,113 people could be displaced, 303 people may require shelter, and 1,090 tons of debris could be generated. In the event of a 500-year earthquake, 303 households could be displaced, 142 people may require shelter, 8.1 percent of the buildings in the Town could be damaged, and 193,356 tons of debris could be generated. In the event of a 2,500-year earthquake, 1,129 households could be displaced, 531 people may require shelter, 19.0 percent of the buildings in the Town could be damaged, and 472,156 tons of debris could be generated. In the event of a one-percent annual chance flood, as many as 286 people could be displaced, 129 people may require shelter, and 208 tons of debris could be generated.

For all other hazards of local concern, the potential impacts were qualitatively evaluated. Table 11-24 summarizes additional risks specific to the Town. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the Town.

Table 11-23. Hazus-Determined Impacts for Hazards of Local Concern

Impact	Dam Failure	500-Year Earthquake Probabilistic Event	2,500-Year Earthquake Probabilistic Event	1% Annual Flood Chance Event
Displaced Population	2,113 people	303 households	1,129 households	286 people
Population Requiring Shelter	303 people	142 people	531 people	129 people
General Building Damage as % of RCV	0.1%	8.1%	19.0%	<0.1%
Total Debris Generated (tons)	1,090	193,356	472,156	208

Table 11-24. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	Windsor could experience localized flooding and property damage if a nearby dam were to fail, posing risks to low-lying areas and infrastructure.
Drought	The Town is susceptible to drought conditions that can significantly impact local water supply and agricultural activities.
Earthquake	Located within an active seismic region, the Town is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the Town's population and infrastructure.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources.
Extreme Wind	The Town may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions.
Flood	Flooding from heavy rains and overflow of local waterways can affect neighborhoods, critical infrastructure, and transportation routes in the Town of Windsor.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity.
Wildfire	The Town faces significant wildfire risk, given riparian corridors through the Town which can spread wildfire, and the surrounding vegetation and climate, which can threaten homes, air quality, and safety.

11.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Windsor identified the following risk-related issues for the community:

- Community members, especially seniors, low-income residents, and the unhoused, are vulnerable to extreme heat, cold, and poor air quality events, including wildfire smoke, which can impact health and safety.
- Exterior building materials and certain construction methods, wood fencing, and certain types of landscaping can spread wildfire within the Town. This can result in the loss of lives and homes, and damage to property and natural systems.

- Local businesses, especially businesses that serve as community lifelines, need to be able to respond to and quickly recover from disasters in order to continue operations which will support recovery of the greater community.
- Critical facilities need to remain operational in an emergency.
- The Town is exposed to a variety of hazards and needs to be able to avoid and/or reduce the impact of the hazard and recover from these hazards.
- There are areas that are subject to flooding (roadways, including evacuation routes, critical facilities, vulnerable populations, private property, etc.), even during smaller storm events. As weather events become more extreme, this flooding could become more severe, and flooding could occur in new areas. Documentation of where this occurs and the severity would assist in planning and prioritizing improvements to reduce the impacts of this hazard.
- Loss of power and cellular infrastructure to critical facilities, services, and infrastructure could result in delayed response and recovery, which could compromise life safety, the environment (treatment plant impacts related to wastewater treatment), emergency response, and evacuation.
- Critical facilities, services, and infrastructure need to quickly recover from and continue to operate in a disaster in order to reduce impacts on people, property and natural systems.
- Dam failure could result in the flooding of large areas of the Town, including critical facilities and vulnerable populations. The community is less aware of the potential impacts of dam failure than other disasters that are more frequent, such as wildfire, extreme heat, and flooding.
- An adequate supply of potable water needs to be available during droughts, especially droughts that span multiple years.
- The Town needs to ensure that potable water is available in the event of a hazard event or disaster.
- The Town experiences areas of localized flooding that affect roadways, including evacuation routes, and property and that have the potential to affect critical facilities (such as the Town's Russian River wells, wastewater treatment plant, and lift stations) and lifelines.
- Development in areas at risk of landslides could place people, property, and critical facilities at risk.
- The roadway network is limited at the north, east and west edges of Town, especially in the North of Arata Lane and Jensen Lane areas (Vinecrest Road to Old Redwood Hwy), which impedes emergency access and evacuation. Wildfire and associated ember cast are more likely to approach the Town from the east and north. During the Kincade Fire in 2019, there were spot fires in the North of Arata Lane and Jensen Lane areas. Firefighters used Arata Lane as a staging area, and properties on the eastern edge of Town suffered fire damage. New roadways are needed in these areas to improve emergency access, evacuation and general circulation. These roadways also have the ability to serve as fire breaks and staging areas for firefighting.
- There are two-lane bridges within Town, including on roads identified as evacuation routes (Conde Lane, Hembree Lane, and Old Redwood Hwy), that could impact emergency access and evacuation.

- Overhead utilities that come down during a disaster can result in the loss of power, endanger people, damage property and critical facilities, add to wildfire risk, and impede emergency access and evacuation.
- The Town's Emergency Management Ordinance (Municipal Code Title 3, Chapter 19 Civil Defense and Disaster), which was adopted in 1992 when the Town was incorporated, is outdated and needs to be updated to be to current emergency management best practices.
- Parcel specific information about natural hazards is not easily accessible to Town staff or the public and the Town is not able to track development applications or building permits by hazard area.
- There are people who have access and functional needs, lack their own transportation, or live in areas with a single-point of access that may need assistance evacuating.
- Development in hazard areas exposes people and structures to natural hazards and can be reduced by avoiding these areas and developing in ways that minimize the potential impacts of hazards.
- Key roadways leading out of Windsor, particularly those connecting to hospital facilities in neighboring jurisdictions, may be vulnerable to damage or blockage during natural disasters. This could hinder emergency response and evacuation efforts, especially during high-impact events like wildfires or earthquakes.
- The existing wastewater system may be undersized or outdated in certain areas, leading to the risk of overflows during periods of intense rainfall or flooding. These overflows can result in environmental contamination, property damage, and public health risks.

11.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

11.10.1 Past Mitigation Action Status

Table 11-25 indicates progress on the Town's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 11-25. Status of 2021 Mitigation Actions for Windsor

Mitigation Actions	Status
Project Number	WIN-1
Hazards Addressed	Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard areas.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	This was a mitigation action for all agencies included in the current 2021 HMP. There are older repetitive loss properties related to flooding. However, these losses are not recent. Staff are not aware of any structures that are in need of retrofitting or relocation, including any requests from property owners.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	The Town has not had any recent repetitive loss properties and has not had any requests from property owners for this type of assistance.
Project Number	WIN-2
Hazards Addressed	Earthquake
Lead Agency	Town of Windsor
Mitigation Action Description	Inspect critical facilities and infrastructure, identify those that are recommended to be retrofitted or relocated, and retrofit or relocate as appropriate, prioritizing structures and infrastructure located in high or medium ranked hazard areas.
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Lack of funding has prevented progress.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Inspect and conduct investigations (such as geotechnical) of critical facilities and infrastructure, identify those that are recommended to be retrofitted or relocated, and retrofit or relocate as appropriate, prioritizing structures and infrastructure located in high or medium ranked hazard areas.
If discontinue, explain why	Not Applicable. This is included as Windsor-04 Retrofit/Relocate Critical Facilities.

Mitigation Actions	Status
Project Number	WIN-3
Hazards Addressed	Dam failure, drought, earthquake, flooding, landslide, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions within the community including the General Plan, Building Code, Zoning Ordinance, Municipal Code, Emergency Operations Plan, Climate Adaptation Plan., Riparian Corridor Wildfire Fuel Management Plan, etc.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The Town continues to integrate the HMP as staff resources and funding allow.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use and development decisions within the community including the General Plan, Building Code, Zoning Code, Municipal Code, Emergency Operations Plan, Riparian Corridor Wildfire Fuel Management Plan, Storm Drainage Master Plan, Water Master Plan, and Groundwater Sustainability Plan, etc. and implement the mitigation actions included in these plans and ordinances.
If discontinue, explain why	Not Applicable. This is included as Windsor-05 Integrate HMP.
Project Number	WIN-4
Hazards Addressed	Flooding
Lead Agency	Town of Windsor
Mitigation Action Description	Develop and implement a program to capture perishable data after significant events (e.g. highwater marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Limited staff resources. The Town's IT has multiple tools for Business Continuity and Disaster Recovery, including data backups.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change needed to current Mitigation Action Description. Windsor-06 Data from Significant Events
If discontinue, explain why	Not Applicable. This is included as Windsor-06 Data from Significant Events.

Mitigation Actions	Status
Project Number	WIN-5
Hazards Addressed	Dam failure, earthquake, flooding, landslide, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Support the County-wide initiatives identified in Volume I of the hazard mitigation plan
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Not Applicable
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	It is the Town's practice to support this type of action.
Project Number	WIN-6
Hazards Addressed	All Hazards
Lead Agency	Town of Windsor
Mitigation Action Description	Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Not Applicable
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Ongoing Capability
If discontinue, explain why	It is the Town's practice to support this type of action. The Town also holds annual meetings to review its Annex. Last Town HMP maintenance meeting was in March 2024. Status of HMP actions were also reviewed as part of this update.

Mitigation Actions	Status
Project Number	WIN-7
Hazards Addressed	Severe weather, flooding
Lead Agency	Town of Windsor
Mitigation Action Description	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: Enforcement of the flood damage prevention ordinance; Participate in floodplain identification and mapping updates; and Provide public assistance/information on floodplain requirements and impacts.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	This is part of the Town's regular practice. The Town reviews permits for projects in the floodplain for compliance with the Town's floodplain ordinance.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability
Project Number	WIN-8
Hazards Addressed	Dam failure, drought, earthquake, flooding, landslide, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Implement plans and ordinances that include measures that avoid or reduce the impacts of hazards and increase resiliency, such as the 2040 General Plan, Municipal Code, Building Code, Riparian Corridor Wildfire Fuel Management Plan, Storm Drainage Master Plan, Water Master Plan, Ground Water Sustainability Plan, Windsor Resiliency Plan (Windsor Ready!), Urban Water Management Plan, Collection System Master Plan
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	The Town has amended the Building Code and Zoning Code to include actions to mitigate wildfire impacts.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Add in language from Windsor-05: Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.
If discontinue, explain why	Not Applicable. This is included as Windsor-05 Integrate HMP.

Mitigation Actions	Status
Project Number	WIN-9
Hazards Addressed	Dam failure, earthquake, flooding, landslide, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Purchase a minimum of two permanent generators for critical facilities and infrastructure that lack adequate backup power, including for the water reclamation facility and river wells that are 1 to 1.5 MW each and natural gas or diesel.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed
Project Number	WIN-10
Hazards Addressed	Dam failure, earthquake, flooding, landslide, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Purchase eight portable generators and ten switch gear for critical infrastructure and facilities to maintain water and wastewater services and to allow critical facilities to remain operational during hazard events.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Need to determine type of additional backup power is needed and gather additional information.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Provide backup power, energy storage, and satellite internet to critical facilities, services, and infrastructure, such as back-up generators, switch gear, micro grids, on-site renewable energy generation with storage, etc. Encourage residents and businesses to install energy generation and storage systems on their properties.
If discontinue, explain why	Not Applicable. This is included as Windsor-07 Critical Facilities - Backup Power.

Mitigation Actions	Status
Project Number	WIN-11
Hazards Addressed	Dam failure, earthquake, flooding, landslide, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Develop a post-disaster recovery plan, continuity of operations, and a debris management plan.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The Town updated its EOP in 2024 (Reso No. 3969-24) Funding, staff resources, and other priorities affect the ability to implement this action.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Develop plans that improve the Town's and community's ability to continue operations, respond to, and recover from a disaster, such as a post disaster recovery plan, continuity of operation plan (COOP), debris management plan, and dam failure annex to the Town's EOP that includes communication protocols.
If discontinue, explain why	Not Applicable. This is included as Windsor-08 Plan Development.
Project Number	WIN-12
Hazards Addressed	Earthquake, flooding, landslide, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Participate in programs such as the Community Rating System and the ISO's Building Code Effectiveness Grading Schedule and Public Protection.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The Town does not initiate this action but does provide information.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing Capability

Mitigation Actions	Status
Project Number	WIN-13
Hazards Addressed	Dam failure, earthquake, flooding, landslide, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Work with building officials to identify ways to improve the jurisdiction's Building Code Effectiveness Grading Schedule classification.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Not Applicable
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing Capability
Project Number	WIN-14
Hazards Addressed	Dam failure
Lead Agency	Town of Windsor
Mitigation Action Description	Establish protocols for regular communications with the owners/operators of dams that have the potential to impact Windsor, request current emergency response plans, and maintain communication consistent with these protocols.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The Town has received updated Emergency Operation Plans from Foothill Regional Park, County of Sonoma, and the Shiloh Ranch Dam with current contact information for all entities involved. The Town will follow protocols to communicate with the Town's Emergency Management Team and establish a local emergency. Should an emergency occur regardless of severity, the Town will publish communication through the Town's website, social media, local partners, and SoCo Alert warning system.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Develop plans that improve the Town's and community's ability to continue operations, respond to, and recover from a disaster, such as a post disaster recovery plan, continuity of operation plan (COOP), debris management plan, and dam failure annex to the Town's EOP that includes communication protocols.
If discontinue, explain why	Not Applicable. This is included as Windsor-08 Plan Development.

Mitigation Actions	Status
Project Number	WIN-15
Hazards Addressed	Dam failure
Lead Agency	Town of Windsor
Mitigation Action Description	Create an emergency warning link between the dam's alerting system and the Town.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Within the Emergency Operations Plans for both Foothill Regional Park and Shiloh Ranch Dam each plan provides a protocol of communication to each member responsible for action. The organizational chart within each plan will provide the link necessary to communicate should an emergency occur. Still need to address other dams.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Combine WIN-14 through WIN-16 into one action which would likely be part of a dam failure annex to the EOP. Action to be to develop a dam failure annex to EOP that addresses these items.
If discontinue, explain why	This action is complete but will be combined per above comments.
Project Number	WIN-16
Hazards Addressed	Dam failure
Lead Agency	Town of Windsor
Mitigation Action Description	Develop a public outreach plan to educate residents on dam failure and response.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The Town of Windsor and each entity with the responsibility of monitoring and assessing an emergency will provide communication. The Town will follow protocols to communicate with the Town's Emergency Management Team and establish a local emergency. Should an emergency occur regardless of severity, the Town will publish communication through the Town's website, social media, local partners, and SoCo Alert warning system.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not Applicable. This is included as Windsor-09 Public Outreach - Emergency Preparedness.

Mitigation Actions	Status
Project Number	WIN-17
Hazards Addressed	Dam failure
Lead Agency	Town of Windsor
Mitigation Action Description	Incorporate a dam failure annex as part of the Town's emergency operations plan (EOP).
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Other priorities, including preparation and adoption of updated Emergency Operations Plan
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable. This is included as Windsor-08 Plan Development.
Project Number	WIN-18
Hazards Addressed	Drought
Lead Agency	Town of Windsor
Mitigation Action Description	Expand opportunities to use recycled water and graywater in Windsor, including storage, supporting the use of dual-pipe systems in new and substantially retrofitted structures.
Status	In progress/Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ongoing Capability – This is done through requiring private developments to install certain improvements. In Progress – There will likely be the need for the Town to construct improvements and will need to plan, design and secure funding with at least part of this being from grants.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Expand opportunities to use recycled water, including water storage, and grey water, to reduce the demand for potable water.
If discontinue, explain why	Not Applicable. This is included as Windsor-10 Recycled Water Use.

Mitigation Actions	Status
Project Number	WIN-19
Hazards Addressed	Drought, earthquake, flooding, severe weather, wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Increase redundancy in the Town's water distribution network through multiple backup connections, particularly across fault lines.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	This action is costly and resource intensive.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Identify and construct improvements that: improve the supply of potable water; provide alternative sources for potable water, including new Town wells to offset use of water from the Russian River, expansion of the recycled water system, and improvements of the distribution system; and provide redundancy in the Town's water distribution network through a looped distribution system (particularly across fault lines). Where appropriate, include these improvements in the Town's Water Master Plan.
If discontinue, explain why	Not Applicable. This is included as part of Windsor-05. Integrate HMP and Windsor-11. Potable Water Supply Improvement.
Project Number	WIN-20
Hazards Addressed	Drought, Flooding
Lead Agency	Town of Windsor
Mitigation Action Description	Construct improvements that improve the supply of potable water and that provide alternative sources for potable water, including new Town wells to offset use of water from the Russian River, expansion of the recycled water system, and improvements of the distribution system.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Lack of funding
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Identify and construct improvements that: improve the supply of potable water; provide alternative sources for potable water, including new Town wells to offset use of water from the Russian River, expansion of the recycled water system, and improvements of the distribution system; and provide redundancy in the Town's water distribution network through a looped distribution system (particularly across fault lines). Where appropriate, include these improvements in the Town's Water Master Plan.
If discontinue, explain why	Not Applicable. This is included as part of Windsor-05. Integrate HMP and Windsor-11. Potable Water Supply Improvement.

Mitigation Actions	Status
Project Number	WIN-21
Hazards Addressed	Flooding, Severe Weather
Lead Agency	Town of Windsor
Mitigation Action Description	Implement the Storm Drainage Master Plan, including the construction of improvements that reduce flooding events.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	One project completed in 2023 (Michael Hall Park detention basin). Second project in process. Additional projects may be needed. Include in HMP to assist with grant applications.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Implement the Storm Drainage Master Plan, including the construction of improvements that reduce flooding events, such as new storm drains, detention basins, and other system enhancements.
If discontinue, explain why	Not Applicable. This is included as part of Windsor-12 Implement Storm Drainage Master Plan.
Project Number	WIN-22
Hazards Addressed	Flooding, Severe Weather
Lead Agency	Town of Windsor
Mitigation Action Description	Construct improvements to the wastewater system to ensure adequate sizing to prevent overflow during severe weather or flooding.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Staff working on other priorities. Funding needed.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable. This is included as Windsor-22 Wastewater System Improvements.

Mitigation Actions	Status
Project Number	WIN-23
Hazards Addressed	Flooding, Severe Weather
Lead Agency	Town of Windsor
Mitigation Action Description	Identify areas that experience frequent localized flooding during intense precipitation events. In areas with frequent localized flooding construct improvements to reduce flooding, including upgrading storm drains, and installing additional drains.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The areas have been identified as part of the Storm Drainage Master Plan. The Town also photographs areas that flood during rain events and has a mitigation action to create a program to capture data from significant flood events.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Implement the Storm Drainage Master Plan, including the construction of improvements that reduce flooding events, such as new storm drains, detention basins, and other system enhancements.
If discontinue, explain why	Not Applicable. This is action is implemented through Windsor-05. Integrate HMP and Windsor-12. Implement Storm Drainage Master Plan
Project Number	WIN-24
Hazards Addressed	Flooding, Severe Weather
Lead Agency	Town of Windsor
Mitigation Action Description	Identify areas that experience frequent riparian flooding during intense precipitation events. In areas with frequent riparian flooding evaluate and construct improvements to reduce flooding impacts where practical, including detention areas, moving infrastructure out of flood plain or raising it above frequent flood elevation, increasing flow capacity of riparian channels to minimize upstream and downstream flood impacts.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The areas have been identified as part of the Storm Drainage Master Plan. The Town also photographs areas that flood during rain events and has a mitigation action to create a program to capture data from significant flood events.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Implement the Storm Drainage Master Plan, including the construction of improvements that reduce flooding events, such as new storm drains, detention basins, and other system enhancements.
If discontinue, explain why	Not Applicable This is action is implemented through Windsor-05. Integrate HMP and Windsor-12. Implement Storm Drainage Master Plan

Mitigation Actions	Status
Project Number	WIN-25
Hazards Addressed	Flooding, Severe Weather
Lead Agency	Town of Windsor
Mitigation Action Description	Conduct storm drain maintenance regularly to ensure systems are operating at peak capacity, especially in advance of and during the rainy season.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Every year, the Town's Street Division cleans at least one-quarter to one-half the storm drain inlets by vacuuming up trash, leaves and sediment debris, so every 2 or 3 years, all inlets are cleaned. The Streets Division also walks the creeks throughout the Town to remove any encountered debris dams and large blockages to lower the risk of flooding. The Streets Division also removes debris blockages before and during rain events to ensure peak capacity.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability
Project Number	WIN-26
Hazards Addressed	Flooding, Severe Weather
Lead Agency	Town of Windsor
Mitigation Action Description	Require that new development projects, including infrastructure, will not change local hydrology and cause an increase in flood risks for surrounding properties
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	All new development projects are required to provide a drainage report and mitigate f flood impacts. Project designs are not allowed to adversely impact downstream or neighboring properties. The Town has developed Flood Design Criteria and Hydraulic Design Requirements for development projects. This was completed in June 2023 and is available on the Town's website.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability

Mitigation Actions	Status
Project Number	WIN-27
Hazards Addressed	Flooding, Severe Weather
Lead Agency	Town of Windsor
Mitigation Action Description	Develop passive detention basins to better collect and manage stormwater flows.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	This is occurring as part of development applications, depending on project size and needs. Town is also constructing these improvements on Town property. This is also part of the Town's Stormwater Management Plan.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability
Project Number	WIN-28
Hazards Addressed	Severe Weather
Lead Agency	Town of Windsor
Mitigation Action Description	When developing or retrofitting public spaces such as bus stops, public parks and other public landscaped areas, provide shade through the use of shade structures, sail cloth, trees, or similar methods.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Shade structures have been installed based on the prioritization outlined in the Parks and Recreation Master Plan. Additional public landscaping shade enhancements are on-going and completed as necessary.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability

Mitigation Actions	Status
Project Number	WIN-29
Hazards Addressed	Landslide
Lead Agency	Town of Windsor
Mitigation Action Description	Work with Sonoma County and CAL FIRE to replant and stabilize recently burned slopes from wildfires.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability
Project Number	WIN-30
Hazards Addressed	Landslide
Lead Agency	Town of Windsor
Mitigation Action Description	Require any development in landslide hazard zones to use minimal grading and to site development in locations with the least exposure to unstable slopes, to the greatest extent feasible.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Implemented through requirement for Geotechnical report, which may not require the same as this mitigation action (avoidance and minimization). This action has been revised to reflect the Town's practice.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Require development projects, including those within designated landslide hazard zones, to design per the recommendations in the project geotechnical report and comply with any required setbacks along waterways.
If discontinue, explain why	Not Applicable. This is included as Windsor-13 Landslide Design Requirements

Mitigation Actions	Status
Project Number	WIN-31
Hazards Addressed	Dam Failure, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Design and construct roadway improvements and extensions that improve or maintain emergency vehicle access and evacuation and that provide staging areas and fire breaks, including the Eastside Connector Road (aka North-South Jensen Lane in 2040 General Plan), the extension of Los Amigos Road, and US 101 northbound onramp.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Some design has occurred for the Los Amigos Road extension, which was funded through grants. Actual construction would occur as part of development projects or with grant funding.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Design and construct roadway improvements and extensions that improve or maintain emergency vehicle access and evacuation and that provide staging areas and fire breaks, including the Eastside Connector Road (aka North-South Jensen Lane), extension of Los Amigos Road, and US 101 northbound onramp from Arata Lane as shown in the 2040 General Plan (Figure M-1).
If discontinue, explain why	Not Applicable. This is included as Windsor-14 Roadway Improvements.
Project Number	WIN-32
Hazards Addressed	Dam Failure, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Design and construct bridge improvements, including widening, that improve or maintain emergency vehicle access and evacuation, prioritizing bridges in areas with a single point of access or that are too narrow to allow for adequate emergency access.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Cost prohibitive. Town continues to seek grant funding. Two bridges on Old Redwood Hwy in Town's 5-year CIP.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Design and construct bridge improvements that improve or maintain emergency access and evacuation, prioritizing bridges in areas with a single point of access, along evacuation routes, and in hazard areas.
If discontinue, explain why	Not Applicable. This is included as Windsor-15 Bridge Improvements.

Mitigation Actions	Status
Project Number	WIN-33
Hazards Addressed	Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Adopt measures to require landscaping and fencing that meet recommendations from the Sonoma County Fire Protection District to prevent the spread of wildfire, such as the location and type of materials allowed proximate to structures.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	The Zoning Code was amended to include firesafe fencing and landscape standards.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed.
Project Number	WIN-34
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Identify and map neighborhoods in Windsor, especially neighborhoods or areas comprised of vulnerable populations and individuals, who may need assistance in the event of a disaster (elderly, disabled, limited mobility, lack of transportation, non-English speaking) and establish a vulnerable population support network, working closely with community organizations and assisted care centers to foster informal support networks through a program to encourage people to check in with and provide assistance to elderly and disabled neighbors.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	These areas have been identified but not mapped. The Town is updating its GIS and should have the capability of including this information in the updated GIS. Fostering informal support networks is an ongoing capability as part of the Town's Windsor Ready! series and COPE outreach efforts.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	The Town should be able to include this information in the update of its GIS. Outreach encouraging informal support networks is an ongoing capability through the Town's Windsor Ready! program and COPE.

Mitigation Actions	Status
Project Number	WIN-35
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Identify and map properties owned or operated by the Town, Water District, Windsor Unified School District, other public agencies, and religious and service organizations that can be used for RVs, trailers, etc. and large animals in the event of an evacuation and establish relationships and enter into MOA or MOU with these entities for the use of these properties in the event of an evacuation.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Town has identified one location – Keiser Park (Town-Owned). Not mapped, since there is one location.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Not Applicable
Project Number	WIN-36
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Identify and map potential shelter locations and the features of each location (e.g. type of parking, singles, families, large animal, small animal, etc.) on properties owned or operated by the Town, Water District, Windsor Unified School District, other public agencies, and religious and service organizations and establish partnerships with these entities to educate and distribute this information to residents and businesses prior to and during an emergency requiring evacuation and to provide assistance in the event of an emergency. Enter MOAs or MOUs as applicable.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Town has identified one location – Windsor High School Gym and has an MOA with the School District. Not mapped, since there is one location. Need to determine as part of this process if an additional location on the opposite side of Hwy 101 is needed.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	The Town has identified one shelter location. If another location should be identified, the Town can identify the location as part of its ongoing capabilities.

Mitigation Actions	Status
Project Number	WIN-37
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Develop a GIS system that includes infrastructure, critical facilities, Town assets, hazards, and land use information and train staff in the use and maintenance of the system.
Status	Partial Progress
Narrative describing progress or obstacles that have prevented implementation	Cost, staff resources, priorities The Town has GIS with land use, Town assets and infrastructure. Hazard layers need to be added. A new GIS is part of the Town's IT Master Plan. It may be possible to add hazard layers as part of the new GIS.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Integrate natural hazard layers from the County's GIS into the Town's GIS and incorporate this information into the Town's new permitting software as feasible.
If discontinue, explain why	Not Applicable. This is included as Windsor-18 Hazard Layer in GIS System and Permitting.
Project Number	WIN-38
Hazards Addressed	Dam Failure, Flooding, Landslide, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Develop and implement a system to track permits issued in hazard areas.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Cost, staff resources, other priorities The Town is implementing a new permit system and will integrate its GIS with the system if feasible in order to track permits and development in hazard areas.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Integrate natural hazard layers from the County's GIS into the Town's GIS and incorporate this information into the Town's new permitting software as feasible.
If discontinue, explain why	Not Applicable. This is included as Windsor-18 Hazard Layer in System and Permitting.

Mitigation Actions	Status
Project Number	WIN-39
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Establish and provide training for a staff-based emergency response program (Community Emergency Response Team [CERT]).
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The Town has executed a CERT MOU between Northern Sonoma County CERT in 2023. This MOU will allow the Town to utilize the CERT program during an emergency providing the support necessary to respond and recover. Do not need a Town specific action.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability
Project Number	WIN-40
Hazards Addressed	Flooding
Lead Agency	Town of Windsor
Mitigation Action Description	Have the appropriate Building Division and Public Works staff obtain certification as floodplain managers.
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	The Town's newly hired Deputy Director of Water and Environmental Management in Public Works is a certified flood plain manager. The Town does not need more than one staff person with this certification.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Completed

Mitigation Actions	Status
Project Number	WIN-41
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Train the appropriate staff in post disaster safety assessment.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Certification completed by Building staff, who will renew the certification as needed.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Ongoing capability
Project Number	WIN-42
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Support and promote the expansion of Citizens Organized to Prepare for Emergencies (COPE) and work with COPE to educate and inform the community.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Lack of people signing up to be a COPE leader for their neighborhood. The Town continues to coordinate with the Windsor COPE leader on outreach to encourage people to become COPE leaders through information available through the Town and COPE and joint outreach through the Town's Windsor Ready! series and COPE presentations to the community.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability

Mitigation Actions	Status
Project Number	WIN-43
Hazards Addressed	Dam Failure, Drought, Earthquake, Flooding, Landslide, Severe weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Continually expand and improve community outreach and education related to all hazards facing Windsor and climate resiliency, including through the use of the Town's website, social media platforms, COPE, community meetings, and neighborhood, business, and community groups. Conduct Spanish-language outreach as part of this effort.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability
Project Number	WIN-44
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Develop and provide information on evacuation zones, evacuation routes, preparedness, and responding to hazard events.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The Town created Windsor Ready! Emergency Guide and talk series promoting resources before, during, and after an emergency. The Windsor Ready! Emergency Guide was created both in English and Spanish. The guides are available in all Town offices, Windsor Library, Chamber of Commerce, and issued to Town partners such as Windsor Police Department, Sonoma County Fire District, Windsor COPE, and Nuestra Comunidad.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability

Mitigation Actions	Status
Project Number	WIN-45
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Continue to require the undergrounding of utilities as part of the development projects and seek funding for the undergrounding of utilities in areas where redevelopment or new development is unlikely to occur that are located on evacuation routes, in proximity to moderate or high severity zones, or critical facilities.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Private development projects are requesting to not underground utilities due to cost, even on project sites located on evacuation routes. For areas not likely to be developed/redeveloped, the Town would undertake undergrounding, which would be costly. Also, may not have an inventory of all of these locations, which is where the Town may need to start.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Continue to require the undergrounding of utilities as part of the development projects and seek funding for the undergrounding of utilities in areas where redevelopment or new development is unlikely to occur that are located on evacuation routes, in proximity to moderate or high fire severity zones, or critical facilities.
If discontinue, explain why	Not Applicable. This is included as Windsor-16 Underground Overhead Utilities.
Project Number	WIN-46
Hazards Addressed	Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Work with other agencies, residents, and homeowner associations to reduce fuel loads, such as the removal of vegetation in Foothill and Shiloh Ridge parks.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability

Mitigation Actions	Status
Project Number	WIN-47
Hazards Addressed	Earthquake
Lead Agency	Town of Windsor
Mitigation Action Description	Require new development in liquefaction-prone areas to conduct a geotechnical analysis and to include features that decrease the risk of damage from liquefaction events.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	General Plan includes Policy PHS-2.7: Geotechnical Hazards Report and Figure PHS-2.5, which identifies liquefaction areas. Areas in moderate or high liquefaction areas are required to provide a Geotechnical Report as part of the entitlement application and conditions of approval are included requiring building permit and improvement plans to comply with recommendations included in the Geo Tech Report. Soils report is required for new construction, which will identify whether there is a risk related to liquefaction. If there is a risk that needs to be mitigated, the report is required to include recommendations that must be incorporated into the construction plans. Compliance with the recommendations is implemented through the building permit process, including inspections.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability
Project Number	WIN-48
Hazards Addressed	Drought, Earthquake, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Identify and pursue alternate water sources, as part of the Town's Water Master Plan, to provide backup water sources in case primary source(s) fail or are unavailable and make these sources available.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Cost and availability of staff
Include in the 2026 HMP or Discontinue?	Continue
If include, revise/reword as appropriate	This is included as part of Windsor-05. Integrate HMP and Windsor-11. Potable Water Supply Improvement
If discontinue, explain why	Not Applicable. This is included as part of Windsor-05 and Windsor-11.

Mitigation Actions	Status
Project Number	WIN-49
Hazards Addressed	Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Participate in mutual aid agreements to provide wildfire protection services in Foothill Regional Park.
Status	Ongoing Capability
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This is an ongoing capability
Project Number	WIN-50
Hazards Addressed	Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Ensure compliance with vegetation management standards and other County fire safe standards to reduce wildfire risk within Windsor and the area surrounding Windsor, working with private property owners, the County of Sonoma, and the Sonoma County Fire District.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Fire services in the Town of Windsor are provided by Sonoma County Fire District, which enforces compliance with vegetation management standards. The Town's Zoning Code was amended to include firesafe fencing and landscape standards that were created in coordination with Sonoma County Fire District.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability

Mitigation Actions	Status
Project Number	WIN-51
Hazards Addressed	Drought
Lead Agency	Town of Windsor
Mitigation Action Description	Work with other agencies to develop and implement a rainwater catchment program, including a program to provide rainwater barrels for existing residential development.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Sonoma County has an ongoing Rainwater Harvesting Rebate Program that began in 2022, which allows any Windsor resident to participate in. The rebate is $0.50/gallon, up to $5,000 and includes technical assistance and a webinar for do-it-yourself assistance.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Completed
Project Number	WIN-52
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Improve the resiliency of key roadways leading out of Windsor, particularly those connecting to hospital facilities by working with the City of Santa Rosa, Sonoma County, and Caltrans.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	The Town has been focusing on other actions. Also, it is unclear whether this action refers to streets in Town (where the Town has regulatory authority), outside of Town, or both. The action was revised to provide greater clarity and to reflect community concerns.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Improve the resiliency and capacity during a hazard event of evacuation routes leading out of Windsor, prioritizing routes that provide access to hospital facilities.
If discontinue, explain why	Not Applicable. This is included as Windsor-21 Improve Resiliency of Key Evacuation Routes Connecting Windsor to Hospital Facilities.

Mitigation Actions	Status
Project Number	WIN-53
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Construct on-site renewable energy generation and storage systems at Town-owned facilities to support continued operations in the event of a power outage. Encourage residents and businesses to install energy generation and storage systems on their properties.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Other priorities. Analysis of needs and costs needed.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Provide backup power, energy storage, and satellite internet to critical facilities, services, and infrastructure, such as back-up generators, switch gear, micro grids, on-site renewable energy generation with storage, etc. Encourage residents and businesses to install energy generation and storage systems on their properties.
If discontinue, explain why	Not Applicable. This is included as Windsor-07-Critical Facilities-Backup Power.
Project Number	WIN-54
Hazards Addressed	Dam Failure, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Identify transportation options and potential ways to provide the transportation identified for people who do not drive or have limited mobility.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Sonoma County Department of Emergency Management has established a Transportation Community with all transportation partners within the County. The goal is to have resources available to jurisdictions during an emergency.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Identify transportation options for people with access and functional needs, those who do not drive, and for areas with limited evacuation routes (such as those on a single point of access). Conduct public outreach on the transportation options available as they are developed.
If discontinue, explain why	Not Applicable. This is included as Windsor-19-Evacuation Transportation and Outreach.

Mitigation Actions	Status
Project Number	WIN-55
Hazards Addressed	Dam Failure, Drought, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Identify and implement communication methods for people with limited/no technology.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The Town has a database of communication outlets for those that have limited communication resources. Sonoma County Department of Emergency Management has identified 2 radio stations within the County that will broadcast emergency communications while identifying KBBF as the Hispanic radio station as well. The Town's Windsor Ready! Emergency Guide provides resources for those needing information on communication while identifying the HI-LO siren option should communication fail. Depending on the emergency the Town's options for communication include social media, website, press release, local radio and television stations, NOAA radios, Wireless Emergency Alert (WEA)- FEMA, Town's e-banner, Sonoma County Fire District e-banner, and Windsor Library e-banner, Chamber of Commerce, Windsor Library, and community noticing location around Town.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability
Project Number	WIN-56
Hazards Addressed	Dam Failure, Drought, Earthquake, Flooding, Landslide, Severe Weather, Wildfire
Lead Agency	Town of Windsor
Mitigation Action Description	Regularly review and apply for available funding opportunities to implement hazard mitigation activities. Prioritize hazard mitigation retrofits and other construction activities in Windsor’s Capital Improvement Program (CIP).
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Town staff pursue grant opportunities as they become available and the Town has the ability to manage the grant and provide matching funds (if required). The Town has the ability to request consultant assistance as needed.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Ongoing capability

11.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 11-25, Windsor identified the following mitigation efforts completed since the previous HMP:

- The Town identified neighborhoods comprised of vulnerable populations and individuals who may need assistance in the event of an emergency.
- The Town completed a Climate Resilience Plan in February of 2022. The Plan identifies areas that are evacuation constrained.
- The Town updated its Emergency Operations Plan. This was not included as a mitigation action in the Town's HMP Annex.

11.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Windsor participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Windsor would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in Town priorities.

Table 11-26 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 11-27 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 11-26. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X	-	X	X	X	X	-	X	X
Drought	X	X	-	-	X	X	-	-	X	X
Earthquake	X	X	-	X	X	X	X	-	X	X
Extreme Cold	X	X	-	X	X	X	X	-	X	X
Extreme Heat	X	X	-	X	X	X	X	-	X	X
Extreme Wind	X	X	-	X	X	X	X	-	X	X
Flood	X	X	-	X	X	X	X	-	X	X
Landslide	X	X	-	X	X	X	X	-	X	X
Sea Level Rise	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	X	X	-	X	X	X	X	-	X	X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Table 11-27. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Public Outreach – Emergency Preparedness	Low	Medium	4	1-5 years	7.308	High
Warming and Cooling Centers	Low	Medium	3	1-5 years	7.231	High
Public Information – Wildfire	Low	Medium	3	1-5 years	7.231	High
Local Business Outreach	Low	Medium	2	1-5 years	7.154	High
Evacuation Transportation and Outreach	Medium	High	2	1-5 years	7.154	High
Plan Development and Updates	Medium	High	4	1-5 years	7.308	High
Emergency Management Ordinance	Low	Low	8	1-5 years	6.616	Medium
Data from Significant Events	Medium	Medium	5	1-5 years	6.385	Medium
Landslide Design Requirements	Medium	Medium	4	1-5 years	6.308	Medium
Integrate HMP	High	Medium	8	1-5 years	5.616	Medium
Improve Resiliency of Key Evacuation Routes Connecting Windsor to Hospital Facilities	High	Medium	5	1-5 years	5.385	Medium
Wastewater System Improvements	High	Medium	5	1-5 years	5.385	Medium
Critical Facilities – Backup Power	High	High	4	1-10 years	5.308	Medium
Potable Water Supply Improvement	Medium	Medium	3	1-10 Years	5.231	Medium
Retrofit/Relocate Critical Facilities	High	High	3	1-10 years	5.231	Medium
Plan Development	High	Medium	3	1-5 years	5.231	Medium
Bridge Improvements	High	High	2	1-10 Years	5.154	Medium
Roadway Improvements	High	Medium	2	1-5 years	5.154	Medium
Hazard Layer in GIS System and Permitting Software	High	Medium	1	1-5 years	5.077	Medium
Implement Storm Drainage Master Plan	High	Medium	5	1-10 Years	4.385	Low
Recycled Water Use	High	Medium	3	1-10 years	4.231	Low
Underground Overhead Utilities	High	Medium	2	1-10 Years	4.154	Low

Note: Volume I provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-Windsor-01.Warming and Cooling Centers

Lead Agency:	Town of Windsor Parks and Facilities Department, Town Managers Office
Supporting Agencies:	-
Hazards of Concern:	Extreme Cold, Extreme Heat
Description of the Problem:	Community members, especially seniors, low-income residents, and the unhoused, are vulnerable to extreme heat, cold, and poor air quality events, including wildfire smoke, which can impact health and safety
Description of the Solution:	Identify Town warming and cooling centers, ensure they are equipped with adequate air filtration, make them accessible during extreme heat, cold, and poor air quality events, and inform the public about their availability.
Estimated Cost:	Low
Potential Funding Sources:	General Fund (staff time); HMA grant funding; EPA grant funding
Implementation Timeline:	Short-term
Objectives Met:	5, 6, 13
Benefits:	This action protects vulnerable populations.
Impact on Socially Vulnerable Populations:	This action protects vulnerable populations, such as senior citizens, low-income residents, and the unhoused who may not have access to adequate heating and cooling of housing or may not have housing.
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	None
Impact on Capabilities:	This will help protect people and could reduce the need for emergency response.
Climate Change Considerations:	Extreme heat and cold events are likely to increase in frequency due to climate change.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	High

Action 2026-Windsor-02. Public Information – Wildfire

Lead Agency:	Town of Windsor Town Manager's Office (Government Operations Manager), Community Development Department
Supporting Agencies:	Sonoma County Fire District
Hazards of Concern:	Wildfire
Description of the Problem:	Exterior building materials and certain construction methods, wood fencing, and certain types of landscaping can spread wildfire within the Town. This can result in the loss of lives and homes, and damage to property and natural systems.
Description of the Solution:	Develop materials and educate the public about the Town's firesafe landscaping, fencing requirements, and fire Building Code requirements and other methods that can reduce the spread of wildfire. Make the information available on the Town's website, through the Town's Windsor Ready! program, and social media.
Estimated Cost:	Low
Potential Funding Sources:	General Fund (staff time)
Implementation Timeline:	Short-term
Objectives Met:	5, 6, 13
Benefits:	This action protects vulnerable populations and the entire community by reducing the spread of wildfire.
Impact on Socially Vulnerable Populations:	This action protects vulnerable populations, as well as the entire community, by making the Town more resistant to the spread of wildfire.
Impact on Future Development:	This action makes future development more resistant to wildfire, by making new landscaping and fencing more resistant to wildfire.
Impact on Critical Facilities/Lifelines:	This action should reduce the spread of wildfire thereby reducing the impact on and protecting critical facilities and lifelines.
Impact on Capabilities:	This will help protect people and should reduce the need for emergency response.
Climate Change Considerations:	Climate change is likely to increase the frequency and severity of wildfires, including the spread of embers and spot fires due to increased winds.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	High

Action 2026-Windsor-03. Local Business Outreach

Lead Agency:	Town of Windsor Town Manager's Office (Economic Development Manager and Government Operations Manager), Community Development Department
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Local businesses, especially businesses that serve as community lifelines, need to be able to respond to and quickly recover from disasters in order continue to operations which will support recovery of the greater community.
Description of the Solution:	Prepare educational materials for the local business community on how to prepare for, respond to, and recover from a disaster, conduct outreach to the business community, and make the information available on the Town's website and through the chamber of commerce and other local business associations.
Estimated Cost:	Low
Potential Funding Sources:	General Fund (staff time)
Implementation Timeline:	Short-term
Objectives Met:	5, 6
Benefits:	This action improves the preparedness, recovery and/or continued operations of businesses that provide needed lifelines and resources to the Town and community.
Impact on Socially Vulnerable Populations:	This action allows goods and services to remain available or to be made available soon after a disaster to support the community, including vulnerable populations.
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	Businesses that provide lifelines, such as food, water, and fuel and that act as community gathering places will be able to continue operations or reopen and recover more quickly.
Impact on Capabilities:	Less support and response will be needed from the Town, including emergency services, if businesses are prepared for and have a plan to respond to and recover from a disaster. This allows resources to be focused in other areas.
Climate Change Considerations:	Not Applicable
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	High

Action 2026-Windsor-04. Retrofit/Relocate Critical Facilities

Lead Agency:	Town of Windsor Town Manager's Office, Public Works Department, Parks and Facilities Department, Police Department
Supporting Agencies:	
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Critical facilities need to remain operational in an emergency.
Description of the Solution:	Inspect and conduct investigations (such as geotechnical) of critical facilities and infrastructure, identify those that are recommended to be retrofitted or relocated, and retrofit or relocate as appropriate, prioritizing structures and infrastructure located in high or medium ranked hazard areas.
Estimated Cost:	High
Potential Funding Sources:	General Fund, HMGP, BRIC, FMA
Implementation Timeline:	1-10 Years The first phase is the inspection and preparation of a geotechnical report for Town Hall.
Objectives Met:	3, 4, 6
Benefits:	This action allows the Town to gather information, develop a plan, and make improvements to existing facilities or relocate facilities as needed to make the Town's critical facilities resistant to hazards.
Impact on Socially Vulnerable Populations:	None
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	This action would improve the functionality of critical facilities and ensure that the Town is aware of the facilities in need of retrofit or relocation.
Impact on Capabilities:	This action could allow the Town to take the actions needed to ensure Town facilities can remain open and operational when a hazard occurs.
Climate Change Considerations:	Improvements to existing facilities and relocation will need to consider the impacts of climate change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	Medium

Action 2026-Windsor-05. Integrate HMP

Lead Agency:	Town of Windsor Town Manager's Office, Public Works Department, Community Development Department, Parks and Facilities Department,
Supporting Agencies:	Sonoma County Fire District
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The Town is exposed to a variety of hazards and needs to be able to avoid and/or reduce the impact of the hazard and recover from these hazards.
Description of the Solution:	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use and development decisions within the community including the General Plan, Building Code, Zoning Code, Subdivision Ordinance, Municipal Code, Emergency Operations Plan, Climate Adaptation Plan, Riparian Corridor Wildfire Fuel Management Plan, Storm Drainage Master Plan, Water Master Plan, and Groundwater Sustainability Plan, etc. and implement the mitigation actions included in these plans and ordinances.
Estimated Cost:	High
Potential Funding Sources:	General Fund, Enterprise Fund, CIP
Implementation Timeline:	1-5 Years
Objectives Met:	1, 3, 4, 5, 6, 7, 8, 10
Benefits:	This action reduces the impact of hazards, locates development in places that avoid hazards, and improves the resilience of critical facilities and lifelines.
Impact on Socially Vulnerable Populations:	Making the improvements included in certain Town plans protect the Town, including vulnerable populations.
Impact on Future Development:	Implementing the plans results in a safer and more resilient community, making future development safer and more resilient.
Impact on Critical Facilities/Lifelines:	This action improves the resiliency of critical facilities and lifelines.
Impact on Capabilities:	This action should improve capabilities by making resilience of development and critical facilities and lifelines.
Climate Change Considerations:	Climate change could increase the severity of certain hazards and plans should take this into consideration when determining the actions needed.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Structural Flood Control Projects
Priority	Medium

Action 2026-Windsor-06. Data from Significant Events

Lead Agency:	Town of Windsor Town Manager's Office, Public Works Department, Police Department
Supporting Agencies:	-
Hazard(s) of Concern:	Flood
Description of the Problem:	There are areas that are subject to flooding (such as roadways, including evacuation routes, critical facilities, vulnerable populations, private property, etc.), even during smaller storm events. As weather events become more extreme, this flooding could become more severe, and flooding could occur in new areas. Documentation of where this occurring and the severity would assist in planning and prioritizing improvements to reduce this hazard.
Description of the Solution:	Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund (staff time) Enterprise Fund
Implementation Timeline:	Short-term
Objectives Met:	1, 4, 5, 8, 10
Benefits:	Allow the Town to understand and confirm the location of flooding and severe wind, so that improvements can be identified to address the impacts.
Impact on Socially Vulnerable Populations:	Reduce impacts to areas that experience hazards, especially flooding, and focus actions on areas of the most vulnerable.
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	This action should improve the resilience of critical facilities and lifelines by reducing flooding impacts.
Impact on Capabilities:	Understanding where these impacts occur could assist Town staff, including first responders, in knowing the areas typically impacted, including emergency access and evacuation routes.
Climate Change Considerations:	Climate change could result in more severe events and result in flooding in new areas.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Windsor-07. Critical Facilities – Backup Power

Lead Agency:	Town of Windsor Town Manager's Office Public Works Department, Parks and Facilities Department,
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Loss of power and cellular infrastructure to critical facilities, services, and infrastructure could result in delayed response and recovery, which could compromise life safety, the environment (treatment plant impacts related to waste treatment), emergency response, and evacuation.
Description of the Solution:	Provide backup power, energy storage, and satellite internet to critical facilities, services, and infrastructure, such as back-up generators, switch gear, micro grids, on-site renewable energy generation with storage, etc. Encourage residents and businesses to install energy generation and storage systems on their properties.
Estimated Cost:	High
Potential Funding Sources:	General Fund, CIP, Enterprise Funds, Bureau of Reclamation (matching funds from the Town), HMGP
Implementation Timeline:	1-10 Years
Objectives Met:	2, 4, 6, 9
Benefits:	Critical facilities and infrastructure would be more resilient and be able remain operational and/or continue operations more quickly.
Impact on Socially Vulnerable Populations:	Critical facilities and services would be able to be open and available to the community, including vulnerable populations.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Critical facilities and lifelines would be able to continue operating or be able to recover and restore operations more quickly.
Impact on Capabilities:	This would improve the ability to respond and remain operational.
Climate Change Considerations:	Climate change could increase hazard events, resulting in more frequent loss of power and a greater reliance on backup power.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection, Emergency Services
Priority	Medium

Action 2026-Windsor-08. Plan Development

Lead Agency:	Town of Windsor Town Manager's Office, Police Department
Supporting Agencies:	County of Sonoma, Sonoma County Fire District
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Critical facilities, services, and infrastructure need to quickly recover from and continue to operate in a disaster event in order to reduce impacts to people, property and natural systems.
Description of the Solution:	Develop plans that improve the Town's and community's ability to continue operations, respond to, and recover from a disaster, such as a post disaster recovery plan, continuity of operation plan (COOP), debris management plan, and dam failure annex to the Town's EOP that includes communication protocols.
Estimated Cost:	High
Potential Funding Sources:	General Fund (staff time)
Implementation Timeline:	1-5 Years
Objectives Met:	1, 3, 6
Benefits:	These plans will allow the community to respond and recover more quickly.
Impact on Socially Vulnerable Populations:	None
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	This action should reduce the impact since there would be plans in place that would provide information as to how to respond.
Impact on Capabilities:	This action will increase post-disaster capabilities, since procedures will be in place for how to respond, recover, and continue operations.
Climate Change Considerations:	Climate change may result in more frequent and severe disaster events requiring the implementation of the adopted Continuity of Operations Plan, Debris Management Plan, Disaster Recovery Plan, and Dam Failure Annex.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures, Emergency Services
Priority	Medium

Action 2026-Windsor-09. Public Outreach – Emergency Preparedness

Lead Agency:	Town of Windsor Town Manager's Office
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure
Description of the Problem:	Dam failure could result in the flooding of large portions of the Town, including critical facilities and vulnerable populations. The community is less aware of the potential impacts of dam failure than other disasters that are more frequent, such as wildfire, extreme heat, and flooding.
Description of the Solution:	Develop public information on the potential impacts of, how to prepare for, and the warning system for dam failure and provide this information as part of the Town's Windsor Ready! Emergency preparedness information and outreach and make this information available to the public.
Estimated Cost:	Low
Potential Funding Sources:	General Fund (staff time)
Implementation Timeline:	Short-term
Objectives Met:	1,6,8,10
Benefits:	This action would improve the community's awareness of dam failure, how to prepare, and how to respond in the event of this disaster event.
Impact on Socially Vulnerable Populations:	This action would allow the community, including vulnerable populations, to be able to better respond to dam failure.
Impact on Future Development:	None
Impact on Critical Facilities/Lifelines:	This information would make information available on the likely areas of flooding due to dam failure and the streets affected, including evacuation routes.
Impact on Capabilities:	None
Climate Change Considerations:	Climate change could increase extreme weather events, especially flooding, which could make dam failure more likely.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	High

Action 2026-Windsor-10. Recycled Water Use

Lead Agency:	Town of Windsor Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Drought
Description of the Problem:	An adequate supply of potable water needs to be available during droughts, especially droughts that span multiple years.
Description of the Solution:	Expand opportunities to use recycled water, including water storage, and grey water, to reduce the demand for potable water.
Estimated Cost:	High
Potential Funding Sources:	Bureau of Reclamation Funding, Enterprise Funds, Loan (Water Infrastructure Finance and Innovation Act), Bonds, Developer Funded (developers required to install recycled water facilities, e.g. purple pipe)
Implementation Timeline:	1-10 Years
Objectives Met:	1, 4, 6
Benefits:	Providing an adequate and safe water supply for the community and for firefighting.
Impact on Socially Vulnerable Populations:	Vulnerable communities would have a safe and reliable water supply.
Impact on Future Development:	Future development would construct recycled water and grey water improvements as part of projects, if required by the Town, and would benefit from a safe and reliable water supply.
Impact on Critical Facilities/Lifelines:	This action ensures continued availability of a safe and reliable source of potable water for the community and firefighting.
Impact on Capabilities:	Firefighters would have water available when needed.
Climate Change Considerations:	Climate change could result in droughts lasting multiple years, reducing the amount of water available.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Emergency Services
Priority	Low

Action 2026-Windsor-11. Potable Water Supply Improvement

Lead Agency:	Town of Windsor Public Works Department
Supporting Agencies:	
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The Town needs to ensure that potable water is available in the event of a hazard event or disaster.
Description of the Solution:	Identify and construct improvements that: improve and protect the supply of potable water; provide alternative sources for potable water, including new Town wells to offset use of water from the Russian River, expansion of the recycled water system, and improvements of the distribution system; and provide redundancy in the Town's water distribution network through a looped distribution system (particularly across fault lines). Where appropriate, include these improvements in the Town's Water Master Plan.
Estimated Cost:	Medium
Potential Funding Sources:	CIP, Enterprise Funds, Bureau of Reclamation, HMGP,FMA
Implementation Timeline:	1-10 Years
Objectives Met:	1, 4, 6
Benefits:	This action improves the Town's water system and supply of water, making the community more resilient.
Impact on Socially Vulnerable Populations:	This action ensures water is available to the community, including socially vulnerable populations.
Impact on Future Development:	This action makes water available for future development.
Impact on Critical Facilities/Lifelines:	This action ensures that potable water is available for the community and for firefighting.
Impact on Capabilities:	None
Climate Change Considerations:	Climate change could increase the occurrence and severity of disaster events affecting the availability of potable water.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Windsor-12. Implement Storm Drainage Master Plan

Lead Agency:	Town of Windsor Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Flood
Description of the Problem:	The Town experiences areas of localized flooding that affect roadways, including evacuation routes, and property and that have the potential to affect critical facilities (such as the Town's Russian River wells, wastewater treatment plant, and lift stations) and lifelines.
Description of the Solution:	Implement the Storm Drainage Master Plan, including the construction of improvements that reduce flooding events, such as new storm drains, detention basins, and other system enhancements.
Estimated Cost:	High
Potential Funding Sources:	General Fund, CIP, Development Impact Fees, HMGP, FMA
Implementation Timeline:	1-10 Years
Objectives Met:	1, 4, 6, 10, 11
Benefits:	These actions will reduce flooding impacts and protect vulnerable populations, critical facilities and infrastructure.
Impact on Socially Vulnerable Populations:	This action would reduce the impact of flooding throughout Town, including in areas with vulnerable populations.
Impact on Future Development:	This action will reduce impacts from flooding.
Impact on Critical Facilities/Lifelines:	This action will make it less likely that critical lifelines will be affected by flooding.
Impact on Capabilities:	This action would improve the ability to address/reduce the impacts of flooding.
Climate Change Considerations:	Climate change could result in more extreme weather, which could increase rainfall and the frequency and severity of flooding.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	Low

Action 2026-Windsor-13. Landslide Design Requirements

Lead Agency:	Town of Windsor Community Development Department, Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Landslide
Description of the Problem:	Development in areas at risk of landslides could place people, property, and critical facilities at risk.
Description of the Solution:	Require development projects, including those within designated landslide hazard zones, to design per the recommendations in the project geotechnical report and comply with any required setbacks along waterways.
Estimated Cost:	Medium
Potential Funding Sources:	Developer funded (since the developer would pay for the geotechnical report and construct the improvements recommended in the report)
Implementation Timeline:	1-5 Years
Objectives Met:	1, 7, 9, 11
Benefits:	This action allows development to occur, while addressing the potential risks associated with landslides.
Impact on Socially Vulnerable Populations:	None
Impact on Future Development:	This action would allow development to occur in a manner that allows improvements to be better able to withstand a landslide.
Impact on Critical Facilities/Lifelines:	This action could have a positive impact on critical facilities by making them better able to withstand a landslide.
Impact on Capabilities:	This action could improve capabilities by making development better able to withstand landslides, reducing the need for emergency response.
Climate Change Considerations:	Climate change could result in worsening wildfires and flooding, which could increase the risk of landslides.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	Medium

Action 2026-Windsor-14. Roadway Improvements

Lead Agency:	Town of Windsor Public Works Department, Police Department
Supporting Agencies:	Sonoma County Fire District
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The roadway network is limited at the edges of Town, especially in the North of Arata and Jensen Lane areas, which impedes emergency access and evacuation. Wildfire and associated ember cast are more likely to approach the Town from the east and north. During the Kincade Fire in 2019, there were spot fires in the North of Arata and Jensen Lane areas. Firefighters used Arata Lane as a staging area, and properties on the eastern edge of Town suffered fire damage. New roadways are needed in these areas to improve emergency access, evacuation and general circulation. These roadways also have the ability to serve as fire breaks and staging areas for firefighting.
Description of the Solution:	Design and construct roadway improvements and extensions that improve or maintain emergency vehicle access and evacuation and that provide staging areas and fire breaks, including the Eastside Connector Road (aka North-South Jensen Lane), extension of Los Amigos Road, and US 101 northbound onramp from Arata Lane as shown in the 2040 General Plan (Figure M-1).
Estimated Cost:	High
Potential Funding Sources:	CIP, Developer funded (improvements as part of development project), SB 1 and Measure M, General Fund, HMGP, Caltrans (Highway 101 on-ramp)
Implementation Timeline:	1-5 Years
Objectives Met:	4, 6
Benefits:	Improves emergency access and evacuation, especially in areas identified as evacuation constrained in the Town's General Plan Public Health and Safety Element and Climate Resilience Plan.
Impact on Socially Vulnerable Populations:	This action improves emergency access and evacuation in areas that may include socially vulnerable people.
Impact on Future Development:	This action will improve circulation and provide additional emergency access and evacuation routes, making future development easier and providing the emergency access and evacuation needed in these areas.
Impact on Critical Facilities/Lifelines:	This action will improve emergency access supporting firefighting and public safety. This action will also extend existing roads identified as evacuation routes and provide opportunities for new evacuation routes.
Impact on Capabilities:	This action would improve capabilities by providing better access, locations for staging areas, and providing firebreaks between developed areas and undeveloped areas where wildfire is likely to from (east and north of Town).
Climate Change Considerations:	Climate change could result in more extreme and frequent severe wind, flooding, and wildfire which could impact roadways, including those designated as evacuation routes and used for emergency access.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Property Protection, Emergency Services
Priority	Medium

Action 2026-Windsor-15. Bridge Improvements

Lead Agency:	Town of Windsor Public Works Department, Police Department
Supporting Agencies:	Sonoma County Fire District
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	There are two-lane bridges within Town, including on roads identified as evacuation routes (Conde Lane, Hembree Lane, and Old Redwood Hwy), that could impact emergency access and evacuation.
Description of the Solution:	Design and construct bridge improvements that improve or maintain emergency access and evacuation, prioritizing bridges in areas with a single point of access, along evacuation routes, and in hazard areas.
Estimated Cost:	High
Potential Funding Sources:	CIP, General Fund, SB 1 Measure M, HMGP
Implementation Timeline:	Long-Term
Objectives Met:	4, 6
Benefits:	Improve emergency access and evacuation and improve capacity on roadways designated as evacuation routes.
Impact on Socially Vulnerable Populations:	Not Applicable
Impact on Future Development:	This action would improve circulation, emergency access, and evacuation routes which would support future development.
Impact on Critical Facilities/Lifelines:	This action would prevent roadways from being closed due to bridge failure and would maintain or improve emergency access and evacuation.
Impact on Capabilities:	Emergency vehicles and first responders would have better and more reliable access to areas to render aid.
Climate Change Considerations:	Climate change could result in increased and more severe flooding which could further impact the condition of these bridges. Climate change could also result in more severe disasters that require evacuation and emergency access, including the use of roadways where these bridges are located.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-Windsor-16. Underground Overhead Utilities

Lead Agency:	Town of Windsor Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Overhead utilities that come down during a disaster can result in the loss of power, endanger people, damage property and critical facilities, add to wildfire risk, and impede emergency access and evacuation.
Description of the Solution:	Continue to require the undergrounding of utilities as part of the development projects and seek funding for the undergrounding of utilities in areas where redevelopment or new development is unlikely to occur that are located on evacuation routes, in proximity to moderate or high severity zones, or critical facilities.
Estimated Cost:	High
Potential Funding Sources:	Developer funded (The Town's Subdivision Ordinance and Municipal Code require undergrounding of utilities), Rule 20 (PG&E funded)
Implementation Timeline:	1-10 Years
Objectives Met:	6, 11
Benefits:	Improves or maintains emergency access and evacuation routes and allows utility services to continue.
Impact on Socially Vulnerable Populations:	Not applicable
Impact on Future Development:	Requiring utilities to be placed underground makes development safer and increases the cost of development.
Impact on Critical Facilities/Lifelines:	Emergency access and evacuation routes will not be blocked by downed utilities, first responders and the public will be safer because they will not be exposed to downed power lines, and power will continue to be available to critical facilities and lifelines.
Impact on Capabilities:	Access for first responders will be maintained and responding will be safer because there is not a danger of encountering downed powerlines.
Climate Change Considerations:	Climate change could result in more severe flooding, wind, and wildfires making it more likely that aboveground utilities would be impacted.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Low

Action 2026-Windsor-17. Emergency Management Ordinance

Lead Agency:	Town of Windsor Town Manager's Office, Police Department
Supporting Agencies:	County of Sonoma, Sonoma County Fire District
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The Emergency Management section of the Town's Municipal Code (Title 3, Chapter 19, Civil Defense and Disaster) was adopted in 1992 when the Town was incorporated and needs to be updated to current emergency management best practices.
Description of the Solution:	Update the Town's emergency management ordinance and integrate hazard mitigation principles during the update process.
Estimated Cost:	Low
Potential Funding Sources:	General Fund, Staff Time
Implementation Timeline:	1-5 years
Objectives Met:	1, 3, 4, 5, 6, 7, 8, 10
Benefits:	Updating the ordinance will permit the Towns to integrate new plans, policies, capabilities, and hazard assessments.
Impact on Socially Vulnerable Populations:	The section overview portion of the ordinance covers a discussion of a variety of topics, including population distribution and locations, including any concentrated populations of individuals with disabilities, others with access and functional needs, or individuals with limited English proficiency.
Impact on Future Development:	Future development will be protected by the actions which the Town Manager performs following the ordinance.
Impact on Critical Facilities/Lifelines:	The section overview portion of the ordinance covers a discussion of a variety of topics, including vulnerable critical facilities (e.g. nursing homes, schools, hospitals, infrastructure).
Impact on Capabilities:	This action will update an already existing planning capability of the Town.
Climate Change Considerations:	Climate change could result in more severe flooding, wind, and wildfires making it more likely that aboveground utilities would be impacted.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-Windsor-18. Hazard Layer in GIS System and Permitting Software

Lead Agency:	Town of Windsor Public Works Department, Community Development Department, Administrative Services Department
Supporting Agencies:	County of Sonoma
Hazard(s) of Concern:	Dam Failure, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	Parcel specific information about natural hazards is not easily accessible to Town staff or the public and the Town is not able to track development applications or building permits by hazard area.
Description of the Solution:	Integrate natural hazard layers from the County's GIS into the Town's GIS and incorporate this information into the Town's new permitting software as feasible.
Estimated Cost:	High
Potential Funding Sources:	General Fund, Enterprise Fund
Implementation Timeline:	1-5 years
Objectives Met:	1
Benefits:	This would allow the Town to link addresses and parcel information to hazard areas, making it easier to track development in hazard areas.
Impact on Socially Vulnerable Populations:	None
Impact on Future Development:	This would make it easier to avoid development in hazard areas.
Impact on Critical Facilities/Lifelines:	This information could assist in avoiding locating critical facilities in hazard areas and/or ensuring they are built to better withstand the hazard(s).
Impact on Capabilities:	This would consolidate hazard information in one location and make it easier for staff and the public to access information on natural hazards.
Climate Change Considerations:	The hazard locations will change and layers will need to be updated as climate change affects hazard locations.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	Medium

Action 2026-Windsor-19. Evacuation Transportation and Outreach

Lead Agency:	Town of Windsor
Supporting Agencies:	County of Sonoma
Hazard(s) of Concern:	Dam Failure, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	There are people with access and functional needs, lack their own transportation, and/or are located in areas with a single-point of access that may need assistance evacuating.
Description of the Solution:	Identify transportation options for people with access and functional needs, those without access to their own transportation, and for areas with limited evacuation routes (such as those on a single point of access). Conduct public outreach on these transportation options available as they are developed.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1,2
Benefits:	This would assist in evacuating people during hazard events.
Impact on Socially Vulnerable Populations:	This would assist vulnerable populations in evacuating in the event of an emergency once transportation options have been established.
Impact on Future Development:	Not Applicable
Impact on Critical Facilities/Lifelines:	Not Applicable
Impact on Capabilities:	This could improve capabilities by having plans in place to evacuate people, making emergency personnel available to respond to the emergency rather than to assist with evacuating residents.
Climate Change Considerations:	Evacuations may become more frequent as hazards occur more frequently and become more severe due to climate change.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	High

Action 2026-Windsor-20. Plan Development and Updates

Lead Agency:	Town of Windsor Community Development Department, Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	Development in hazard areas exposes people and structures to natural hazards and can be reduced by avoiding these areas and developing in ways that minimize the potential impacts of hazards.
Description of the Solution:	Update the General Plan, Subdivision Ordinance, Zoning Code, and other plans and other ordinances that influence development to discourage development in hazard areas and to encourage development outside of hazard areas.
Estimated Cost:	Medium
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	1, 4,7,11
Benefits:	Reduce risk to life and property
Impact on Socially Vulnerable Populations:	This would reduce impacts on the population, including socially vulnerable, by discouraging development in hazard areas and encouraging development in non-hazard areas.
Impact on Future Development:	This would encourage development in non-hazardous areas and discourage development in hazard areas.
Impact on Critical Facilities/Lifelines:	This would encourage development in non-hazardous areas and discourage development in hazard areas.
Impact on Capabilities:	This would increase capabilities, since fewer people, critical facilities, and building would be exposed to hazards.
Climate Change Considerations:	As certain hazards become more severe and frequent due to climate change, the impact of these hazards could become more frequent and severe.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	High

Action 2026-Windsor-21. Improve Resiliency of Key Evacuation Routes Connecting Windsor to Hospital Facilities

Lead Agency:	Town of Windsor Community Development Department, Public Works Department
Supporting Agencies:	City of Santa Rosa, Sonoma County Transportation, Caltrans
Hazard(s) of Concern:	Wildfire, Earthquake, Flood
Description of the Problem:	Key roadways leading out of Windsor, particularly those connecting to hospital facilities in neighboring jurisdictions, may be vulnerable to damage or blockage during natural disasters. This could hinder emergency response and evacuation efforts, especially during high-impact events like wildfires or earthquakes.
Description of the Solution:	Collaborate with regional partners to assess the vulnerability of critical roadways and implement improvements such as seismic retrofitting, vegetation management, drainage upgrades, and traffic flow enhancements. Prioritize routes that connect Windsor to hospitals and emergency services in Santa Rosa and surrounding areas.
Estimated Cost:	High
Potential Funding Sources:	General Fund
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6,11,13
Benefits:	Strengthened regional transportation resilience.
Impact on Socially Vulnerable Populations:	Ensures safer evacuation and access to healthcare for seniors, low-income residents, and individuals with mobility challenges.
Impact on Future Development:	Encourages resilient infrastructure planning and supports safe growth in Windsor and surrounding areas.
Impact on Critical Facilities/Lifelines:	Ensures continued access to hospitals, emergency services, and evacuation routes.
Impact on Capabilities:	Builds interagency coordination and enhances local transportation planning and emergency management capabilities.
Climate Change Considerations:	Supports adaptation to increased wildfire and flood risks due to climate change by improving infrastructure durability and access.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Emergency Services
Priority	Medium

Action 2026-Windsor-22. Wastewater System Improvements

Lead Agency:	Town of Windsor Community Development Department, Public Works Department
Supporting Agencies:	-
Hazard(s) of Concern:	Flood
Description of the Problem:	The existing wastewater system may be undersized or outdated in certain areas, leading to the risk of overflows during periods of intense rainfall or flooding. These overflows can result in environmental contamination, property damage, and public health risks.
Description of the Solution:	Construct improvements to the wastewater infrastructure, including upsizing pipes, adding overflow storage capacity, and upgrading pump stations. These improvements will ensure the system can handle increased volumes during severe weather events and reduce the risk of sanitary sewer overflows.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, General Fund
Implementation Timeline:	1-5 years
Objectives Met:	4,6,10,11,13
Benefits:	Reduces risk of wastewater overflows and associated health hazards.
Impact on Socially Vulnerable Populations:	Reduces exposure to health hazards in neighborhoods that may be more susceptible to flooding or lack resources for recovery.
Impact on Future Development:	Supports safe and sustainable growth by ensuring infrastructure can accommodate increased demand and climate-related stressors.
Impact on Critical Facilities/Lifelines:	Wastewater systems are essential lifelines; improvements ensure continued service during emergencies.
Impact on Capabilities:	Enhances local engineering, planning, and emergency response capabilities related to infrastructure resilience.
Climate Change Considerations:	Addresses increased rainfall intensity and frequency due to climate change by improving system capacity and adaptability.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

12. CLOVERDALE FIRE PROTECTION DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the Cloverdale Fire Protection District (CFPD) reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of the Cloverdale Fire Protection District, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

12.1 HAZARD MITIGATION PLANNING TEAM

The Cloverdale Fire Protection District identified primary and alternate HMP points of contact and developed this plan over the course of several months. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group, and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Jason Jenkins, Fire Chief

Address: 451 S Cloverdale Blvd., Cloverdale, CA 95425

Phone Number: 707-894-3545

Email: jenkins@cloverdalefire.org

Alternate Point of Contact: Kevin Thompson, City Manager

Address: 451 S Cloverdale Blvd., Cloverdale, CA 95425

Phone Number: 707-894-3545

Email: thompson@cloverdalefire.org

12.2 COMMUNITY PROFILE

The CFPD is funded through a combination of property taxes and a special assessment approved by voters at the time of its formation. The District's core jurisdiction covers 76 square miles, including the 2.0 square miles within the City of Cloverdale (population of 9,800), and 74 square miles of surrounding mostly rural areas. Beyond its core service area, the District provides primary response coverage for an

additional 273 square miles in northern Sonoma County, bringing its total primary response area to 349 square miles. The District also provides automatic aid coverage extending approximately 5 miles into Mendocino County for all emergency incidents. The District also responds to incidents at The Geysers, the largest geothermal field in North America.

The estimated population served is approximately 15,000, with significant seasonal increases due to tourism associated with the Russian River and local wineries. Annual call volume ranges from 1,300 to 1,400 incidents, including mutual and automatic aid responses.

12.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, CFPD completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

The following targeted outreach was made to underserved communities and vulnerable populations:

- Vulnerable Populations – Elderly communities (Kings Circle & Clover Springs)
  - Through Community meetings and outreach

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to CFPD was contributed through community engagement activities.

12.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, CFPD invited stakeholders relevant to their planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

12.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. City of Cloverdale Public works contributed infrastructure data and identified vulnerabilities. Fire protection services offered insights into wildfire risk and emergency response coordination. These agencies played a key role in shaping mitigation strategies and ensuring alignment with existing emergency plans.

- Cloverdale Fire Protection District
- City of Cloverdale Public Works
- CAL FIRE
- Citizens Organized to Prepare for Emergencies (COPE)

12.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. Their involvement ensured that proposed actions were feasible and aligned with local codes and ordinances.

- Permit Sonoma
- City of Cloverdale
- Cloverdale Fire Protection District

12.4.3 Neighboring Communities

Neighboring communities were invited to participate in the planning process to promote regional coordination and address shared risks. This included local fire protection districts. Their involvement helped identify interdependencies, such as shared infrastructure and emergency services, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- Northern Sonoma County Fire Protection District

12.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community and academic institutions. Local businesses contributed perspectives on economic resilience while academic institutions provided technical expertise and helped assess long-term risks. This diverse input helped ensure that the plan addressed the needs of the broader community and supported public-private collaboration in mitigation efforts.

- Cloverdale Unified School District
- Cloverdale Chamber of Commerce

12.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into

community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- Alexander Valley Medical Center
- COPE

12.5 CHANGES IN COMMUNITY PRIORITIES

Since the 2021 HMP, there have been no changes in Cloverdale Fire Protection District's priorities.

12.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Cloverdale Fire Protection District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Cloverdale Fire Protection District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

12.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, Cloverdale Fire Protection District possesses capabilities that are unique and different from local government. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 12-1 summarizes the codes, ordinances, and regulations available to the CFPD.

Table 12-1. CFPD Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building Codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Fire Code	The California Fire Code supports the goals of the HMP by establishing fire prevention standards that reduce the risk of wildfire and structural fires. It includes requirements for defensible space, fire-resistant materials, and emergency access, all of which are critical for protecting people, property, and infrastructure in fire-prone areas.	State CA Fire Code, 2022, amended State code	County of Sonoma
Health and Safety Code	Outlines the organizations, powers, and responsibilities of fire protection districts throughout the state.	State California Code, Health and Safety Code - HSC § 13800	County of Sonoma

Planning Documents

Table 12-2 summarizes the planning documents available to CFPD.

Table 12-2. CFPD Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Community Wildfire Protection Plan	--	District 2022 CWPP	Chief Jenkins

Response and Recovery Planning Documents

Table 12-3 summarizes the response and recovery planning documents available to CFPD.

Table 12-3. CFPD Response/Recovery Planning Documents

Capability Type	Citation and Date	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	---	---	Fire/City	City Manager

12.6.2 Integration

Actions in the District's mitigation strategy requiring funding can be integrated into its annual budget where possible. While the District currently does not have formal planning mechanisms in place, future

development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans or annex updates
- Using hazard-specific information, such as drought data, to inform updates to policies and operational practices
- Incorporating hazard analyses into the development of new plans or District annexation efforts

CFPD aligned its 2022 Community Wildfire Protection Plan (CWPP) with the City of Cloverdale's LHMP and General Plan, and the 2021 Sonoma County HMP.

The 2023 Sonoma County CWPP update integrated goals and information from the 2021 Sonoma County HMP, and included actions for CFPD. The 2021 HMP was also incorporated into the General Safety Plan Element for the County.

12.6.3 Development and Permitting Capability

CFPD is a special district subject to the Sonoma County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the CFPD's jurisdiction are issued through Sonoma County. Therefore, building code, land use, and development capabilities are not applicable to the District.

Table 12-4 summarizes the capabilities of Cloverdale Fire Protection District to oversee and track development.

Table 12-4. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	No	City issues permits
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	The fire district uses the city program for tracking all permits and inspections on line.
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	No	-
Describe the level of buildout in your jurisdiction.	-	Most of Cloverdale city is built out. There are open areas available but growth has been mostly infill.

12.6.4 Administrative and Technical Capability

Table 12-5 summarizes the administrative bodies and programs available to support mitigation initiatives in the District.

Table 12-5. Administrative Capabilities

Resources	Available?	Comment
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	-
Mutual aid agreements	Yes	With Neighboring fire departments for response
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other	-	-

Table 12-6 summarizes technical staff resources available to the District and their current responsibilities that contribute to hazard mitigation.

Table 12-6. Technical Capabilities

Resources	Available ?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	No	-
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	Yes	Fire Chief
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Fire Chief
Staff that work with socially vulnerable populations or underserved communities	Yes	Fire Chief
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	No	-
Grant writers	Yes	Mainly focused on vegetation management grants
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-

12.6.5 Fiscal Capability

Table 12-7 summarizes financial resources available to Cloverdale Fire Protection District.

Table 12-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

12.6.6 Education and Outreach Capability

Table 12-8 summarizes the education and outreach resources available to Cloverdale Fire Protection District.

One area where the District would like to expand and improve its capabilities is in its outreach efforts, specifically working with the community to identify, assess, and promote usable safety zones and evacuation routes in high fire hazard areas.

Table 12-8. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Fire Chief
Personnel skilled or trained in website development	No	-
Hazard mitigation information available on your website	No	-
Social media for hazard mitigation education and outreach	Yes	Utilize social media for hazard weather or event information
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	Use Cloverdale PD for sending information or county systems
Natural disaster/safety programs in place for schools	Yes	Annual Safety Programs
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	COPE
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Department Social Media

12.6.7 Community Classifications

Table 12-9 summarizes classifications for community programs available to Cloverdale Fire Protection District.

Table 12-9. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	N/A	-	-
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	3	2020
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	Yes	-	2025
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

N/A = Not applicable; — = Unavailable

12.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 12-10 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 12-10. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flooding	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

12.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, CFPD is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within CFPD's jurisdiction can be found in the annexes for Sonoma County and the City of Cloverdale.

12.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the CFPD's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction is included in the Sonoma County annex.

Within the City of Cloverdale, permits have been issued within the SFHA since 2021, and several dozen new construction permits have been issued. Major development has not occurred in known hazard areas. Overall, the District's vulnerability has stayed the same.

12.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Cloverdale Fire Protection District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

12.9.1 Hazard Area

Maps of probable hazard areas within the District are shown in Figure 12-1 through Figure 12-2. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Cloverdale Fire Protection District has significant exposure.

Figure 12-1. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

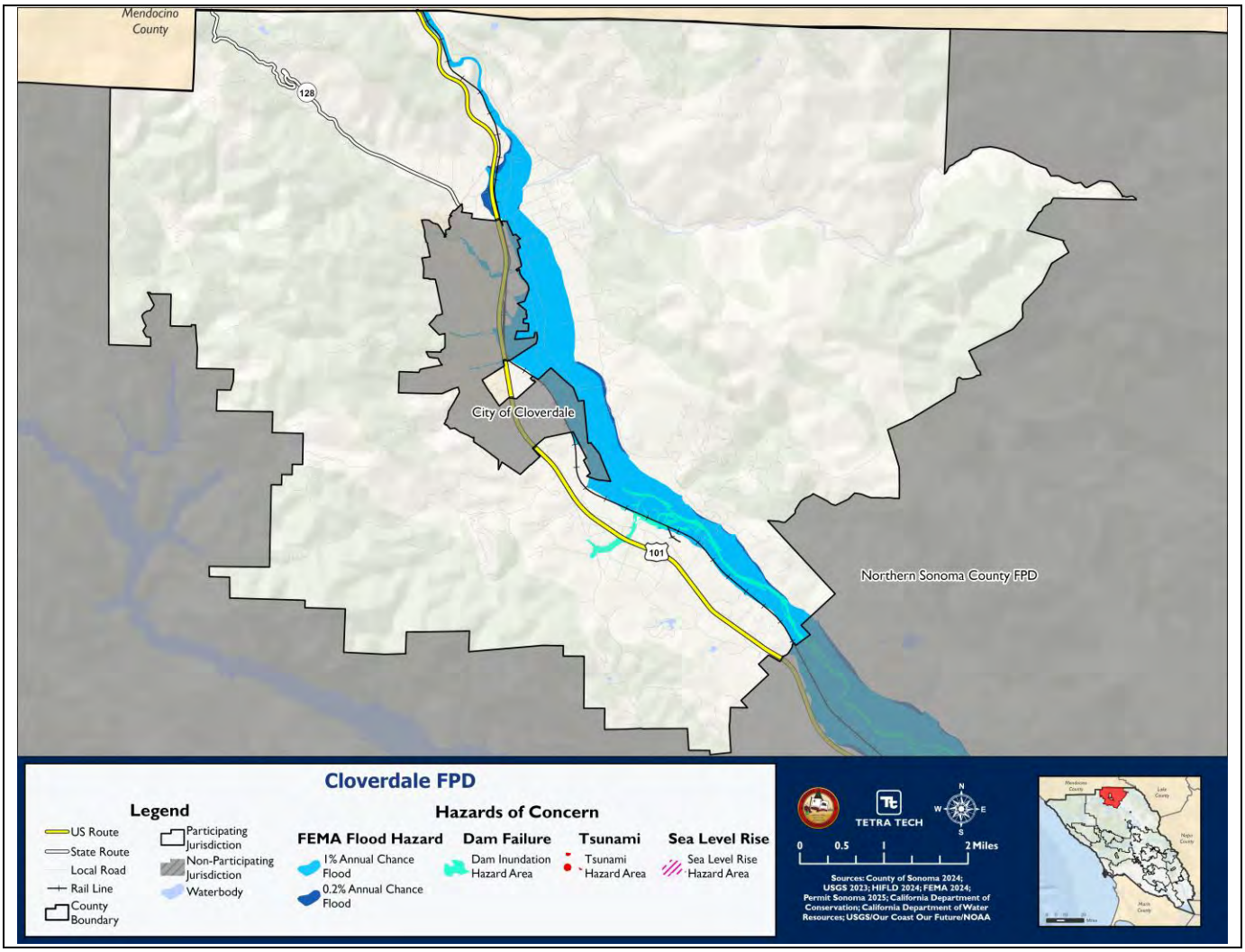
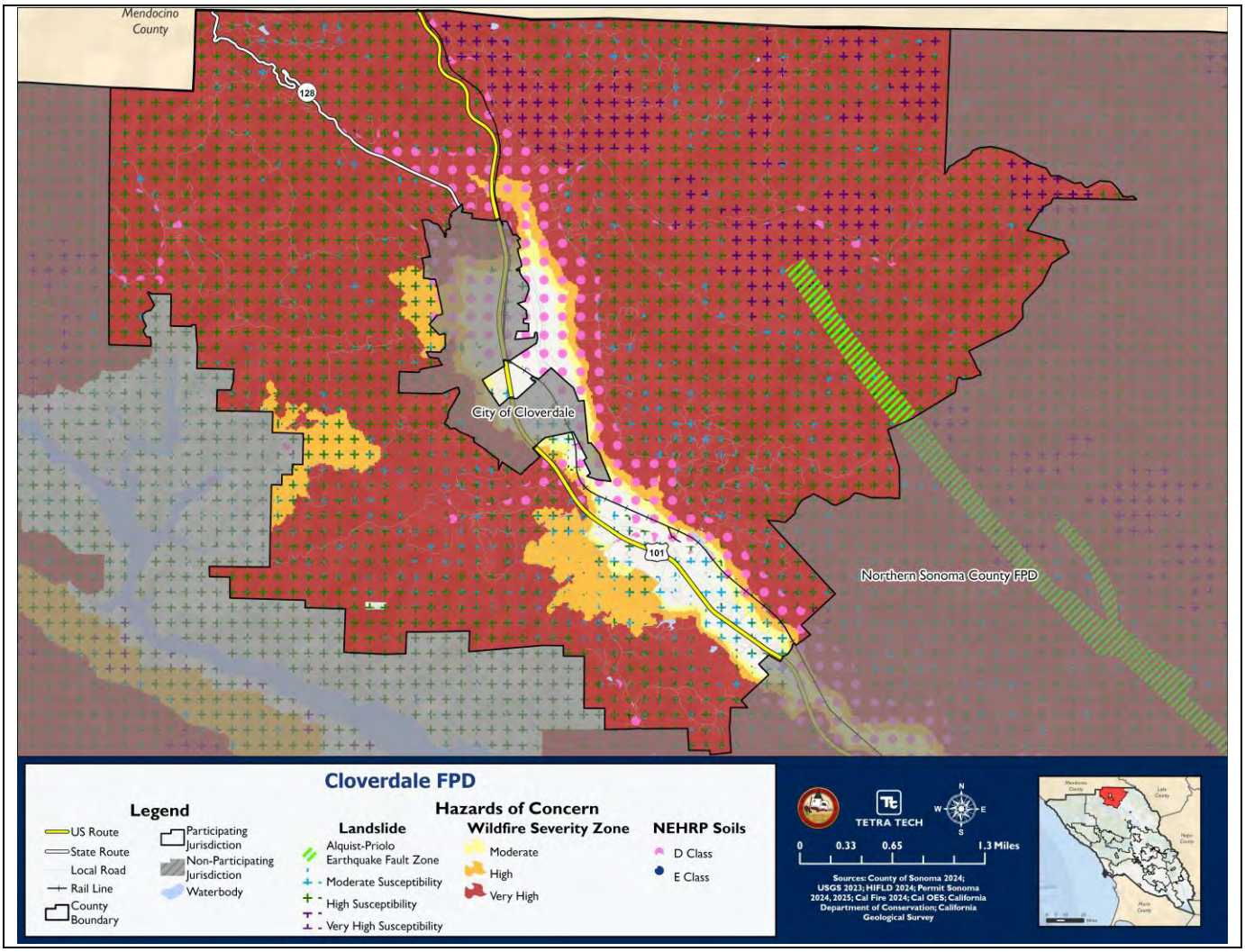


Figure 12-2. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



12.9.2 Hazard Event History

The history of natural and non-natural hazard events in Cloverdale Fire Protection District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 12-11 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 12-11. Hazard Event History in Cloverdale Fire Protection District, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in CFPD
January 11, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	Atmospheric River to the Cloverdale area roadway bringing minor flooding throughout town.	No losses for the fire district. Event handled with regular staffing.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)

12.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Cloverdale Fire Protection District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Table 12-12 shows CFPD's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 12-12. Hazard Ranking

Hazard	Rank
Dam Failure	Medium
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	Medium
Landslide	High
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

Because the District is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities located in the District.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to CFPD. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on District-owned assets.

Table 12-13 summarizes available quantitative estimates of potential impacts on community assets for the dam failure, flood, and earthquake hazards. For all other hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to CFPD.

Table 12-13. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	The District is exposed to potential dam failure inundation, which could result in significant threats to life, property, and infrastructure. Nearby dams include the Asti and Dutcher Creek dams, which are low and high hazard potential dams, respectively. A failure of the Dutcher Creek dam could lead to downstream flooding along Barrell Creek and the Russian River. The creek crosses beneath Highway 101, making it vulnerable to a dam failure. The historic Asti Station is also located next to the creek and vulnerable to a dam failure. The populations most vulnerable to these hazards are those downstream of the reservoirs, including residents and tourists along the Russian River, as well as CFPD's first responders who may be involved in rescue and emergency assistance.
Drought	CFPD is susceptible to drought conditions that can significantly impact local water supply and agricultural activities. CFPD's fire-fighting activities and infrastructure depend on a sufficient supply of water. Drought can diminish the water available in the system. Populations most at risk due to drought are people living in higher fire-risk areas, which includes most of the District, and people dependent on agricultural and forestry activities. In periods of extended drought, wineries in the District can be negatively impacted. Recreation near the Russian River may also be vulnerable.
Earthquake	CFPD is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. The eastern side of the District is especially vulnerable, as it is near a fault, although the entire District is prone to earthquakes. Several solar generating installations in the area may be vulnerable to shaking, which could lead to power disruptions. Traffic at the Cloverdale Airport may also be disrupted if an earthquake impacts the runway. Especially vulnerable populations include children at schools and visitors traveling along Highway 101. If an earthquake leads to a dam failure, it could also impact residents and travelers downstream.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the District's population and infrastructure. Elderly populations in CFPD, such as those at Clover Springs and Kings Circle, are more vulnerable to extreme cold than the general populace, as well as those living in remote areas. Emergency shelters and fire stations in the District can be vulnerable to extreme cold, especially if the event coincides with a power outage.

Hazard	Qualitative Local Impacts
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Elderly populations in CFPD, such as those at Clover Springs and Kings Circle, are more vulnerable to extreme heat than the general populace, as well as those living in remote areas. Highway 101 can be vulnerable to extreme heat, as heat can impact road integrity. Emergency shelters and fire stations in the District can be vulnerable to extreme heat, especially if the event coincides with a power outage.
Extreme Wind	CFPD may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Transportation along Highway 101 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. People living in low-lying areas can be vulnerable to flooding. Tourists and travelers may be unaware of flooding risks as well, especially in areas that are within the SFHA, such as the Russian River. This can also endanger CFPD's first responders performing rescues. Highway 101 runs along the Russian River, which has a wide SFHA that abuts the highway.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. Stretches of Highway 101 and Highway 128 going through the northern half of CFPD are in areas rated as having high or very high landslide susceptibility, making the road vulnerable to landslides. Populations vulnerable to landslides include residents in high-landslide susceptibility areas, moderate wildfire risk areas, and those near the fault zone, as well as travelers and visitors. People in areas with limited communication options, such as remote or rugged terrain, can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	Per the above risk assessment findings, sea level rise is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Tsunami	Per the above risk assessment findings, tsunami is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Wildfire	The District faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. People that are impacted most are likely to be low-income people living in remote, rural locations where it can be difficult to access or provide sufficient warning in a hazard event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation. Most of CFPD has a moderate severity fire risk, including most of the areas surrounding Highway 101, which is a major evacuation route for the area. Travelers and tourists are also vulnerable for this reason.

12.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Cloverdale Fire Protection District identified the following risk-related issues within the community:

- Dense vegetation and hazardous fuels along major transportation and evacuation corridors within the District pose a significant wildfire risk. These conditions threaten public safety, critical infrastructure, and the ability to evacuate efficiently during emergencies.

- High fire hazard areas within the District often lack clearly identified and usable safety zones and evacuation routes. This poses a significant risk to residents, especially in communities that have previously experienced wildfire threats or are located in high fire severity zones.

12.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

12.10.1 Past Mitigation Action Status

Table 12-14 indicates progress on the District's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 12-14. Status of 2021 Mitigation Actions for Cloverdale Fire Protection District

Mitigation Actions	Status
Project Number	CLD-1
Hazards Addressed	Earthquake, severe weather, wildfire, flooding
Lead Agency	Cloverdale Fire Protection District
Mitigation Action Description	Where appropriate, work with community organizations, such as COPE, CERT, and homeowner associations, to identify and make usable safety zones and evacuation routes located in high fire hazard areas, prioritizing those that have experienced fire threat and/or are located in high fire severity zones.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The District will work with COPE, CERT and associations to identify safety zones and advise on evacuation routes. We have been doing this and support all aspects of the efforts.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No historic losses in the District, we are pre-planning and trying to prevent losses.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	CLD-2
Hazards Addressed	All hazards
Lead Agency	Cloverdale Fire Protection District
Mitigation Action Description	Actively participate in the plan maintenance protocols outlined in Volume I of this hazard mitigation plan.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This is an ongoing action.
Project Number	CLD-3
Hazards Addressed	Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire
Lead Agency	Cloverdale Fire Protection District
Mitigation Action Description	Purchase generators for critical facilities and infrastructure that lack adequate backup power, including evacuation centers.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Citrus Fair has a new backup generator and sufficient for power back up for evacuation center operations
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed.
Project Number	CLD-4
Hazards Addressed	Wildfire
Lead Agency	Cloverdale Fire Protection District
Mitigation Action Description	Participate in hazard fuel reduction projects based on the findings of the Sonoma County CWPP and along major transportation and evacuation corridors within the District.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The District will use district and grant funds to support fuel reduction projects in the CWPP.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	This is a prevention effort as identified in our CWPP. There are no historic loss in the identified areas In the District but there is a possibility. Work off the CWPP as a guide to prioritize projects.
If discontinue, explain why	Not Applicable

12.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 12-14, Cloverdale Fire Protection District identified the following mitigation efforts completed since the last HMP:

- Community outreach
- Vegetation management
- Community Wildfire Protection Plan
- Public outreach
- Evacuation plan
- Home hardening

12.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Cloverdale Fire Protection District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Cloverdale Fire Protection District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 12-15 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 12-16 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 12-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	-	X	-	-	-	-	-	-	-	X
Drought	-	-	X	-	-	-	-	X	-	-
Earthquake	-	-	-	X	-	-	X	-	-	X
Extreme Cold	-	X	-	-	-	-	-	-	-	X
Extreme Heat	-	X	-	-	-	-	-	-	-	X
Extreme Wind	-	-	X	-	-	-	-	X	-	-
Flooding	-	-	-	X	-	-	X	-	-	X
Landslide	-	X	-	-	-	-	-	-	-	X
Sea Level Rise	-	-	-	-	-	-	-	-	-	-
Tsunami	-	-	-	-	-	-	-	-	-	-
Wildfire	-	-	X	X	-	-	X	X	-	X

Note: Mitigation category codes as follows (see Appendix D): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Table 12-16. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Fuel Reduction Projects	High	High	5	1-5 years	6.385	Medium
Backup Power	High	High	1	1-5 years	6.077	Medium
Safety Zones and Evacuation Routes	High	Medium	5	1-5 years	5.385	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-CFPD-01. Fuel Reduction Projects

Lead Agency:	Cloverdale Fire Protection District Board of Directors
Supporting Agencies:	-
Hazards of Concern:	Wildfire, Drought, Extreme Wind
Description of the Problem:	Dense vegetation and hazardous fuels along major transportation and evacuation corridors within the District pose a significant wildfire risk. These conditions threaten public safety, critical infrastructure, and the ability to evacuate efficiently during emergencies.
Description of the Solution:	The District will participate in hazard fuel reduction projects identified in the Sonoma County Community Wildfire Protection Plan (CWPP). Efforts will focus on areas along major transportation and evacuation routes. The District will utilize a combination of District funds and grant funding to implement these projects, which may include mechanical thinning, prescribed burns, and defensible space creation.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, CAL FIRE Fire Prevention Grants, CDBG, Local District Funds
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6,12,13
Benefits:	The project will reduce wildfire intensity and spread, enhance safety for residents and first responders, protect transportation infrastructure, and increase community awareness and preparedness
Impact on Socially Vulnerable Populations:	Improves safety for populations with limited mobility or access to transportation by ensuring clearer, safer evacuation routes.
Impact on Future Development:	Supports safer development patterns by reducing wildfire risk in key corridors and encouraging defensible space practices.
Impact on Critical Facilities/Lifelines:	Protects access to and from critical facilities such as hospitals, fire stations, and emergency shelters by reducing fuel loads along key routes.
Impact on Capabilities:	Enhances interagency coordination and builds local capacity for ongoing vegetation management and wildfire mitigation.
Climate Change Considerations:	Addresses increased wildfire risk due to hotter, drier conditions and extended fire seasons associated with climate change.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Medium

Action 2026-CFPD-02. Safety Zones and Evacuation Routes

Lead Agency:	Cloverdale Fire Protection District Board of Directors
Supporting Agencies:	-
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	High fire hazard areas within the District often lack clearly identified and usable safety zones and evacuation routes. This poses a significant risk to residents, especially in communities that have previously experienced wildfire threats or are located in high fire severity zones.
Description of the Solution:	The District will collaborate with community organizations such as COPE, CERT, and homeowner associations to identify, assess, and promote usable safety zones and evacuation routes in high fire hazard areas. Priority will be given to areas with a history of wildfire threats or those located in high fire severity zones. The District will provide guidance and support to ensure these routes and zones are accessible, well-communicated, and integrated into community preparedness efforts.
Estimated Cost:	High
Potential Funding Sources:	FEMA PDM, CAL FIRE Fire Prevention Grants, CDBG, Local District Funds
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6,12,13
Benefits:	The project will improve evacuation readiness, enhance community safety, and foster collaboration between emergency services and local residents in high-risk areas.
Impact on Socially Vulnerable Populations:	Improves access to safe evacuation options for residents with limited mobility, transportation, or resources, particularly in high-risk neighborhoods.
Impact on Future Development:	Encourages consideration of evacuation infrastructure and safety zones in future land use planning and development approvals.
Impact on Critical Facilities/Lifelines:	Supports safer access to and from critical facilities by ensuring evacuation routes are clearly identified and maintained.
Impact on Capabilities:	Builds local capacity for community-led preparedness and strengthens coordination between emergency responders and residents.
Climate Change Considerations:	Addresses increased wildfire frequency and severity due to climate change by improving evacuation infrastructure and community readiness.
Mitigation Category	Education and Awareness Programs
CRS Category	Emergency Services, Public Information
Priority	Medium

Action 2026-CFPD-03. Backup Power

Lead Agency:	Cloverdale Fire Protection District Board of Directors
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Extreme Cold, Extreme Heat, Landslide
Description of the Problem:	Power at District facilities is vulnerable to natural hazards causing outages.
Description of the Solution:	The District will purchase generators to provide backup power at facilities.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, CAL FIRE Fire Prevention Grants, General Fund, Staff Time
Implementation Timeline:	1-5 years
Objectives Met:	6
Benefits:	This action will provide an immediate reduction in risk.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline.
Impact on Capabilities:	This action will allow the District to continue operations during a power outage.
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Programs
CRS Category	Emergency Services
Priority	Medium

13. GOLD RIDGE FIRE PROTECTION DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the Gold Ridge Fire Protection District with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of the Gold Ridge Fire Protection District, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

13.1 HAZARD MITIGATION PLANNING TEAM

The Gold Ridge Fire Protection District identified primary and alternate HMP points of contact and developed this plan over the course of several months. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group, and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below and shown in Table 13-1. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Dave Bray, Deputy Chief

Address: 4500 Hessel Road, Sebastopol, CA 95472

Phone Number: 707-823-1084

Email: dave@goldridgefire.org

Alternate Point of Contact: Shepley Schroth-Cary, Fire Chief

Address: 4500 Hessel Road, Sebastopol, CA 95472

Phone Number: 707-823-1084

Email: shepleyschrothcary@goldridgefire.org

Table 13-1. Additional Contributors

Name	Department	Position	HMP Contribution
Darrin DeCarli	Gold Ridge Fire Protection District	Deputy Chief	Reviewer and content supplier

13.2 COMMUNITY PROFILE

The Gold Ridge Fire Protection District is comprised of 180 members across 10 stations with a combination of full-time staff and volunteer personnel. The District serves a resident population of nearly 22,000 (2010 census) across a 226-square-mile area that includes the communities of Lakeville, Wilmar, San Antonio, Two Rock, Bloomfield, Valley Ford, Bodega, Freestone, Twin Hills, Hessel, Camp Meeker and Fort Ross (Gold Ridge Fire Protection District 2025).

13.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the District completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

The following targeted outreach was made to underserved communities and vulnerable populations:

Outreach to underserved communities, particularly individuals experiencing homelessness, was coordinated through established partnerships with the City of Sebastopol and the County of Sonoma, who lead communications and service delivery for this population.

To reach vulnerable populations, the district collaborated with the Sebastopol Area Senior Center to engage elderly residents and ensure their needs were represented in the planning process. Additionally, coordination with local school districts supported outreach to youth and families, helping to raise awareness and encourage participation.

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to the District was contributed through community engagement activities.

13.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Gold Ridge FPD invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

13.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process involved close collaboration with local, regional, and state agencies responsible for hazard mitigation, emergency response, environmental protection, and infrastructure. Key contributors included CAL FIRE, the California Department of Fish and Wildlife, and the U.S. Fish and Wildlife Service, who provided expertise on wildfire risk and habitat resilience. Transportation input came from Caltrans, the California Highway Patrol, and Sonoma County Roads.

Emergency coordination was supported by the County Department of Emergency Management, Permit Sonoma, and city emergency offices. Law enforcement and public safety insights were offered by the Sonoma County Sheriff's Office and local police departments. Fire agencies, including the Sonoma County Fire District, Gold Ridge Fire Protection District, and city fire departments, helped assess wildfire vulnerabilities and response capabilities.

Environmental partners such as Sonoma Water, Regional Parks, State Parks, Fire Safe Sonoma, and conservation groups contributed to strategies for watershed health, vegetation management, and land preservation. Their input ensured alignment with emergency plans, land use policies, and conservation goals.

- U.S. Fish and Wildlife Service
- California Department of Fish and Wildlife
- CAL FIRE
- California Highway Patrol
- California State Parks
- Caltrans
- County of Sonoma Department of Emergency Management
- County of Sonoma, Permit Sonoma
- Sonoma County Sheriff's Office
- Sonoma County Fire District
- County of Sonoma Roads Division
- Sonoma Water
- Sonoma County Regional Parks
- Fire Safe Sonoma
- Sonoma Land Trust
- City of Rohnert Park
- City of Petaluma Department of Emergency Management
- City of Petaluma Fire Department
- City of Petaluma Police Department
- City of Sebastopol Police Department (Emergency Management)

- Gold Ridge Fire Protection District
- Gold Ridge Resource Conservation District
- Save The Redwoods League
- Rancho Adobe Fire Protection District

13.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. Permit Sonoma participated in HMP planning efforts, ensuring that land use aligns with established planning, safety, and environmental standards

13.4.3 Neighboring Communities

Neighboring cities, fire districts, and public agencies joined the planning process to support regional coordination. Their input helped identify shared risks and infrastructure, leading to more unified mitigation strategies.

- City of Sebastopol
- City of Petaluma
- Monte Rio
- Camp Meeker Recreation and Park District
- Sonoma County Fire District
- Rancho Adobe Fire District
- Occidental Fire Department/Community Services District
- City of Rohnert Park
- Sonoma County Regional Parks
- California Department of Fish and Wildlife
- CAL FIRE
- California Highway Patrol
- California State Parks
- Caltrans
- County of Sonoma Department of Emergency Management
- County of Sonoma, Permit Sonoma
- Sonoma County Sheriff's Office
- Sonoma County Fire District
- County of Sonoma Roads Division
- Sonoma Water

- Sonoma County Regional Parks

13.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community, academic institutions, and private sector organizations. Local businesses and utility providers contributed perspectives on economic resilience and infrastructure continuity. Academic institutions provided technical expertise and helped assess long-term risks. This diverse input helped ensure that the plan addressed the needs of the broader community and supported public-private collaboration in mitigation efforts.

- Pacific Gas & Electric
- AT&T
- Xfinity/Comcast
- Gravenstein Union School District
- Twin Hills Union School District
- Sebastopol Union School District
- Harmony Union School District
- Two Rock Union School District
- Wilmar Union School District
- Sebastopol Chamber of Commerce
- Center for Volunteer & Nonprofit Leadership
- Sonoma County CERT
- Meet Your Neighbors West County (MYNWC)
- Safeway Grocery
- Pacific Market Grocery
- Fircrest Grocery
- Lucky Grocery
- Sebastopol Hardware
- Occidental Hardware

13.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan’s focus on inclusive and accessible mitigation strategies.

- American Red Cross

- Sebastopol Area Senior Center
- Gravenstein Health Action Coalition
- Burbank Housing
- Catholic Charities of California
- Rotary Club of Sebastopol
- Rotary Club of Petaluma
- Kiwanis Club of Sebastopol
- Sebastopol Grange #306
- Ceres Community Project
- Volunteer Firefighter Foundation
- Sebastopol Community Church

13.5 CHANGES IN COMMUNITY PRIORITIES

The District did not participate in the 2021 HMP update; therefore, the community's identified priorities remain unchanged.

13.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Gold Ridge Fire Protection District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Gold Ridge Fire Protection District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

13.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, Gold Ridge Fire Protection District possesses capabilities that are different from those of local municipal governments. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 13-2 summarizes the codes, ordinances, and regulations for the District.

Table 13-2. GRFPD Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Fire Code	The California Fire Code supports the goals of the HMP by establishing fire prevention standards that reduce the risk of wildfire and structural fires. It includes requirements for defensible space, fire-resistant materials, and emergency access, all of which are critical for protecting people, property, and infrastructure in fire-prone areas.	State CA Fire Code, 2022, amended State code	County of Sonoma
Health and Safety Code	Outlines the organizations, powers, and responsibilities of fire protection districts throughout the state.	State California Code, Health and Safety Code - HSC § 13800	County of Sonoma

Planning Documents

Table 13-3 summarizes the planning documents available to the District.

Table 13-3. Gold Ridge Fire Protection District Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Capital Improvement Plan	Integrating a Capital Improvement Plan with the HMP helps align infrastructure investments with risk reduction goals, ensuring projects support community resilience and long-term safety.	Gold Ridge Fire Protection District	Fire Chief
Sonoma County Community Wildfire Protection Plan	The Community Wildfire Protection Plan (CWPP) is incorporated into the County's Hazard Mitigation Plan. The CWPP identifies wildfire risks and mitigation measures across the County, and lists community-driven risk reduction priorities and specific project recommendations that agencies and community groups can use to develop projects to reduce wildfire risk.	County	Permit Sonoma and GRFPD Fire Chief

Response and Recovery Planning Documents

Gold Ridge Fire Protection District does not have any response and recovery planning documents. Due to the threat of earthquakes to infrastructure in Gold Ridge's jurisdiction, the District could expand its capabilities by developing a plan alongside volunteer organizations, such as CERT, MYNWC, and Sebastopol Neighborhood Communications Unit, to conduct initial damage assessments in communities. This planning will help coordinate the District's recovery efforts and help identify critical facilities to mitigate, preventing energy disruption, communications failure, and building instability.

13.6.2 Integration

To effectively reduce long-term risk, hazard mitigation should be considered in everyday operations. As part of this planning process, the district's Capital Improvement Plan was reviewed to identify opportunities to integrate mitigation strategies. This ensures future infrastructure investments support resilience goals. Examples include using hazard data to inform project priorities, updating the CIP based on mitigation actions, and aligning future improvements with risk reduction objectives. The Sonoma County Fire Protection Service Providers Municipal Service Review was last updated in 2005. When this plan is updated, risks to Fire District infrastructure and assets from natural hazards could be included.

13.6.3 Development and Permitting Capability

Table 13-4 summarizes the capabilities of Gold Ridge Fire Protection District to oversee and track development.

13.6.4 Administrative and Technical Capability

Table 13-5 summarizes the administrative bodies and programs available to support mitigation initiatives in the District.

Table 13-6 summarizes technical staff resources available to Gold Ridge Fire Protection District and their current responsibilities that contribute to hazard mitigation.

Table 13-4. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	No	N/A
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	N/A
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	Yes	Only through available open space in rural jurisdiction.
Describe the level of buildout in your jurisdiction.	Rural	Open Space

Table 13-5. Administrative Capabilities

Resources	Available?	Comment
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Vegetation management is coordinated with FireSafe Sonoma.
Mutual aid agreements	Yes	Several mutual aid agreements with neighboring fire agencies
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	This will be implemented through use of Measure H funds

Table 13-6. Technical Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	No	-
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazus applications	No	-
Staff that work with socially vulnerable populations or underserved communities	No	-
Environmental scientists familiar with natural hazards	No	-

Resources	Available?	Comment
Surveyors	No	-
Emergency manager	No	-
Grant writers	Yes	Contract with local grant writers
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	-

13.6.5 Fiscal Capability

Table 13-7 summarizes financial resources available to Gold Ridge Fire Protection District.

Table 13-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes, parcel tax (ad valorem)
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	No
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

13.6.6 Education and Outreach Capability

Table 13-8 summarizes the education and outreach resources available to Gold Ridge Fire Protection District.

13.6.7 Community Classifications

Table 13-9 summarizes classifications for community programs available to Gold Ridge Fire Protection District.

Table 13-8. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Public Information Officer
Personnel skilled or trained in website development	Yes	District contracts for website development, supported by paid staff for current content additions
Hazard mitigation information available on your website	Yes	Links to County of Sonoma
Social media for hazard mitigation education and outreach	Yes	District has paid suppression personnel trained in providing these services
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	No	-
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	-
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	District can utilize the local MYNWC program

Table 13-9. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Class 3 in hydrated areas; Class 5 in non-hydrated areas	2023
National Weather Service StormReady Certification	No	N/A	N/A
Firewise Communities classification	No	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

N/A = Not applicable; — = Unavailable

13.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 13-10 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 13-10. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flooding	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

13.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, Gold Ridge Fire Protection District is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within the District's jurisdiction can be found in the annex for Sonoma County.

13.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction is included in the Sonoma County annex. Overall, development within the District has been minimal and GRFPD's hazard vulnerability has stayed the same.

13.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Gold Ridge Fire Protection District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

13.9.1 Hazard Area

Maps of probable hazard areas within the District are shown in Figure 13-1 and Figure 13-2. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which the Gold Ridge Fire Protection District has significant exposure.

Figure 13-1. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

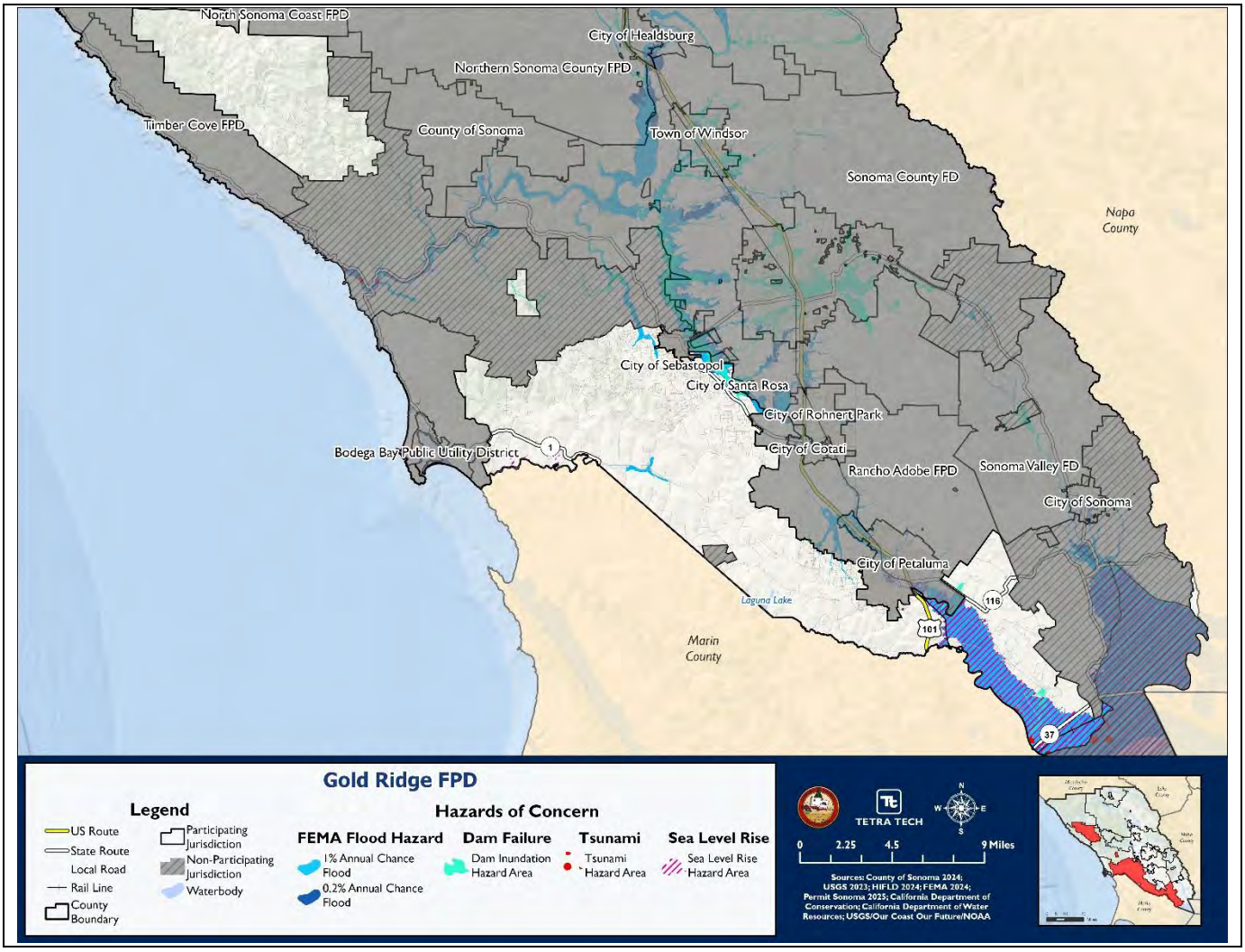
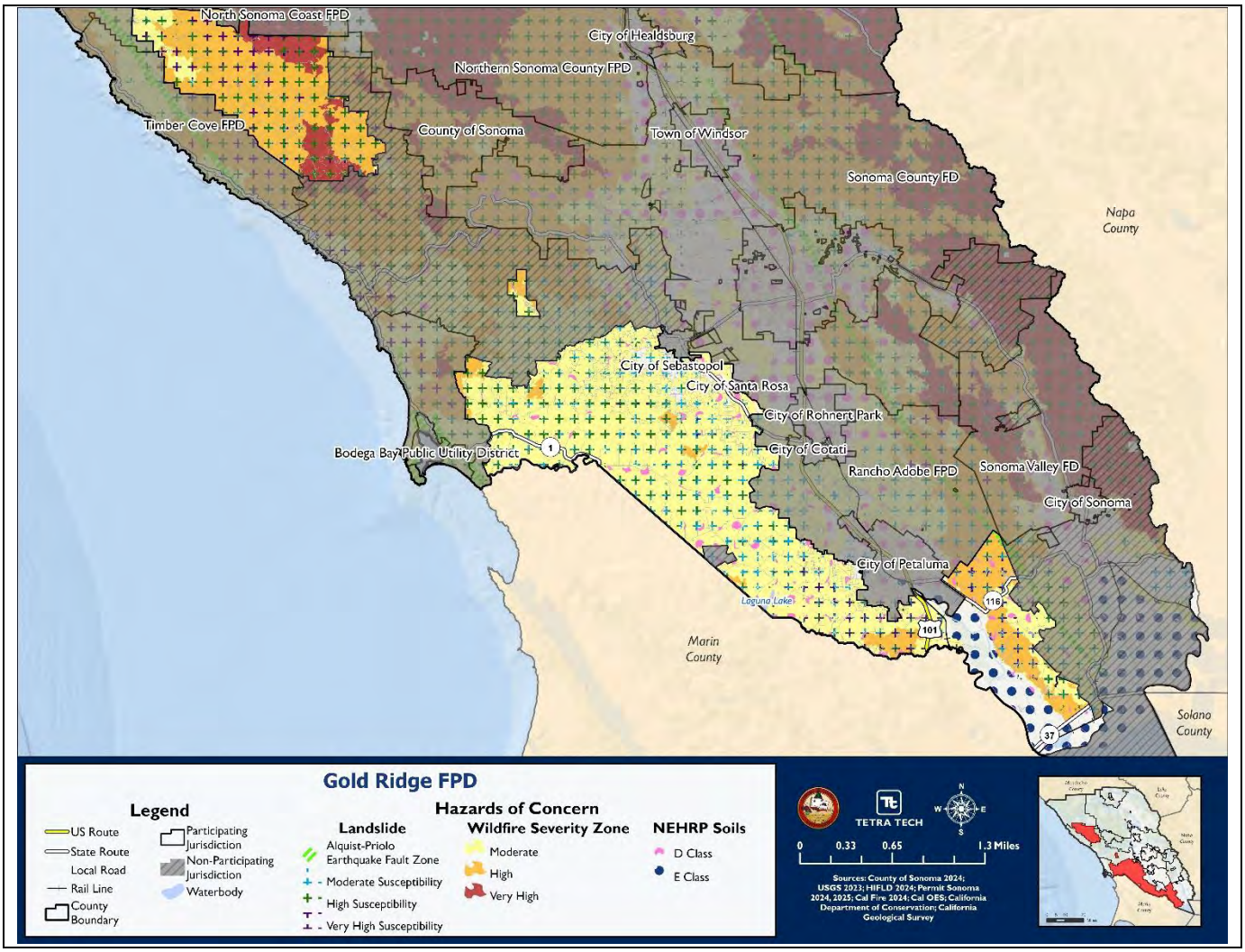


Figure 13-2. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



13.9.2 Hazard Event History

The history of natural and non-natural hazard events in Gold Ridge Fire Protection District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 13-11 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 13-11. Hazard Event History in Gold Ridge Fire Protection District, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in GRFPD
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton.	No impact indicated

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in GRFPD
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	No impact indicated

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)

13.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Gold Ridge Fire Protection District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Gold Ridge Fire Protection District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. Table 13-12 shows Gold Ridge Fire Protection District's final hazard rankings for identified hazards of concern. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 13-12. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	High
Landslide	Medium
Sea Level Rise	Low
Tsunami	Low
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to Gold Ridge Fire Protection District. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the District. Table 13-13 summarizes additional risks specific to GRFPD.

Table 13-13. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	The nearest dam is approximately 40 miles away, significantly reducing the likelihood of dam failure impacts within the district. Notable dams nearby include the Meadow Lane, Azalea, Lake Helen, Sleepy Hollow No. 2, and Brown's Lane dams, which are high hazard potential dams. A failure of these dams could lead to downstream flooding, which could impact travel along Highway 116. The populations most vulnerable to these hazards are those downstream of the reservoirs, including residents and tourists in dam inundation areas, and GRFPD's first responders who may be involved in rescue and emergency assistance.
Drought	The district is susceptible to drought conditions that can significantly impact local water supply and agricultural activities. GRFPD's fire-fighting activities and infrastructure depend on a sufficient supply of water. Drought impacts available water supplies in the county's water tanks and retention basins (lakes and ponds), potentially limiting water supply for firefighting efforts. In addition, drought creates a more dangerous fire environment due to dry vegetation. Populations most vulnerable to drought are people living in higher fire-risk areas, which includes most of the District, and people dependent on agricultural and forestry activities. In periods of extended drought, wineries in the District can be negatively impacted.
Earthquake	Gold Ridge is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. The southern portions of the district are especially vulnerable to earthquake, as they are near a fault and have a higher percentage of NEHRP Class D and E soils, although the entire district is prone to earthquakes. Bridges in the area may be vulnerable to shaking, which could lead to transportation disruptions. Ports on the San Pablo Bay may also be disrupted if an earthquake impacts the bay. Especially vulnerable populations include children and older adults, who may be less able to respond quickly. If an earthquake leads to a dam failure, it could also impact residents and travelers downstream.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the district's population and infrastructure. Elderly populations in GRFPD are more vulnerable to extreme cold than the general populace, as are those living in remote areas or experiencing homelessness. Emergency shelters and fire stations in the District can be vulnerable to extreme cold, especially if the event coincides with a power outage.

Hazard	Qualitative Local Impacts
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Elderly populations in GRFPD are more vulnerable to extreme heat than the general populace, as are those living in remote areas or experiencing homelessness. Extreme heat can also exacerbate difficulties for GRFPD's fire fighters, increasing their vulnerability to heat and increasing the vulnerability of vegetation to ignition. Emergency shelters and fire stations in the District can be vulnerable to extreme heat, especially if the event coincides with a power outage
Extreme Wind	The District may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Transportation along Highway 1, 101, and 116 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.
Flood	Flooding is a concern due to heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. People living in low-lying areas can be vulnerable to flooding. Tourists and travelers may be unaware of flooding risks as well, especially in areas that are within the SFHA, such as the near San Pablo Bay. This can also endanger GRFPD's first responders performing rescues. Highway 37 runs along the San Pablo Bay, crossing a wide 0.2-percent annual chance flood hazard area that abuts the highway. Heavy winter rains can contribute to downed trees, power line hazards, and debris flows that can impact travel.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. Though all areas of Gold Ridge can experience a landslide, the area at greatest risk is Camp Meeker. This hillside community has limited road access and dense residences. Stretches of Highway 101 and Highway 116 going through the southernmost portion of GRFPD are in areas rated as having high or very high landslide susceptibility. The northernmost portion of the district is also rated as high or very high landslide susceptibility. Populations especially vulnerable to landslides include residents in the more rural, high-landslide susceptibility areas in the northern portion of the District, which also has moderate wildfire risk areas. People in areas with limited communication options, such as remote areas, can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	The District is at risk from sea level rise along San Pablo Bay. Large portions of the southernmost areas of the District are noted as being vulnerable to sea level rise, including much of the stretch of Highway 37 within the district. Homes, businesses, and infrastructure could be impacted, making residents and industries near the bay the most vulnerable. Sea level rise can also cause saltwater intrusion further upstream in freshwater bodies, potentially compromising wells and water intakes along the Petaluma River.
Tsunami	The District is at risk from tsunami along the San Pablo Bay. People that are impacted most are likely to be disabled or elderly residents, such as at the Sebastopol Area Senior Center. People living in areas with limited escape routes are especially vulnerable. Tsunamis with enough height and force can erode shorelines, causing damage to homes and roads, such as Highway 37.

Hazard	Qualitative Local Impacts
Wildfire	The District faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. People that are impacted most are likely to be low-income people living in remote, rural locations that can be difficult to access or provide sufficient warning to during a hazard event. The northern portion of the district has a high wildfire risk. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation. Most of GRFPD has a moderate severity fire risk, but some areas with high wildfire risk are near Highways 101, 118, and 37, which are major evacuation routes for the area. Travelers and tourists are also vulnerable for this reason.

13.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Gold Ridge Fire Protection District identified the following risk-related issues for the community:

- Drought impacts available water supplies in the county's retention basins (lakes and ponds), potentially limiting water supply for firefighting efforts. In addition, drought creates a more dangerous fire environment due to dry vegetation.
- A large earthquake poses a threat to infrastructure in Gold Ridge's jurisdiction. Energy disruption, communications failure, and building instability pose emergency response challenges.
- Additional funding to support the activation of warming centers is necessary to ensure vulnerable populations have a safe interior location during periods of extreme cold.
- Additional funding to support the activation of cooling centers is necessary to ensure vulnerable populations have a safe interior location during periods of extreme heat.
- Extreme wind events often result in downed power lines causing power outages. Another concern is fallen trees impacting structures.
- Certain areas of Sonoma County are known to be at risk of flooding. Low-lying areas impact roads and certain creeks and rivers. Gold Ridge is impacted mostly by frequent road closures due to flooding.
- Though all areas of Gold Ridge can experience a landslide, the sole area at greatest risk is Camp Meeker. This hillside community has limited road access and dense residences.
- Gold Ridge Fire Protection District will be minimally impacted by sea level rise, but there will be some issues. As sea levels rise, waterways rise, impacting creek and riverbanks. In most cases, the wetlands will absorb this with minimal effect.
- Wildfire poses a risk in the wildland-urban interface (WUI). The Gold Ridge Fire Protection District has numerous homes and neighborhoods in the WUI.

13.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

13.10.1 Past Mitigation Action Status

The Gold Ridge Fire Protection District did not participate in the 2021 HMP Update and has no prior mitigation actions.

13.10.2 Additional Mitigation Efforts

Gold Ridge Fire Protection District completed the following mitigation efforts since the last HMP:

- Permit Sonoma (County of Sonoma) Chipper Program. This program has primarily been focused on the Bohemian Road corridor. The District coordinates with local groups of citizens to enhance wildfire preparedness and vegetation management.
- Defensible Space Inspections. Each year the District focuses on a specific area of the jurisdiction to complete defensible space inspections and vegetation management. In addition, these inspections allow for public education.
- Sebastopol Area Senior Center. Hosted informational sessions educating seniors on wildfire preparedness, home safety, evacuations, and fall prevention.
- Meet Your Neighbors West County. Coordinated monthly meetings and outreach with the organized group in the greater Sebastopol area (disaster preparedness).
- Sebastopol Neighborhood Communications Unit. Coordinated monthly meetings and outreach with the organized group in the greater Sebastopol area (disaster preparedness).
- General Disaster Preparedness. Hosted community groups in jurisdiction providing outreach and general preparedness.

Since the adoption of the County's first HMP, Gold Ridge Fire Protection District has made significant mitigation progress in the following areas:

- Co-chair of Active Shooter Hostile Event Response, developing county-wide active shooter policy, response, and training.
- Sonoma County Regional Park. District participates in vegetation management and prescribed burns at Tolay Lake Regional Park in conjunction with CAL FIRE and tribal affairs.
- Save the Redwoods prescribed burns in the Fort Ross area.

13.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Gold Ridge Fire Protection District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Gold Ridge Fire Protection District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 13-14 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 13-14. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X	X	X	X	X	X	X	X	X
Drought	X	X	X	X	X	-	X	X	-	X
Earthquake	X	-	-	X	-	-	X	-	-	X
Extreme Cold	X	-	-	X	-	-	X	-	-	X
Extreme Heat	X	-	-	X	-	-	X	-	-	X
Extreme Wind	X	X	X	X	X	X	X	-	-	X
Flooding	X	X	X	X	X	X	X	X	X	X
Landslide	X	X	X	X	X	X	X	X	X	X
Sea Level Rise	X	X	X	X	X	X	X	X	X	-
Tsunami	X	X	X	X	X	X	X	X	X	-
Wildfire	X	X	X	X	X	X	X	X	-	X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 13-15 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 13-15. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Warming Centers	Low	Medium	6	1-5 years	7.462	High
Cooling Centers	Low	Medium	6	1-5 years	7.462	High
Initial Damage Assessment	Low	Medium	4	1-5 years	7.308	High
Underground Powerlines	Medium	Medium	4	1-5 years	6.308	Medium
Flood Mitigation	High	High	4	1-5 years	6.308	Medium
Groundwater Runoff	High	High	2	1-5 years	6.154	Medium
Drought – Water Supply	High	Medium	8	1-5 years	5.616	Medium
Sea Level Rise Mitigation	High	Medium	5	1-5 years	5.385	Medium
WUI Compliance	High	Medium	7	1-10 years	4.539	Low

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-GRFPD-01. Drought-Water Supply

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	CAL FIRE
Hazards of Concern:	Drought
Description of the Problem:	Drought impacts available water supplies in the county's retention basins (lakes and ponds), potentially limiting water supply for firefighting efforts. In addition, drought creates a more dangerous fire environment due to dry vegetation.
Description of the Solution:	These actions are multi-faceted. The first step is working with regional partners, County of Sonoma and Sonoma Water, to promote water conservation measures. Public awareness and education will be important components. The second step is to address necessary infrastructure improvements such as repairing leaks, reusing wastewater, and capturing stormwater. The third step is to support environmental stewardship encouraging communities to reduce drought vulnerability and to incorporate vegetation management. Lastly, and most expensive, is to increase retention basin capacity and quantity to allow more options for firefighting water supply.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Fire Prevention Grants
Implementation Timeline:	1-5 Years
Objectives Met:	1; 2; 4; 6; 8; 9; 11; 13
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	As master plans are developed to address new retention basins, competition for available land may increase.
Impact on Critical Facilities/Lifelines:	Minimal due to water storage tanks and wells
Impact on Capabilities:	Minimal due to water storage tanks and wells
Climate Change Considerations:	High heat will increase water evaporation from reservoirs, potentially exacerbating drought issues.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Natural Resource Protection, Emergency Services
Priority	Medium

Action 2026-GRFPD-02. Initial Damage Assessment in Communities

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	U.S. Geological Survey; County of Sonoma Department of Emergency Management (DEM)
Hazards of Concern:	Earthquake
Description of the Problem:	A large earthquake poses a threat to infrastructure in Gold Ridge's jurisdiction. Energy disruption, communications failure, and building instability pose emergency response challenges.
Description of the Solution:	The district will work alongside volunteer organizations, such as CERT, MYNWC, and Sebastopol Neighborhood Communications Unit, to conduct initial damage assessments in communities. In addition to REDCOM, emergency dispatch, the District will coordinate recovery efforts using the General Mobile Radio Service and HAM radios.
Estimated Cost:	Medium
Potential Funding Sources:	General fund and community donations
Implementation Timeline:	1-5 Years
Objectives Met:	4; 5; 6; 10
Benefits:	Greater public awareness and education
Impact on Socially Vulnerable Populations:	Loss of energy, communications, and residences can greatly impact vulnerable populations. Utilization of volunteer organizations will enhance or response capabilities by prioritizing need.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	The District maintains a robust response capability with redundancies in resources. All critical facilities have generator backups, REDCOM has backup communications, and response apparatus can be mobile.
Impact on Capabilities:	The greatest impact is to the timeline for relief. The District is self-sufficient for 72 hours plus.
Climate Change Considerations:	None
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Public Information, Emergency Services
Priority	High

Action 2026-GRFPD-03. Warming Centers

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	City of Sebastopol; City of Petaluma; County of Sonoma DEM
Hazard(s) of Concern:	Extreme Cold
Description of the Problem:	Additional funding to support the activation of warming centers is necessary to ensure vulnerable populations have a safe interior location.
Description of the Solution:	Warming centers have been identified and will be activated upon notification of extreme weather. At annual budget planning exercises, emphasis needs to be placed on maintaining funding to support these centers.
Estimated Cost:	Low
Potential Funding Sources:	General fund and County DEM funding
Implementation Timeline:	1-5 years
Objectives Met:	2; 4; 5; 6; 11; 13
Benefits:	Public health and safety
Impact on Socially Vulnerable Populations:	Public health and safety
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Climate change can increase the District’s reliance on these centers.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Public Information, Emergency Services
Priority	High

Action 2026-GRFPD-04. Cooling Centers

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	City of Sebastopol; City of Petaluma; County of Sonoma DEM
Hazards of Concern:	Extreme Heat
Description of the Problem:	Additional funding to support the activation of cooling centers is necessary to ensure vulnerable populations have a safe interior location.
Description of the Solution:	Cooling centers have been identified and will be activated upon notification of extreme weather. At annual budget planning exercises, emphasis needs to be placed on maintaining funding to support these centers.
Estimated Cost:	Low
Potential Funding Sources:	General fund and County DEM funding
Implementation Timeline:	1-5 years
Objectives Met:	2; 4; 5; 6; 11; 13
Benefits:	Public health and safety
Impact on Socially Vulnerable Populations:	Public health and safety
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Climate change can increase the District’s reliance on these centers.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Public Information, Emergency Services
Priority	High

Action 2026-GRFPD-05. Underground Powerlines

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	Pacific Gas & Electric
Hazard(s) of Concern:	Extreme Wind
Description of the Problem:	Extreme wind events often result in downed power lines, causing power outages. Another concern is fallen trees impacting structures.
Description of the Solution:	Support Pacific Gas & Electric and their mission to underground powerlines and encourage the trimming of trees near transmission lines. Public education should be focused on removing or trimming trees near homes.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Fire Prevention Grants
Implementation Timeline:	1-5 Years
Objectives Met:	1; 5; 6; 11
Benefits:	Less power disruptions
Impact on Socially Vulnerable Populations:	Potentially significant as vulnerable populations can remain in their residences to power essential medical devices such as home oxygen and electric wheelchairs.
Impact on Future Development:	Potential increased cost for construction as trenches for power lines will need be created.
Impact on Critical Facilities/Lifelines:	Potentially significant as there will be fewer downed power lines, increasing life safety. Removal of trees/limbs near homes will lessen the fallen tree risk.
Impact on Capabilities:	None
Climate Change Considerations:	Climate change could impact tree health. As trees die or get sick, their root structures can be impacted, weakening the overall tree and increasing fall risk.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information, Emergency Services
Priority	Medium

Action 2026-GRFPD-06. Flood Mitigation

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	County of Sonoma DEM; neighboring fire agencies; Caltrans, County Roads; law enforcement agencies
Hazard(s) of Concern:	Flood, Dam Failure
Description of the Problem:	Certain areas of Sonoma County are known to be at risk of flooding. Low-lying areas impact roads and certain creeks and rivers. Gold Ridge is impacted mostly by frequent road closures due to flooding.
Description of the Solution:	Preventing flooding and closures will require significant capital improvement beyond the authority of the Gold Ridge Fire Protection District. Options may include stormwater management plans, floodwalls, regrading terrain, elevating roadways, and stream corridor restoration. An operational remedy could involve installing pipe gates at these flood-prone areas that can be closed when identified roadways flood. This inexpensive solution would reduce the ability of citizens to become stranded by driving into flood waters.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Fire Prevention Grants
Implementation Timeline:	Three to five years
Objectives Met:	1; 3; 6; 10
Benefits:	Greater public safety, as citizens have drowned in these waters. The added benefit is that emergency resources are available to respond to other emergencies.
Impact on Socially Vulnerable Populations:	Life safety and financial. Life safety applies to all citizens because of the risk of drowning. Financial, as certain populations cannot afford to have their primary form of transportation disabled by floodwaters.
Impact on Future Development:	Minimal
Impact on Critical Facilities/Lifelines:	Minimal, as these are known and frequent hazards. Emergency resources have been dealing with these issues for over 100 years
Impact on Capabilities:	Pole gates will improve the District’s capabilities by reducing the resources needed to respond to these incidents.
Climate Change Considerations:	None
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information, Natural Resource Protection, Structural Flood Control Projects, Emergency Services
Priority	Medium

Action 2026-GRFPD-07. Groundwater Runoff – Camp Meeker

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	USGS, EPA, CHP, Caltrans, Sonoma County DEM/Roads, Permit Sonoma, law enforcement agencies, neighboring fire agencies
Hazard(s) of Concern:	Landslide
Description of the Problem:	Though all areas of Gold Ridge can experience a landslide, the area at greatest risk is Camp Meeker. This hillside community has limited road access and dense residences.
Description of the Solution:	A master plan to address capital improvement in the community with a focus on groundwater/water runoff. This should include parcel evaluations, construction of retaining walls, culverts, erosion control, and forest/vegetation management.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Fire Prevention Grants
Implementation Timeline:	5 to 10 years
Objectives Met:	3; 6
Benefits:	Increased public safety, improved roads, and structural stability
Impact on Socially Vulnerable Populations:	Significant due to the potential loss of life and residences
Impact on Future Development:	Increased cost due to updated code enforcement, rules, and regulations
Impact on Critical Facilities/Lifelines:	A significant landslide could close the sole road, Bohemian Highway, that leads out of the community.
Impact on Capabilities:	Potentially moderate. Fire will respond and coordinate the response to a landslide, but these are difficult incidents to mitigate. Prevention is key
Climate Change Considerations:	Increased temperatures can lead to dead vegetation that weakens root structure. Excessive rain increases water runoff and ground saturation, increasing landslide concerns.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information, Natural Resource Protection, Structural Flood Control Projects, Emergency Services
Priority	Medium

Action 2026-GRFPD-08. Mitigation of Sea Level Rise

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	CA State Parks, Sonoma County DEM/Roads, Caltrans, neighboring fire agencies, and law enforcement
Hazard(s) of Concern:	Sea Level Rise, Tsunami
Description of the Problem:	Gold Ridge Fire Protection District will be minimally impacted by sea level rise, but there will be some issues. As sea levels rise, waterways rise, impacting creek and riverbanks. In most cases, the wetlands will absorb this with minimal effect.
Description of the Solution:	Sediment and erosion control, stream corridor restoration, wetland restoration and preservation, acquisition and elevation of structures in flood-prone areas, structural retrofits, and floodwalls.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Fire Prevention Grants
Implementation Timeline:	1-5 Years
Objectives Met:	1; 2; 4; 6; 9
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	Minimal
Impact on Future Development:	Potentially limiting available land for development
Impact on Critical Facilities/Lifelines:	None
Impact on Capabilities:	None
Climate Change Considerations:	Loss of wetlands could impact the environment and the streambed's ability to absorb water rise.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information, Natural Resource Protection, Structural Flood Control Projects
Priority	Medium

Action 2026-GRFPD-09. WUI Compliance

Lead Agency:	Gold Ridge Fire Protection District Board of Directors
Supporting Agencies:	CalFire; neighboring fire agencies, law enforcement agencies, Sonoma County DEM
Hazard(s) of Concern:	Wildfire
Description of the Problem:	Wildfire poses a risk in the wildland-urban interface (WUI). The Gold Ridge Fire Protection District has numerous homes and neighborhoods in the WUI.
Description of the Solution:	Land use ordinances, subdivision regulations, building code and enforcement, utility undergrounding, structural retrofits, forest/vegetation management, Firewise Communities, and public education.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Fire Prevention Grants
Implementation Timeline:	1-10 Years
Objectives Met:	1; 2; 3; 4; 6; 8; 13
Benefits:	Community involvement, awareness, education, and vegetation fuel management
Impact on Socially Vulnerable Populations:	Significant
Impact on Future Development:	Moderate to significant
Impact on Critical Facilities/Lifelines:	Moderate
Impact on Capabilities:	Moderate to significant
Climate Change Considerations:	Drying and death of vegetation will increase available fuels, increasing the danger and risk of wildfire in the WUI.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information, Natural Resource Protection, Emergency Services
Priority	Low

14. NORTH SONOMA COAST FIRE PROTECTION DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the North Sonoma Coast Fire Protection District (NSCFPD) with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of the North Sonoma Coast Fire Protection District, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

14.1 HAZARD MITIGATION PLANNING TEAM

The North Sonoma Coast Fire Protection District identified primary and alternate HMP points of contact and developed this plan over the course of several months. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below and shown in Table 14-1. Additional documentation of the planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Bonnie Plakos, Fire Chief

Address: P.O. Box 386, The Sea Ranch, CA 95497

Phone Number: 707-721-2409

Email: chief@northsonomacoastfpd.org

Alternate Point of Contact: Chuck Brier, Assistant Chief

Address: P.O. Box 386, The Sea Ranch, CA 95497

Phone Number: (707) 321-9164

Email:chuckb@northsonomacoastfpd.org

Table 14-1. Additional Contributor

Name	Department	Position	HMP Contribution
Bonnie Plakos	NSCFPD	Fire Chief	Completed worksheets, participated in planning process.
Susie Gilley	-	Community Member	Participated in planning process.
Chuck Breier	NSCFPD, TSRA	Assistant Chief, Director of Facilities and Resources	Participated in planning process.
Rocky Fagundes	TSRA	Safety & Security, Emergency Management	Participated in planning process.
Jessica Neafsey	TSRA	Director of Environmental Planning and Design	Participated in planning process.
Redwood Miller	CAL FIRE	Captain	Participated in planning process.
Pat Briant	CAL FIRE	Captain	Participated in planning process.
Daymon Doss	NSCFPD	District Administrator	Participated in planning process.
Micheline White	Mendonoma Health Alliance	Executive Director	Participated in planning process.

14.2 COMMUNITY PROFILE

The NSCFPD was formed on April 1, 2016. Previously, property taxes to support fire protection in the Sea Ranch / Annapolis / Stewart's Point area were transferred to Sonoma County Service Area #40, which in turn contracted with The Sea Ranch Volunteer Fire Department, the Annapolis Volunteer Fire Department, and CAL FIRE. The new district covers the areas previously served by The Sea Ranch and Annapolis Volunteer Fire Companies, with the continued support of CAL FIRE.

The highest density of population and structures in the District is within the boundaries of The Sea Ranch Association (TSRA). TSRA and associated TSR Water Company provide facilities that are essential to the operations of NSCFPD. These include water service and hydrants throughout The Sea Ranch (TSR) as well as broadband communications for District facilities located in TSR. TSRA provides various support for citizens within the NSCFPD who own property in TSR, including but not limited to administrative services, maintenance, and emergency management. In addition to NSCFPD, CAL FIRE provides emergency response, particularly wildfire suppression, in the District, since all of the District lies within the State Responsibility Area.

The District is in the northwestern corner of Sonoma County. The boundaries extend south from the Mendocino/Sonoma County line to a few miles south of The Sea Ranch and east from the coast about 16 miles to the border of the Northern Sonoma County Fire Protection District, a total of 172.4 square miles.

14.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, NSCFPD completed specific activities to collect input on hazards and vulnerability from the people the District serves. The

public was invited to participate in the plan by responding to the public survey, attending a hybrid virtual/ in-person meeting, and reviewing the draft plan.

The North Sonoma Coast region is broadly considered underserved due to its remote, rural setting and limited access to essential services such as transportation and healthcare. Within this area, Annapolis is particularly underserved, facing greater challenges due to its geographic isolation, unpaved roads, lack of reliable broadband (except for satellite), and lower average household income.

Vulnerable populations in the region include residents of Annapolis, who are impacted by economic hardship and limited infrastructure. In contrast, The Sea Ranch is more economically stable but has a high proportion of elderly residents, making it vulnerable in terms of age-related needs. Additionally, The Sea Ranch includes low-income housing, such as Burbank Housing, which adds another layer of vulnerability within the community.

To ensure inclusive engagement, outreach efforts were designed to reach all residents, with special attention to those who may be harder to reach. These efforts included the following:

- Posting updates on the District's website (Figure 14-1)
- Sharing information via local social media and community email lists (Figure 14-2 through Figure 14-5)
- Distributing flyers at local events and on bulletin boards
- Hosting a public meeting scheduled for July 19 (Figure 14-6)

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to the District's was contributed through community engagement activities.

Figure 14-1. NSCFPD Website



Figure 14-2. NSCFPD Facebook Post - Community Survey



Figure 14-3. Facebook Post July 9, 2025

North Sonoma Coast Fire Protection District
Published by Gatsby Cat
· July 9 at 1:38 PM ·

FORUM: July 19, 3-5 p.m. at the Del Mar Hall

Be informed! North Sonoma Coast Fire and CAL FIRE personnel will review the topics below and answer questions.

- Emergency Services on the coast
- CAL FIRE 2025 Season Outlook
- CAL FIRE: Defensible Space Explained
- What is the 2026 Sonoma County Multi-Jurisdictional Hazard Mitigation Plan Update?
- How are the Measure H funds being used?
- What is next for the North Fire Station?



Figure 14-4. Forum Email

-------- Forwarded Message --------
Subject: Forum this Saturday 7/19, Fire Safety and more!
Date: Thu, 17 Jul 2025 14:46:13 -0700
From:
To: TSRLIST <tsrlist@lists.mcn.org>

It's a busy summer weekend. But if you possibly can, please join us Saturday 3-5 at the Del Mar Center for an update on many fire/safety-related issues that are important to all of us!

No, it's not the same old fire department info. (Well...maybe 10 minutes worth, there are always new people and everybody should know who we are and who responds when you call 911.) But then we'll have a little talk about the fire season outlook so far, info on defensible space (from the people who do the inspections...great opportunity for questions!). Also an update on what we are doing with the Measure H sales tax money that you all so kindly voted for last year, a brief update on the "Sonoma County Multi-Jurisdictional Hazard Mitigation Plan Update (whew), and, probably the most fun, what are the plans for the North Fire Station? Did you know there has been a project going on for some time to expand (actually, *complete*) that station? We want to tell you all about it!

We are your fire department, and we are funded with your money. Please come, hear the news, bring your questions! (There will be a zoom option, but in-person is more fun.)

https://thesearanchforum.weebly.com/july-19-2025-fire-safety-updates.html

Figure 14-5. Social Media Post

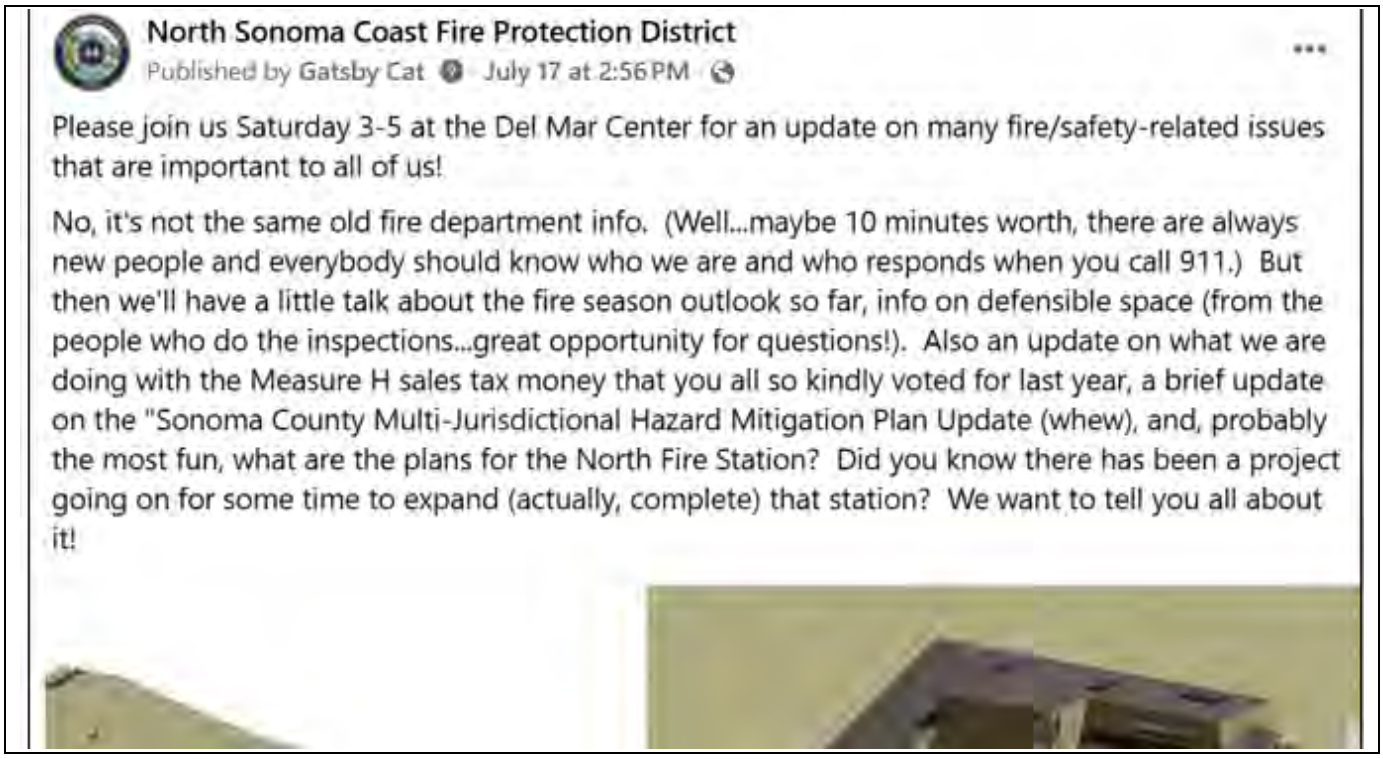


Figure 14-6. Forum Flyer

Fire Safety Update

Saturday, July 19, 2025

3:00 p.m. – 5:00 p.m.

Del Mar Center Hall

40600 Leeward Rd, Sea Ranch, CA, and by Zoom

Be informed! North Sonoma Coast Fire and CAL FIRE personnel will review the topics below and answer questions.

- Emergency Services on the coast
- CAL FIRE 2025 Season Outlook
- CAL FIRE: Defensible Space Explained
- What is the 2026 Sonoma County Multi-Jurisdictional Hazard Mitigation Plan Update?
- How are the Measure H funds being used?
- What is next for the North Fire Station?



14.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, NSCFPD invited stakeholders relevant to their planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan.

The following sections outline the individuals involved and their respective strategies for participation in the 2026 HMP update.

14.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

Local and state agencies involved in emergency response, transportation, and utilities were invited to contribute to the County's HMP update. Their participation reflects the critical role these organizations play in identifying risks and enhancing regional resilience.

- North Sonoma Coast Fire Protection District
- The Sea Ranch Association (Emergency Management)
- The Sea Ranch Water Company
- CAL FIRE
- Caltrans
- Sonoma County Roads

14.4.2 Agencies that Have the Authority to Regulate Development

Permit Sonoma holds the authority to regulate development within the area, ensuring that land use aligns with established planning, safety, and environmental standards.

14.4.3 Neighboring Communities

As part of the hazard mitigation planning process, outreach was conducted to neighboring communities to inform them of the effort and invite their participation. Communication included sharing the planning timeline and opportunities to provide input on regional hazard vulnerabilities and potential mitigation strategies.

- Timber Cove Fire Protection District
- Kashia Band of Pomo
- Northern Sonoma County Fire Protection District

14.4.4 Representatives of Business, Academia, and Other Private Organizations

NSCFPD engaged local community representatives by notifying the Sea Ranch Association about the HMP update. This organization was encouraged to share the survey and planning information with its members and provide feedback on community vulnerabilities and resilience priorities.

14.4.5 Nonprofit Organizations and Community-Based Organizations

Coordination with local community organizations supported broader engagement in the hazard mitigation planning process. These groups were invited to review draft materials and share feedback based on their local knowledge and experience in emergency preparedness, helping to ensure that community perspectives were reflected in the final plan.

- Mendonoma Health Alliance

14.5 CHANGES IN COMMUNITY PRIORITIES

NSCFPD's priorities remain similar to those outlined in 2021. Given the District's rural location and challenging geography, priorities continue to focus on educating residents about preparedness, such as creating defensible space, maintaining emergency supplies, and preparing for evacuation, including identifying centers and routes. Fuels reduction, especially along roadways, and maintenance of the limited ingress/egress roads in the area remain key concerns.

Following the extreme storm damage caused by the bomb cyclones of 2023 and 2024, there is now an increased emphasis on the continued removal of hazardous trees along roadways. Some earlier projects remain only partially completed, such as the fuel break on the east side of The Sea Ranch and the repair of culverts under Highway 1 by Caltrans to reduce roadway flooding. NSCFPD aims to complete these projects in the coming years.

An additional priority is the completion of a Community Wildfire Protection Plan (CWPP), or a similar planning document, for the entire District. This plan would support roadside clearance efforts, particularly along the many narrow, rural, private roads in the Annapolis area.

Not included in the 2021 plan but of significant community benefit, Mendonoma Health Alliance has expanded its services in the region. The organization now provides mobile healthcare to residents, along with home safety checks, support and respite care, addiction counseling, and a range of other health and wellness services. These efforts have greatly enhanced access to care and support for vulnerable populations in this remote area.

14.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

North Sonoma Coast Fire Protection District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for NSCFPD to identify opportunities for integrating mitigation concepts into ongoing District procedures.

14.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, North Sonoma Coast Fire Protection District possesses capabilities that are unique and different from local government. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 14-2 summarizes the codes, ordinances, and regulations available to the District.

Planning Documents

Table 14-3 summarizes the planning documents available to NSCFPD.

Table 14-2. Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building Codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Fire Code	The California Fire Code supports the goals of the HMP by establishing fire prevention standards that reduce the risk of wildfire and structural fires. It includes requirements for defensible space, fire-resistant materials, and emergency access, all of which are critical for protecting people, property, and infrastructure in fire-prone areas.	State CA Fire Code, 2022, amended State code	County of Sonoma
Health and Safety Code	Outlines the organizations, powers, and responsibilities of fire protection districts throughout the state.	State California Code, Health and Safety Code - HSC § 13800	County of Sonoma

Table 14-3. NSCFPD Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Community Wildfire Protection Plan	The 2019 CWPP supports the HMP by identifying wildfire risks and outlining community-driven strategies like defensible space and public education. Integrating it into the HMP ensures alignment on wildfire mitigation priorities and enhances coordination across agencies.	The Sea Ranch Association The Sea Ranch CWPP, 2019	Community Manager Menka Sethi
Community Forest Management Plan	The 2022 Fuel Management Plan complements the HMP by providing detailed guidance on vegetation management in high-risk areas. Its integration helps prioritize fuel reduction efforts and supports broader wildfire risk reduction goals.	The Sea Ranch Association The Sea Ranch Fuel Management Plan, 2022 (amended in 2023)	Community Manager Menka Sethi

Response and Recovery Planning Documents

NSCFPD does not have any response and recovery planning documents. Creating, maintaining, and implementing plans that can support mitigation efforts, such as a disaster preparedness plan, is an opportunity for the District to expand and improve its capabilities.

14.6.2 Integration

While NSCFPD does not currently have a broad set of formal planning mechanisms, the existing Sea Ranch Community Wildfire Protection Plan (2019) and Fuel Management Plan (2022; amended 2023) offer valuable opportunities for integrating hazard mitigation strategies. These plans can serve as foundational tools for future planning efforts. Potential areas for integration include:

- Applying wildfire risk assessments and fuel treatment priorities from these plans to future emergency planning or annex updates
- Using site-specific data, such as vegetation and access constraints, to inform operational practices and resource allocation
- Incorporating hazard analyses from these plans into the development of new district-wide mitigation strategies or planning documents, such as a Community Wildfire Protection Plan for the entire NSCFPD area

These existing plans provide a strong starting point for aligning local mitigation actions with broader hazard resilience goals.

NSCFPD has integrated the 2021 HMP into other planning mechanisms by implementing actions in its mitigation strategy that involved other plans. Namely, to participate in hazardous fuel reduction projects based on the findings of the Sonoma County CWPP and along evacuation and medical response corridors within the NSCFPD. The Sea Ranch Association has continued its roadside fuel management program to good effect. Efforts are underway to obtain homeowner buy-in as well as grant funds to do similar work in the Annapolis area.

The Sea Ranch Fuel Management Plan (2022) also incorporated information from the 2021 HMP, referencing actions from the mitigation strategy.

14.6.3 Development and Permitting Capability

Table 14-4 summarizes the capabilities of North Sonoma Coast Fire Protection District to oversee and track development.

14.6.4 Administrative and Technical Capability

Table 14-5 summarizes the administrative bodies and programs available to support mitigation initiatives in the District.

Table 14-4. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits?	No	-
• **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	No	We are notified by the county when new building addresses are assigned so we can update our local maps.
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	-
Do you have a buildable land inventory?	No	
• **If you have a buildable land inventory, please describe**		-
Describe the level of buildout in your jurisdiction.	N/A	The Sea Ranch Association is 83% built out. No "build out" value for remainder of the District.

Table 14-5. Administrative Capabilities

Resources	Available?	Comment
Emergency Management/Public Safety Department	Yes	No separate public safety department within the fire district, however, The Sea Ranch Association has an emergency management department, and the District provides emergency protection.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	The Sea Ranch Association maintains vegetation, drainages, etc. within TSRA.
Mutual aid agreements	Yes	We have mutual aid agreements with Timber Cove FPD to the south and South Coast FPD to the north. We send (or receive) automatic aid for some call types, such as confirmed fires, and can send or receive mutual aid for any call where it is needed.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	District has an employee manual. There are not job descriptions related to mitigation.
FireSafe Council	Yes	Hazard mitigation planning

Table 14-6 summarizes technical staff resources available to the District and their current responsibilities that contribute to hazard mitigation.

Table 14-6. Technical Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	No	-
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazus applications	No	-
Staff that work with socially vulnerable populations or underserved communities	Yes	Mendonoma Health Alliance
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	Yes	TSRA has a Safety and Security department that helps with emergency management.
Grant writers	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-

14.6.5 Fiscal Capability

Table 14-7 summarizes financial resources available to North Sonoma Coast Fire Protection District.

Table 14-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	-

14.6.6 Education and Outreach Capability

Table 14-8 summarizes the education and outreach resources available to North Sonoma Coast Fire Protection District.

Table 14-8. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Fire District can reach out via website(s), social media, local avenues such as group email lists.
Personnel skilled or trained in website development	Yes	The District website as well as the website for the associated nonprofit firefighter association were developed and maintained by fire department staff skilled in web development.
Hazard mitigation information available on your website	Yes	Under Get Involved tab
Social media for hazard mitigation education and outreach	Yes	Facebook
Citizen boards or commissions that address issues related to hazard mitigation	Yes	The team put together to work on the hazard mitigation plan update.
Warning systems for hazard events	Yes	The usual county-wide systems (SoCo Alert, WEA, Nixle…) are in place. In addition within TSR, TSRA has a sophisticated alerting system powered by Everbridge that can send alerts via phone, email, and text. Fire department and TSRA Security vehicles are also equipped with hi-lo sirens for immediate evacuations.
Natural disaster/safety programs in place for schools	Yes	Local schools have disaster plans.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Mendonoma Health Alliance
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	SoCo Alert, Nixle, Everbridge, radio NSCFPD offers a variety of ways to stay informed of emergencies through links and helpful information on website.

14.6.7 Community Classifications

Table 14-9 summarizes classifications for community programs available to North Sonoma Coast Fire Protection District.

Table 14-9. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No		
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	4/9	2019
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	Yes	-	-
Other: Fire Risk Reduction Community List	Yes	-	2024

14.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 14-10 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

The District upgraded its adaptive capacity rating for extreme wind from moderate to strong.

14.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, North Sonoma Coast Fire Protection District is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within the District’s jurisdiction can be found in the annex for Sonoma County.

Table 14-10. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Strong
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

14.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within NSCFPD's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction is included in the Sonoma County annex. Overall, development within the District has been minimal and NSCFPD's hazard vulnerability has stayed the same.

14.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of North Sonoma Coast Fire Protection District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

14.9.1 Hazard Area

Maps of probable hazard areas within the District are shown in Figure 14-7 and Figure 14-8. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which North Sonoma Coast Fire Protection District has significant exposure.

Figure 14-7. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

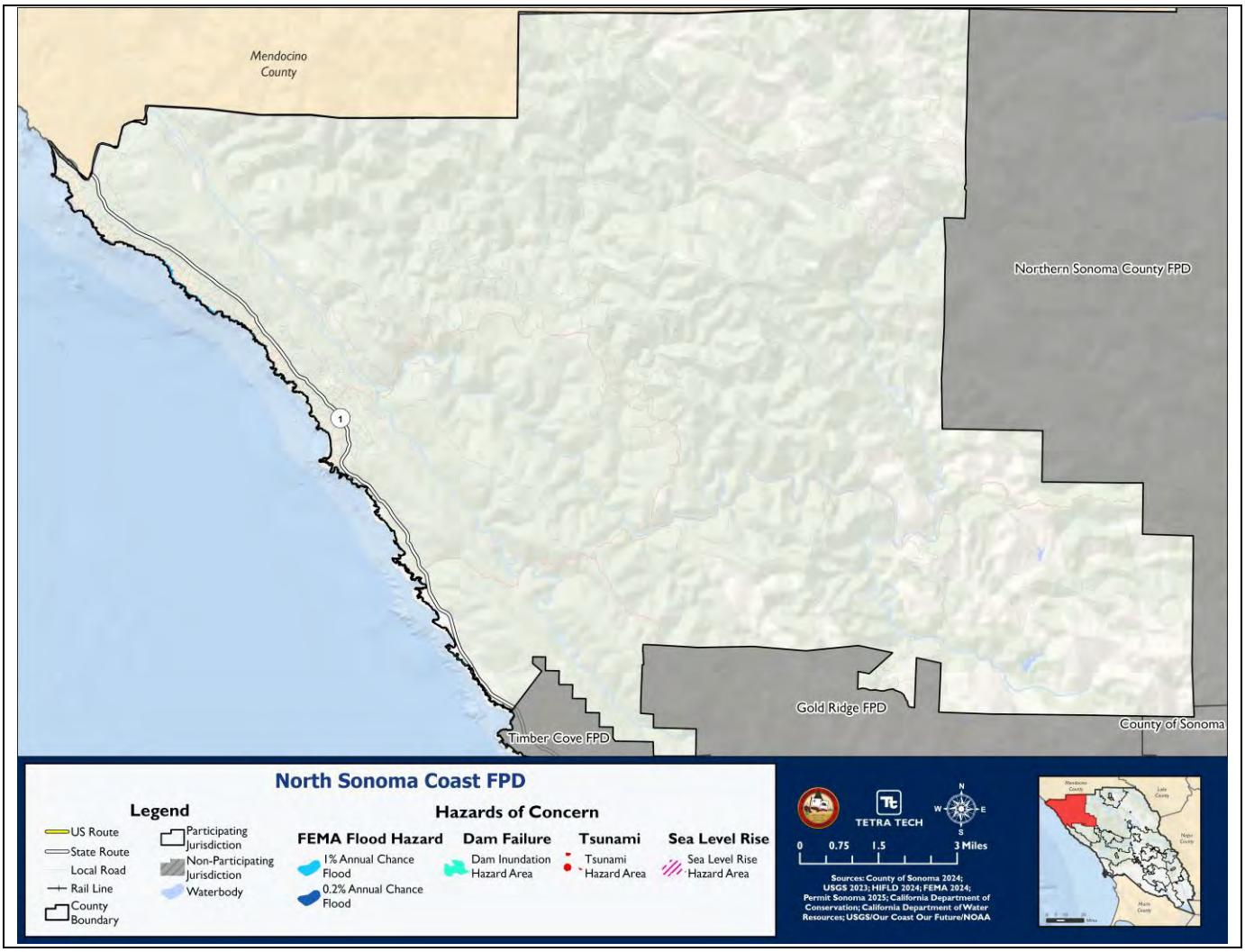
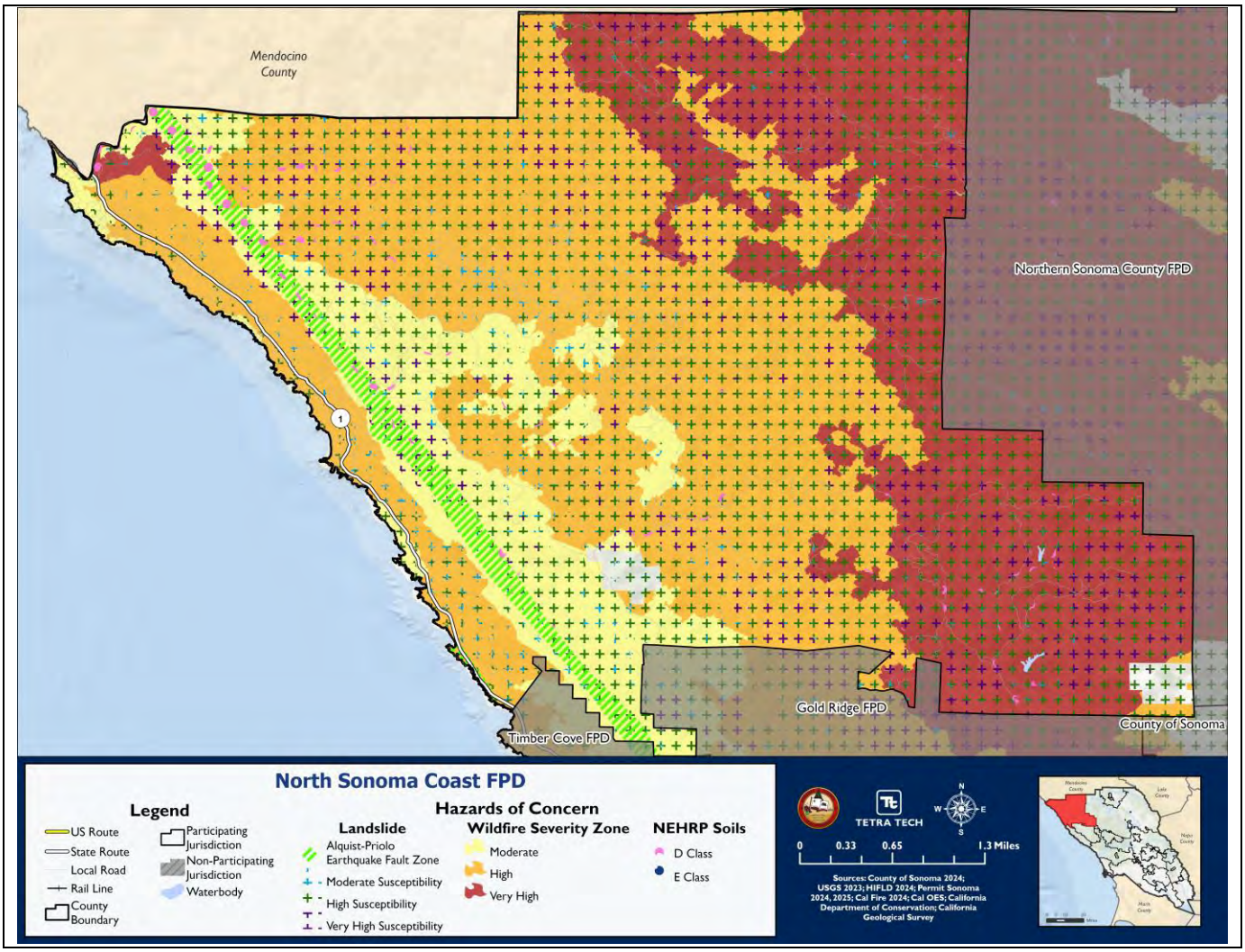


Figure 14-8. Landslide, Wildfire, and NEHRP Hazard Area



14.9.2 Hazard Event History

The history of natural and non-natural hazard events in North Sonoma Coast Fire Protection District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 14-11 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 14-11. Hazard Event History in North Sonoma Coast Fire Protection District, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in NSCFPD
December 13, 2021	Flood	N/A	A low pressure system descended from the Gulf of Alaska southward along the entire Pacific Coast and tapped into sub-tropical moisture originating from the Central Pacific to drop heavy rain throughout the state. Heavy rain caused flooding on Labath Ave and the closure of SR 12 between Route 116 and 8th St.	Three trees down blocking Highway 1 at various times during the day. Two trees cleared by local fire departments, one required Caltrans equipment.
January 4-9, 2023	Bomb Cyclone	N/A	On January 4, 2023, an exceptionally strong series of storms started sweeping through the District and the surrounding areas, with winds up to 88 mph. The NWS identified the event as a bomb cyclone on January 4. The storms hit all of Sonoma County, but the focus of the energy was on northwest corner of the county. The storm systems continued to pass through until January 9, with a particularly heavy day on January 7.	NSCFPD responded to 77 tree down incidents on roads and some houses and vehicles; 41 of them on January 4. Highway 1 was closed for extended periods at multiple places. Periodic closures due to trees also occurred on other routes out of Northwest County such as Stewarts Point, Skaggs Springs Road, and Tin Barn Road. One major injury and one minor injury were caused by trees down on the highway on January 4. Local ground ambulances were unable to transport patients to any hospital; the local medical clinic, Redwood Coast Medical Services, staffed up to keep urgent care open all night and care for patients until they could be transported. On The Sea Ranch, approximately 1,000 trees fell, 15 on houses, one on an occupied security vehicle (no injuries). Eight electrical utility units were damaged. At peak there were 24 PGE contractors on site. 1.5 mile of fence line, public trails and beaches were damaged- TSRA Facilities crews logged 4,500 extra hours of storm damage clean up over the next 3 months. Two deaths were indirectly caused by the storm, when two persons who traveled to the area to work on removing a tree from their home perished after running a generator inside the house. Power was out for about half of The Sea Ranch and parts of Annapolis for 7 days, and the rest of The Sea Ranch for 11 days The best estimate is that at least an additional 200 trees came down in the District outside of The Sea Ranch.

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in NSCFPD
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton.	See newly added items above for January 4-9, 2023 in our District.
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	A sub-tropical moisture plume moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	None
January 31, 2024	Flood	N/A	A quick-moving cold front came through California on January 31, bringing widespread rain and high winds. A water rescue occurred on Mark West Station Road at Starr Road.	Eight tree-down incidents, several involving power lines, occurred in the District during this storm; Highway 1 was closed for two of the incidents for brief periods.
February 4, 2024	Flood	N/A	A cyclone and atmospheric river combined, creating strong winds, heavy rain, and high surf. The region saw roadway flooding, fallen trees, and power outages. Flood prone areas near rivers and along the coast were evacuated.	On February 4 and 5, 2024 the District responded to at least 39 tree-down incidents with approximately half of them involving downed power lines. Several instances of Highway 1 being closed for some time due to trees, including a couple of hours when trees down in NSCFPD as well as to the south in Timber Cove trapped several cars on the highway until the trees could be cleared. At The Sea Ranch, approximately 300 trees fell, 3 on houses, 2 on the TSRA office (relocation required), and one on the CAL FIRE station. One water pump station was damaged and a new generator was needed.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)

14.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for North Sonoma Coast Fire Protection District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Table 14-12 shows North Sonoma Coast Fire Protection District's final hazard rankings for the identified planning area hazards of concern. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

The District revised its hazard rankings, lowering extreme cold from medium to low, and raising extreme wind from medium to high.

Table 14-12. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Low
Extreme Heat	Medium
Extreme Wind	High
Flood	Low
Landslide	Low
Sea Level Rise	Low
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to NSCFPD. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on District-owned assets. Table 14-13 lists the qualitative assessment of impacts for hazards of local concern.

Table 14-13. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	NSCFPD faces potential localized flooding and property damage from dam failure at several reservoirs, which could threaten communities and infrastructure downstream. Nearby dams include the Sea Ranch Reservoir and Richardson dam, which are low hazard potential dams. The populations most vulnerable to these hazards are those downstream of the reservoirs, including the Gualala River and areas near Del Mar Point and the Sea Ranch Lodge, as well as NSCFPD's first responders who may be involved in rescue and emergency assistance.
Drought	Drought conditions pose a significant risk to the NSCFPD by reducing water supply for residents, agriculture, and natural ecosystems, while increasing wildfire potential. NSCFPD's fire-fighting activities and infrastructure depend on a sufficient supply of water. Drought can diminish the water available in the system. Populations most at risk due to drought are those living in higher fire-risk areas, such as the forested area northeast of the Sea Ranch at Gualala Point, and those dependent on agricultural activities. In periods of extended drought, wineries in the District can be negatively impacted. Recreation near the Gualala River may also be vulnerable.
Earthquake	Located within an active seismic region, NSCFPD is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. Much of the development in the District, including The Sea Ranch, firehouses, Horicon Elementary and Highway 1, are near the Alquist-Priolo fault zone. Especially vulnerable populations include children at the elementary school and visitors near the coast or traveling along Highway 1.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on NSCFPD population and infrastructure. Elderly populations in NSCFPD are more vulnerable to extreme cold than the general populace, especially those living in remote areas. NSCFPD's emergency shelters and Horicon School can be vulnerable to extreme cold, especially if the event coincides with a power outage.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources across the County. Elderly populations in NSCFPD are more vulnerable to extreme heat than the general populace, especially those living in remote areas. Highway 1 can be vulnerable to extreme heat, as heat can impact road integrity. NSCFPD's emergency shelters and Horicon Elementary School can be vulnerable to extreme heat, especially if the event coincides with a power outage.
Extreme Wind	NSCFPD may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. The area experienced extreme, damaging winds in 2023 and 2024 including "bomb cyclones," the loss of thousands of trees, and damage to many homes. Transportation along Highway 1 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses.
Flood	Flooding from heavy rainfall and river overflow is a concern throughout NSCFPD, potentially affecting homes, infrastructure, agriculture, and transportation networks. People living in low-lying areas can be vulnerable to flooding. Visitors to the coast may be unaware of flooding risks as well, especially in areas that are within the SFHA. The coast is a valuable natural resource for NSCFPD, and can be threatened by coastal flooding, which can cause erosion and direct damage.

Hazard	Qualitative Local Impacts
Landslide	Areas with steep or unstable terrain across NSCFPD are susceptible to landslides, particularly following heavy rains or seismic events. Stretches of Highway 1 going through the northern half of NSCFPD are below areas rated as having very high landslide susceptibility, and are also near the fault zone, making the road vulnerable to landslides. Populations vulnerable to landslides include residents in high-landslide susceptibility areas, moderate wildfire risk areas, and those near the fault zone, as well as travelers and visitors. People in areas with limited communication options can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	Coastal areas of NSCFPD may be impacted by sea level rise, increasing risks of flooding and erosion in low-lying communities and natural habitats. As sea level rise changes the rate of erosion on sea cliffs, homes and roads could be impacted, such as Highway 1. The most vulnerable populations will be people recreating or living along the coast.
Tsunami	Coastal zones of NSCFPD face low but present tsunami risk, which could impact shoreline communities and infrastructure. People that are impacted most are likely to be elderly residents at The Sea Ranch, or low-income people living in remote, rural locations where it can be difficult to access or provide sufficient warning in a hazard event. People living in areas with limited escape routes are especially vulnerable. Tsunamis with enough height and force can erode or surmount sea cliffs, causing damage to homes and roads, such as Highway 1.
Wildfire	Wildfire is a major threat throughout NSCFPD due to extensive vegetation, climate conditions, and topography, threatening life safety, property, air quality, and emergency response capabilities. People that are impacted most are likely to be low-income people living in remote, rural locations where it can be difficult to access or provide sufficient warning in a hazard event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation. Stretches of NSCFPD have a moderate severity fire risk, including most of the areas surrounding Highway 1, which is a major evacuation route for the area.

14.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, North Sonoma Coast Fire Protection District identified the following risk-related issues within the community:

- Many of the rural private roads in the Annapolis area are narrow and unpaved and do not have sufficient roadside fuel reduction to make them passable during a wildfire event.
- The Sea Ranch has a Community Wildfire Protection Plan (CWPP), but one has not been developed for the entire District. Having a plan helps to focus on specific actions that are needed and their priorities.
- There are many areas of the District with roads that are one way in / one way out, with more than 30 houses on them. The risks associated with such locations were clearly seen during the January 2025 firestorms in Los Angeles. Six particular areas in the District with this problem, identified by CAL FIRE's Subdivision Review Program, can be found on this interactive map: https://experience.arcgis.com/experience/74787e13de0c443eb80e27abc176b8fa
- Residents may not be well-informed about available resources, preparation and mitigation actions that they can do themselves.
- Some parts of the water delivery system in The Sea Ranch area are not redundant, so significant numbers of those served could lose service due to a single failure caused by severe storms or earthquakes.

- Despite critical recommendations in the Sonoma County CWPP, insufficient participation in the fuel reduction projects along evacuation and medical response corridors in the NSCFPD directly increases the risk of these vital routes becoming impassable during wildfires.
- South Branch Road currently experiences limited accessibility and egress during periods of severe weather and prolonged winter storms due to muddy, uneven, and poorly drained road conditions. Without improvements emergency response times may be delayed, putting community safety at risk during adverse weather events.
- Critical maintenance of vegetation is required between the east side of The Sea Ranch and Gualala Redwood Timber properties to ensure continued protection against wildfires. Without timely intervention, the area remains vulnerable to devastating fires, threatening the safety of residents, properties, and natural resources.

14.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

14.10.1 Past Mitigation Action Status

Table 14-14 indicates progress on the District's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 14-14. Status of 2021 Mitigation Actions for North Sonoma Coast Fire Protection District

Mitigation Actions	Status
Project Number	NSC-1
Hazards Addressed	Wildfire
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Participate in hazardous fuel reduction projects based on the findings of the Sonoma County CWPP and along evacuation and medical response corridors within the NSCFPD.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-TSRA has continued its roadside fuel management program to good effect. Efforts are underway to obtain homeowner buy-in as well as grant funds to do similar work in the Annapolis area.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable

Mitigation Actions	Status
Project Number	NSC-2
Hazards Addressed	Wildfire
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Participate and Create CWPP for the Annapolis area of NSCFPD
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	New approach to residents needed for more involvement by renewed outreach
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action is covered by new action 2026-NSC-02.
Project Number	NSC-3
Hazards Addressed	Flood, Landslide, Earthquake, Severe Weather
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Retrofit, elevate, and/or relocate critical facilities located in hazard areas.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Pumping / or lift station moved up the hill
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not applicable
If discontinue, explain why	This action has been completed
Project Number	NSC-4
Hazards Addressed	Flood, Landslide, Earthquake, Severe Weather
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Improve drainage along Hwy 1 within the Fire District to prevent flooding during periods of severe weather and traffic incidents and soil erosion
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Many areas have been upgraded with new culverts however; 3 areas along the highway still have significant ponding
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not applicable
If discontinue, explain why	

Mitigation Actions	Status
Project Number	NSC-5
Hazards Addressed	Flood, Landslide, Earthquake, Severe Weather
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Improve road upgrade along South Branch Rd to allow access and egress during periods of severe weather or prolonged winter storms. Including such as elevating, grading, paving, and appropriate drainage in critical sections of road subject to becoming too muddy to drive on to facilitate year-round use for first responders.
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Roads still difficult during rains and need roadside fuel breaks.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable
Project Number	NSC-6
Hazards Addressed	Wildfire
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Create a shaded fuel break between the east side of The Sea Ranch and Gualala Redwood Timber properties.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	The community resisted efforts to create an appropriate shaded fuel break. Work was approved to do minimal (15 foot) fuel clearance on each side of the fire road.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable
Project Number	NSC-7
Hazards Addressed	Wildfire
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Perform fuel reduction and clearing to create a 300’ perimeter around the Moonraker Communications tower
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not applicable
If discontinue, explain why	Action has been completed

Mitigation Actions	Status
Project Number	NSC-8
Hazards Addressed	Earthquake, Flood, Landslide
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Work with Sonoma County to mitigate repetitive landslides on Annapolis Rd—a primary access road for fire response
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Same problem exists; landslides during storms on one of the only evacuation routes out of the area.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not applicable
If discontinue, explain why	NSCFPD advised to discontinue
Project Number	NSC-9
Hazards Addressed	Severe Weather, Wildfire, Landslide
Lead Agency	North Sonoma Coast Fire Protection District
Mitigation Action Description	Removal of dead and dying trees and combustible vegetation on unstable banks of Annapolis Rd
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Same problem exists; primary evacuation route out of the area.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	Mostly done…they were taken down or fell down in 2023/2024

14.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 14-14, North Sonoma Coast Fire Protection District identified the following mitigation efforts completed since the last HMP:

- The Sea Ranch Association has taken down or removed more than a thousand hazardous trees felled or weakened by severe storms. Private landowners in Annapolis and Stewarts Point have done the same.

Since the adoption of the County's first HMP, North Sonoma Coast Fire Protection District has made significant mitigation progress in the following areas:

- Fuels management and grazing to reduce fire risk on The Sea Ranch
- Fuel management/broadcast burns by private landowners with ranchland or timber to reduce fire risk and restore the landscape to a more natural state
- Fuels reduction for 300 feet around the Moonraker communications tower to make it better able to withstand a wildfire without intervention

- Partial restoration of a fire road on the east side of The Sea Ranch (still a hoped-for project to expand to appropriately sized shaded fuel break)

14.10.3 Proposed Hazard Mitigation Actions for the HMP Update

North Sonoma Coast Fire Protection District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that North Sonoma Coast Fire Protection District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 14-15 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 14-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure				X	X		X			X
Drought	X	X	X	X	X	X	X	X		X
Earthquake		X	X	X	X	X	X			X
Extreme Cold				X	X		X			X
Extreme Heat				X	X		X			X
Extreme Wind	X	X	X	X	X	X	X	X		X
Flood		X			X					
Landslide		X	X	X	X	X	X			X
Sea Level Rise		X	X		X	X				X
Tsunami										
Wildfire	X	X	X	X	X	X	X	X		X

Note: Mitigation category codes as follows (see Appendix D): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 14-16 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 14-16. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Community Wildfire Protection Plan	Medium	Medium	6	1-5 years	6.462	Medium
Improve Roadside Fuel Reduction	Medium	Medium	5	1-5 years	6.385	Medium
Public Outreach	Low	Low	4	1-5 years	6.308	Medium
Fuel Reduction Projects	High	Medium	7	1-5 years	5.539	Medium
Ingress/Egress Roads	High	Medium	5	1-5 years	5.385	Medium
Road Upgrade - South Branch Rd	High	Medium	5	1-5 years	5.385	Medium
Shaded Fuel Break	High	Medium	3	1-5 years	5.231	Medium
Looping of Water Main	High	Medium	2	1-5 years	5.154	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-NSC-01. Improve Roadside Fuel Reduction

Lead Agency:	North Sonoma Coast Fire Protection District
Supporting Agencies:	Northern Sonoma County FPD, Sonoma County, possible Coast Ridge Forest Council
Hazards of Concern:	Drought, Wildfire
Description of the Problem:	Many of the rural private roads in the Annapolis area are narrow, unpaved and do not have sufficient roadside fuel reduction to make them passable during a wildfire event.
Description of the Solution:	Work with local residents and road associations to identify hazard areas and activities, such as roadside fuel reduction, that are required to mitigate wildfire risk. Act as the sponsor/coordinator for any available grants.
Estimated Cost:	Medium
Potential Funding Sources:	Vegetation management funding from Sonoma County Measure H. CAL FIRE forest health and wildfire safety grants.
Implementation Timeline:	1-5 years
Objectives Met:	2,4,5,6,13
Benefits:	Increased egress capability for evacuations, increased access for emergency equipment during incidents, ability to use roads as shaded fuel breaks and starting point for fire suppression operations.
Impact on Socially Vulnerable Populations:	Greater safety and evacuation access during incidents.
Impact on Future Development:	None (no significant future development expected)
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-NSC-02. Community Wildfire Protection Plan

Lead Agency:	North Sonoma Coast Fire Protection District
Supporting Agencies:	Sonoma County, possibly Coast Ridge Forest Council
Hazards of Concern:	Drought, Extreme Wind, Wildfire
Description of the Problem:	Sea Ranch has a Community Wildfire Protection Plan (CWPP), but we don't have one for the entire District. Having a plan helps to focus on specific actions that are needed and their priorities.
Description of the Solution:	Work with residents to create a team to create a CWPP that covers all of the NSCFPD.
Estimated Cost:	Medium
Potential Funding Sources:	Sonoma County Measure H Funds allocated for vegetation management projects, Hazard Mitigation Program (HMGP) grants, CAL FIRE Wildfire Prevention Grants, USDA Community Wildfire Defense Grants (CWDG)
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,8,12,13
Benefits:	Identify needed projects and stakeholders, have project clarity to proceed with when seeking funding.
Impact on Socially Vulnerable Populations:	Eventually results in greater overall safety and accessibility.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Improves strategic wildfire mitigation planning, interagency coordination, grant readiness, and implementation effectiveness District-wide.
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations, Natural Systems Protection, Education and Awareness Programs
CRS Category	Property Protection, Preventative Measures, Public Information, Natural Resource Protection, Emergency Services
Priority	Medium

Action 2026-NSC-03. Ingress/Egress Roads

Lead Agency:	North Sonoma Coast Fire Protection District
Supporting Agencies:	Sonoma County (permitting, roads)
Hazard(s) of Concern:	Drought, Earthquake, Extreme Wind, Landslide, Tsunami, Wildfire
Description of the Problem:	There are many areas within the District where there are roads that are one way in / one way out, with more than 30 houses on them. The risk of these type of situations was clearly seen during the January 2025 firestorms in Los Angeles. There are six particular areas in the District with this problem that are identified by CAL FIRE's Subdivision Review Program, they can be found on this interactive map: https://experience.arcgis.com/experience/74787e13de0c443eb80e27abc176b8fa
Description of the Solution:	Initially, perform feasibility studies to determine possible approaches and costs to mitigate the risk in these areas, hopefully by adding at least one other ingress/egress road to these areas to provide evacuation routes and access to emergency vehicles.
Estimated Cost:	High
Potential Funding Sources:	Multimodal Project Discretionary Grants (MPDG-IIJA), FEMA Hazard Mitigation Assistance (HMGP, PDM)
Implementation Timeline:	1-5 years
Objectives Met:	2,4,5,6,13
Benefits:	Improved safety of residents, better access for emergency resources.
Impact on Socially Vulnerable Populations:	Better access to evacuation routes, better access for incoming emergency resources.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-NSC-04. Public Outreach

Lead Agency:	North Sonoma Coast Fire Protection District
Supporting Agencies:	The Sea Ranch Association; Sonoma County
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Landslide, Tsunami, Wildfire
Description of the Problem:	Residents may not be well-informed about available resources, preparation and mitigation actions that they can do themselves.
Description of the Solution:	Plan and implement a public information program both to educate and to encourage citizen preparation and participation. Educate on available support resources, emergency alerting systems, evacuation routes, how to implement defensible space, how to do roadside clearance of private roads and driveways. Outreach via social media and local email lists, USPS mailings, tables & flyers at local events, public meetings, bulletin boards.
Estimated Cost:	Low
Potential Funding Sources:	CAL FIRE Wildfire Prevention Grants, California Fire Safe Council & County Coordinator & Community Outreach Grants, California Fire Foundation / PG&E Wildfire Safety & Preparedness Grants, FEMA Hazard Mitigation Assistance (HMGP), District general funds
Implementation Timeline:	1-5 years
Objectives Met:	1,2,5,13
Benefits:	Better informed population, improved awareness of available services, better preparation for evacuations if necessary.
Impact on Socially Vulnerable Populations:	Better informed population, improved awareness of available services, better preparation for evacuations if necessary.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Emergency Services
Priority	Medium

Action 2026-NSC-05. Looping of Water Main

Lead Agency:	North Sonoma Coast Fire Protection District
Supporting Agencies:	The Sea Ranch Association
Hazard(s) of Concern:	Earthquake, Extreme Wind, Landslide, Sea Level Rise, Wildfire
Description of the Problem:	Some parts of the water delivery system in the Sea Ranch area are not redundant, so that significant proportions of those served could lose service due to a single failure caused by severe storms or earthquakes.
Description of the Solution:	Adding a redundant loop of water main from Moonraker to Yardarm – The looping of the water main will provide redundant water supply for all of the properties both TSRA and non-TSRA. The loop will also provide increased fire flow to the same area. The third benefit will be the increased ability to provide water to the Kashia Band of Pomo Indians in emergency or drought situations.
Estimated Cost:	High
Potential Funding Sources:	FEMA Public Assistance (PA) & Hazard Mitigation Assistance (HMA) grants
Implementation Timeline:	1-5 years
Objectives Met:	6,13
Benefits:	Increased resilience and more consistent water delivery if parts of the system are damaged.
Impact on Socially Vulnerable Populations:	More reliable water delivery to the vulnerable citizens in the Sea Ranch (and surrounding customers) and the Kashia Band of Pomo.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	N/A
Mitigation Category	Structure and Infrastructure Project, Natural Systems Protection
CRS Category	Preventative Measures, Property Protection, Emergency Services
Priority	Medium

Action 2026-NSC-06. Fuel Reduction Projects

Lead Agency:	North Sonoma Coast Fire Protection District
Supporting Agencies:	The Sea Ranch Association, Community
Hazard(s) of Concern:	Drought, Wildfire
Description of the Problem:	Despite critical recommendations in the Sonoma County CWPP, insufficient participation in the fuel reduction projects along evacuation and medical response corridors in the North Sonoma Coast Fire Protection District directly increases the risk of these vital routes becoming impassable during wildfires.
Description of the Solution:	Participate in hazardous fuel reduction projects based on the findings of the Sonoma County CWPP and along evacuation and medical response corridors within the NSCFPD.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, PDM, Private Funding, Private Grants
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,6,9,12,13
Benefits:	Improve wildfire safety and reduce risk of loss of life and property.
Impact on Socially Vulnerable Populations:	This action will provide more reliable evacuation routes.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Fuel reduction around critical facility corridors can protect these essential services from wildfire damage, ensuring continuity of operations.
Impact on Capabilities:	This action will help preserve essential capabilities during and after a disaster.
Climate Change Considerations:	Climate change can lead to hotter temperatures causing vegetation to dry out, leading to flammable fuel.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Emergency Services
Priority	Medium

Action 2026-NSC-07. Road Upgrade – South Branch Rd

Lead Agency:	North Sonoma Coast Fire Protection District
Supporting Agencies:	Private Homeowners
Hazard(s) of Concern:	Earthquake, Extreme Wind, Flood, Landslide
Description of the Problem:	South Branch Road currently experiences limited accessibility and egress during periods of severe weather and prolonged winter storms due to muddy, uneven, and poorly drained road conditions. Without improvements emergency response times may be delayed, putting community safety at risk during adverse weather events.
Description of the Solution:	Improve road upgrade along South Branch Rd to allow access and egress during periods of severe weather or prolonged winter storms. Including such as elevating, grading, paving, and appropriate drainage in critical sections of road subject to becoming too muddy to drive on to facilitate year-round use for first responders.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, PDM, FMA
Implementation Timeline:	1-5 years
Objectives Met:	2,4,5,6,13
Benefits:	Risk of flooding will be reduced.
Impact on Socially Vulnerable Populations:	Elevating the road will provide a safe path of ingress and egress for residents of flood prone areas.
Impact on Future Development:	Ensuring safe travel encourages businesses and residents to remain in or move to the area.
Impact on Critical Facilities/Lifelines:	Roadway will be less likely to incur damage from floodwaters and be able to remain open for travel.
Impact on Capabilities:	Economic resiliency is increased by reducing the time needed for businesses to access facilities to reopen following a flood event.
Climate Change Considerations:	Consideration should be taken for more frequent severe weather and flood events as a result of increases in rainfall frequency and severity.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-NSC-08. Shaded Fuel Break

Lead Agency:	North Sonoma Coast Fire Protection District
Supporting Agencies:	The Sea Ranch Association
Hazard(s) of Concern:	Drought, Wildfire
Description of the Problem:	Critical maintenance of vegetation is required between the east side of The Sea Ranch and Gualala Redwood Timber properties to ensure continued protection against wildfires. Without timely intervention, the area remains vulnerable to devastating fires, threatening the safety of residents, properties, and natural resources.
Description of the Solution:	Create a shaded fuel break between the east side of The Sea Ranch and Gualala Redwood Timber properties.
Estimated Cost:	High
Potential Funding Sources:	FEMA HMGP, PDM, Private Funding, Private Grants
Implementation Timeline:	1-5 years
Objectives Met:	2,6,13
Benefits:	This project strengthens the county’s ability to protect its residents, support sustainable development, maintain critical lifelines, and enhance its emergency response capabilities.
Impact on Socially Vulnerable Populations:	Creating and maintaining clear, accessible roads enhances evacuation routes, ensuring that vulnerable individuals can evacuate safely during emergencies.
Impact on Future Development:	A safer environment with reduced wildfire risk, combined with the implementation of defensible space standards, makes the area more attractive for future residential and commercial development.
Impact on Critical Facilities/Lifelines:	Maintaining clear roads ensures that emergency services, utilities, and other essential services can operate without interruption during and after a wildfire.
Impact on Capabilities:	By proactively managing fire fuels, the county enhances its overall resilience to wildfires, reducing the potential impact on communities and the environment.
Climate Change Considerations:	As climate change impacts ecosystems and heightens the risk of soil erosion and water contamination, upholding defensible space standards is critical for protecting natural resources and promoting environmental sustainability.
Mitigation Category	Natural Systems Protection
CRS Category	Property Protection, Natural Resource Protection, Emergency Services
Priority	Medium

15. NORTHERN SONOMA COUNTY FIRE PROTECTION DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the Northern Sonoma County Fire Protection District with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of the Northern Sonoma County Fire Protection District, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

15.1 HAZARD MITIGATION PLANNING TEAM

The Northern Sonoma County Fire Protection District identified primary and alternate HMP points of contact and developed this plan over the course of several months. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below and shown in Table 15-1. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Marshall Turbeville, Chief

Address: 20975 Geyserville Ave, Geyserville, CA 95441

Phone Number: 707-857-4373

Email: mturbeville@nosocofire.com

Table 15-1. Additional Contributors

Name	Department	Position	HMP Contribution
Rob Stewart	Northern Sonoma County Fire Protection District	Board Member	Input and review
Scott Newman	Northern Sonoma County Fire Protection District	Board Member	Input and review

15.2 COMMUNITY PROFILE

The Northern Sonoma County Fire Protection District was established in 2020 following the annexation of the Knights Valley Volunteer Fire Company service area by the Geyserville Fire Protection District. The Geyserville Fire Protection District itself was formed in 1996, evolving from the Geyserville

Volunteer Fire Company, which had served the community of Geyserville and its surroundings since 1910.

Situated in a Mediterranean climate, the District experiences a cool, rainy season from November through April, followed by a dry, warm period for the rest of the year. Unlike other parts of Sonoma County at elevations below 1,000 feet, the District receives less coastal influence, such as cooler temperatures and occasional fog.

Covering 412 square miles, the Northern Sonoma County Fire Protection District is a rural jurisdiction located in northern Sonoma County. Its service area extends east-west from the North Sonoma Coast Fire Protection District to Sonoma County's eastern border and north-south from the County's northern border to south of Healdsburg, excluding Healdsburg and the Cloverdale Fire Protection District. The District includes the Dry Creek Valley, Alexander Valley, Knights Valley, and Franz Valley. Additionally, the District provides services to Lake Sonoma, a critical water source supplying approximately 600,000 residents across Sonoma and Marin Counties. It also covers much of the upper Russian River area within Sonoma County.

15.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the District completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan. Northern Sonoma County Fire Protection District's efforts are displayed in Figure 15-1 and Figure 15-2.

The Northern Sonoma County Fire Protection District relies on other agencies such as the County of Sonoma to provide targeted outreach to underserved and vulnerable communities.

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to the District was contributed through community engagement activities.

Figure 15-1. Social Media

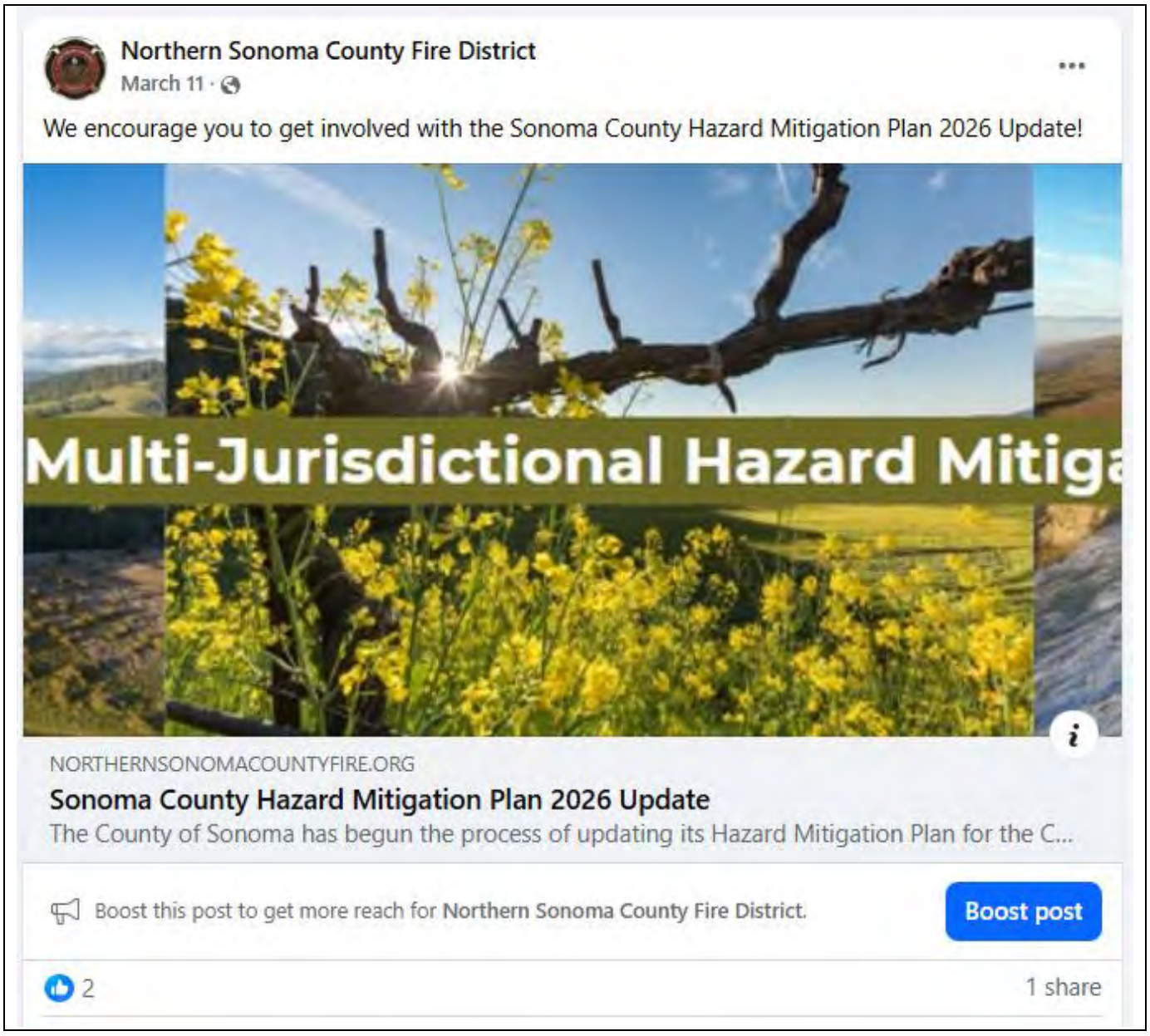
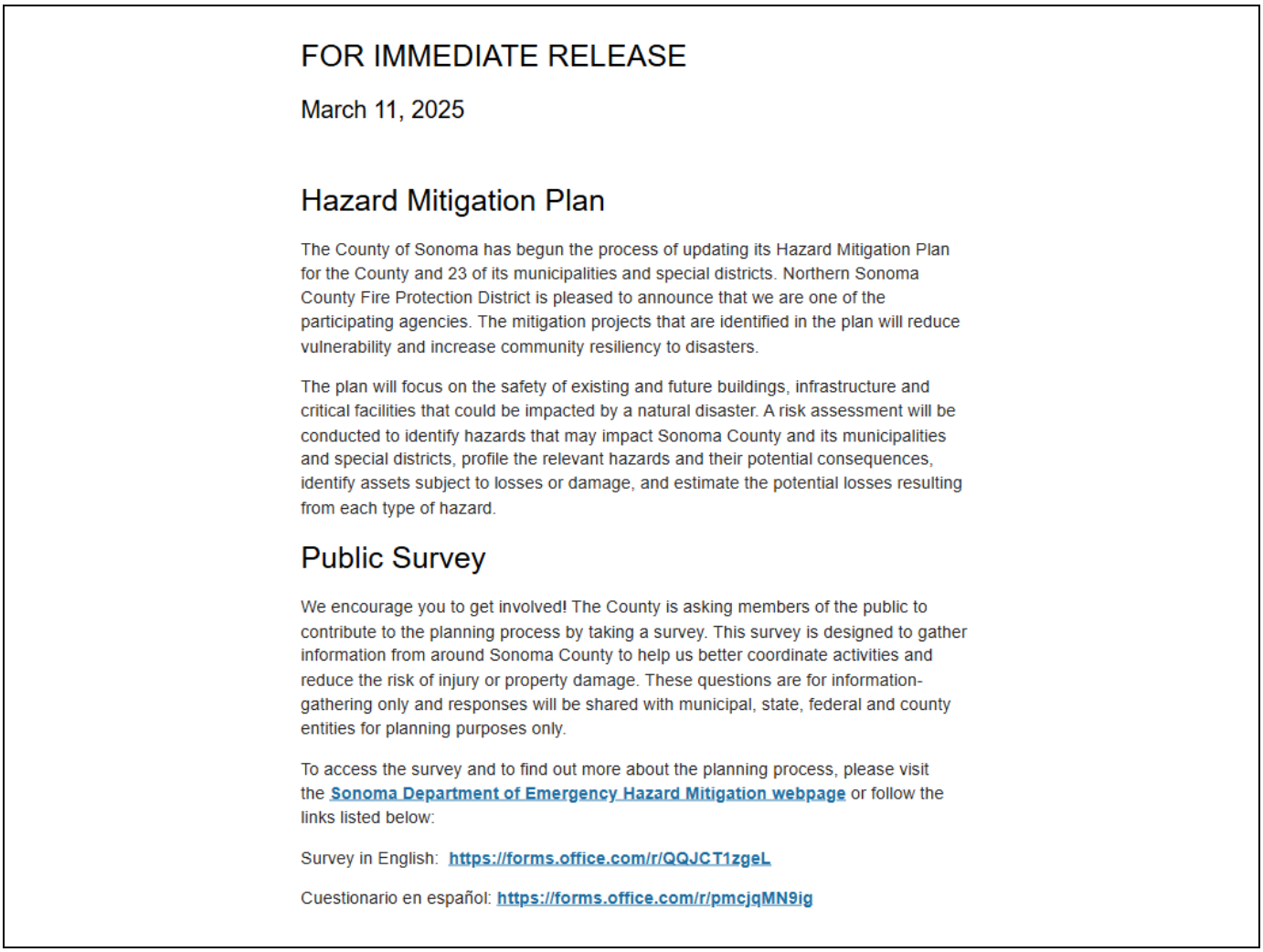


Figure 15-2. Electronic Newsletter



FOR IMMEDIATE RELEASE

March 11, 2025

Hazard Mitigation Plan

The County of Sonoma has begun the process of updating its Hazard Mitigation Plan for the County and 23 of its municipalities and special districts. Northern Sonoma County Fire Protection District is pleased to announce that we are one of the participating agencies. The mitigation projects that are identified in the plan will reduce vulnerability and increase community resiliency to disasters.

The plan will focus on the safety of existing and future buildings, infrastructure and critical facilities that could be impacted by a natural disaster. A risk assessment will be conducted to identify hazards that may impact Sonoma County and its municipalities and special districts, profile the relevant hazards and their potential consequences, identify assets subject to losses or damage, and estimate the potential losses resulting from each type of hazard.

Public Survey

We encourage you to get involved! The County is asking members of the public to contribute to the planning process by taking a survey. This survey is designed to gather information from around Sonoma County to help us better coordinate activities and reduce the risk of injury or property damage. These questions are for information-gathering only and responses will be shared with municipal, state, federal and county entities for planning purposes only.

To access the survey and to find out more about the planning process, please visit the **Sonoma Department of Emergency Hazard Mitigation webpage** or follow the links listed below:

Survey in English: **https://forms.office.com/r/QQJCT1zgeL**

Cuestionario en español: **https://forms.office.com/r/pmcjqMN9ig**

15.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Northern Sonoma County Fire Protection District invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the City to participate in the 2026 HMP update.

15.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

Local, state, and federal agencies involved in emergency response, public infrastructure, and engineering were invited to contribute to the County's HMP update. Their participation reflects the critical role these organizations play in identifying risks and enhancing regional resilience.

- CAL FIRE
- County of Sonoma Public Infrastructure
- U.S. Army Corps of Engineers, Lake Sonoma

15.4.2 Agencies that Have the Authority to Regulate Development

Agencies that hold the authority to regulate development within the area were invited to participate, ensuring that land use aligns with established planning, safety, and environmental standards.

- Permit Sonoma
- Sonoma County Supervisor James Gore

15.4.3 Neighboring Communities

As part of the hazard mitigation planning process, outreach was conducted to neighboring service providers and emergency response agencies to inform them of the effort and invite their participation. Communication included sharing the planning timeline and opportunities to provide input on regional hazard vulnerabilities and potential mitigation strategies.

- City of Healdsburg
- City of Cloverdale

15.4.4 Representatives of Business, Academia, and Other Private Organizations

The District engaged local school district representatives and utilities providers by notifying them about the HMP update. These stakeholders were encouraged to share the survey and planning information with their members and provide feedback on community vulnerabilities and resilience priorities.

- Geyserville Unified School District
- Geyserville – Alexander Valley Municipal Advisory Committee
- Pacific Gas and Electric
- Calpine

15.4.5 Nonprofit Organizations and Community-Based Organizations

Coordination with local community organizations supported broader engagement in the hazard mitigation planning process. These groups were invited to review draft materials and share feedback based on their local knowledge and experience in emergency preparedness, helping to ensure that community perspectives were reflected in the final plan.

- COPE Northern Sonoma County
- Geyserville Alexander Valley Municipal Advisory Council
- Fire Safe Sonoma

15.5 CHANGES IN COMMUNITY PRIORITIES

There have been no changes in Northern Sonoma County Fire Protection District's priorities since the 2021 HMP update. The primary hazards are still wildfires, flooding, and earthquakes with wildfires having the most frequent occurrences.

15.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Northern Sonoma County Fire Protection District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Northern Sonoma County Fire Protection District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

15.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, the Northern Sonoma County Fire Protection District does not possess planning or regulatory authority, including the development or enforcement of codes, ordinances, regulations, or formal planning and emergency response documents. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 15-2 summarizes the codes, ordinances, and regulations available to the District.

Table 15-2. Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building Codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Fire Code	The California Fire Code supports the goals of the HMP by establishing fire prevention standards that reduce the risk of wildfire and structural fires. It includes requirements for defensible space, fire-resistant materials, and emergency access, all of which are critical for protecting people, property, and infrastructure in fire-prone areas.	State CA Fire Code, 2022, amended State code	County of Sonoma
Health and Safety Code	Outlines the organizations, powers, and responsibilities of fire protection districts throughout the state.	State California Code, Health and Safety Code - HSC § 13800	County of Sonoma

Planning Documents

Table 15-3 summarizes the planning documents available to the District.

Table 15-3. Northern Sonoma County Fire Protection District Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Community Wildfire Protection Plan	The Countywide CWPP and smaller, community based CWPPs, identify wildfire risk reduction efforts and lead to the development and implementation of vegetation management projects to reduce wildfire risk and protect structures.	County CWPP	Permit Sonoma

Response and Recovery Planning Documents

The District does not have any response and recovery planning capabilities. Currently, there is a lack of formalized planning, response protocols, and public alerting systems specific to dam failure scenarios, which could result in significant threats to life, property, and infrastructure. This represents an opportunity for the District to expand and improve its capabilities to reduce community members' risk.

15.6.2 Integration

While the District currently does not have formal planning mechanisms in place, future development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans or annex updates
- Using hazard-specific information, such as drought data, to inform updates to policies and operational practices
- Incorporating hazard analyses into the development of new plans or district annexation efforts

The 2023 Sonoma County Community Wildfire Protection Plan (CWPP) update integrated goals and information from the 2021 Sonoma County HMP and included projects within the District. The Countywide CWPP and smaller, community based CWPPs, identify wildfire risk reduction efforts and led to the development and implementation of vegetation management projects to reduce wildfire risk and protect structures. The 2021 HMP was also incorporated into the General Safety Plan Element for the County. Due to a lack of district-specific plans, no further integration of the 2021 HMP occurred.

15.6.3 Development and Permitting Capability

Table 15-4 summarizes the capabilities of Northern Sonoma County Fire Protection District to oversee and track development.

Table 15-4. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	No	Monitor permits being issued by County of Sonoma and engage when necessary or as requested.
Are permits tracked by hazard area? (For example, floodplain development permits.)	N/A	The County of Sonoma does this as part of their permitting process.
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	No	-
Describe the level of buildout in your jurisdiction.	N/A	-

15.6.4 Administrative and Technical Capability

Table 15-5 summarizes the administrative bodies and programs available to support mitigation initiatives in the District.

Table 15-5. Administrative Capabilities

Resources	Available?	Comment
Emergency Management/Public Safety Department	Yes	Firefighters
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Vegetation management employees for wildfire risk reduction but also implement projects that reduce trees falling into roadways
Mutual aid agreements	Yes	For other fire agencies to assist and CERT

Table 15-6 summarizes technical staff available to the District and their current responsibilities that contribute to hazard mitigation.

Table 15-6. Technical Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	No	-
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	Yes	Grant writers who are contractors or volunteer their time
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazus applications	Yes	GIS software is used for vegetation management projects
Staff that work with socially vulnerable populations or underserved communities	No	-
Environmental scientists familiar with natural hazards	No	Use contractors to perform this function
Surveyors	No	-
Emergency manager	No	-
Grant writers	Yes	Grant writers who are contractors or volunteer their time
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	-

15.6.5 Fiscal Capability

Table 15-7 summarizes financial resources available to Northern Sonoma County Fire Protection District.

Table 15-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

15.6.6 Education and Outreach Capability

Table 15-8 summarizes the education and outreach resources available to Northern Sonoma County Fire Protection District.

15.6.7 Community Classifications

Table 15-9 summarizes classifications for community programs available to Northern Sonoma County Fire Protection District.

Table 15-8. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Available to support outreach efforts
Personnel skilled or trained in website development	Yes	Available to support outreach efforts
Hazard mitigation information available on your website	No	Reference other agencies having jurisdiction to ensure consistent information.
Social media for hazard mitigation education and outreach	Yes	YouTube, X, Instagram, Facebook
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	No	-
Natural disaster/safety programs in place for schools	Yes	Available upon request
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Partner with other agencies including Communities Organized to Prepare for Emergencies (COPE)
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	CWPP, Firewise USA, printed and electronic newsletters, and community meetings.

Table 15-9. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	4/4Y	1/1/2022
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	Yes	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

15.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 15-10 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.

- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 15-10. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flooding	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

15.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, Northern Sonoma County Fire Protection District is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within the District's jurisdiction can be found in the annex for Sonoma County.

15.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the Northern Sonoma County Fire Protection District's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction is included in the Sonoma County annex. Overall, the District has seen minimal development and its hazard vulnerability has stayed the same.

15.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Northern Sonoma County Fire Protection District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

15.9.1 Hazard Area

Maps of the probable hazard areas within the District are shown in Figure 15-3 and Figure 15-4. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Northern Sonoma County Fire Protection District has significant exposure.

Figure 15-3. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

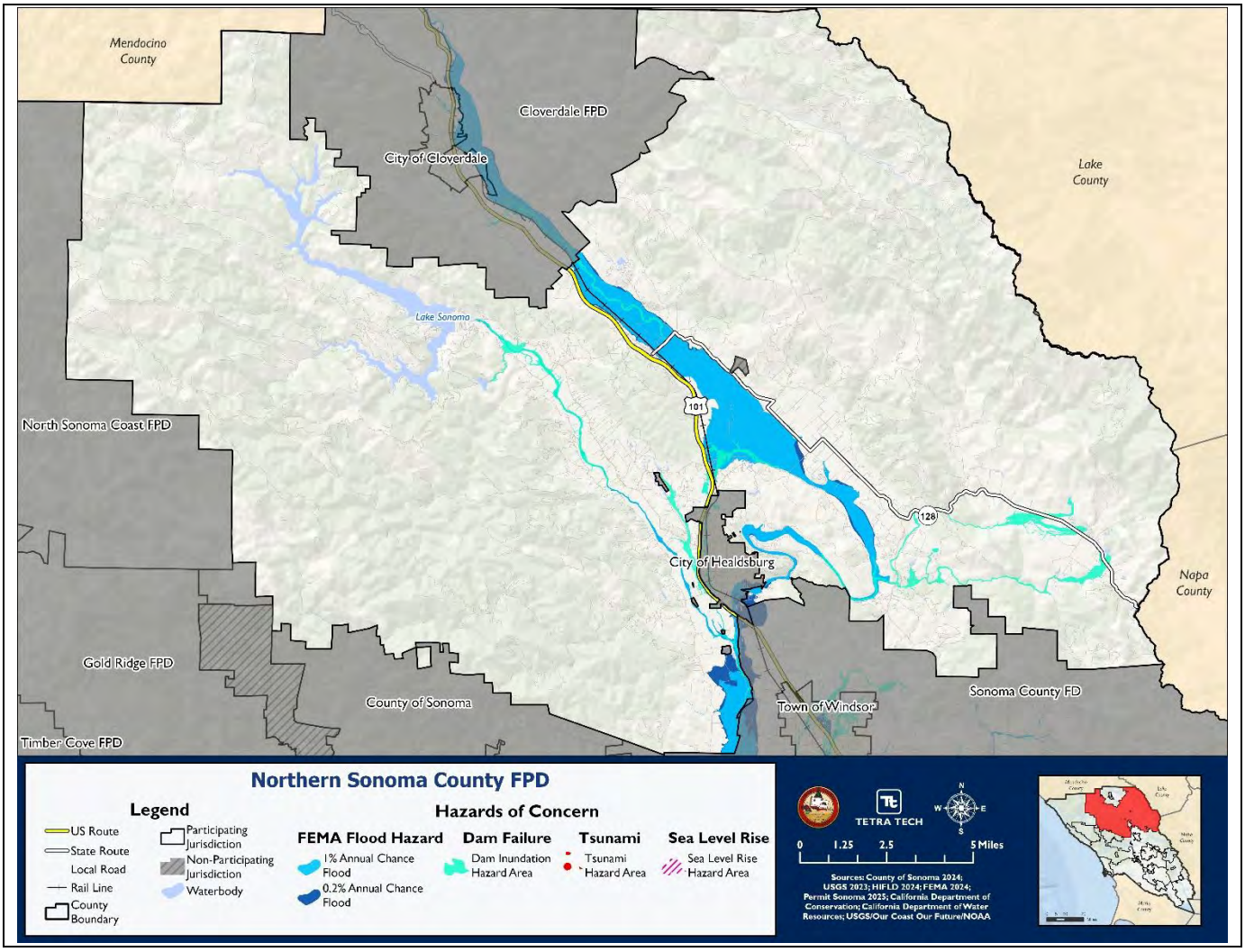
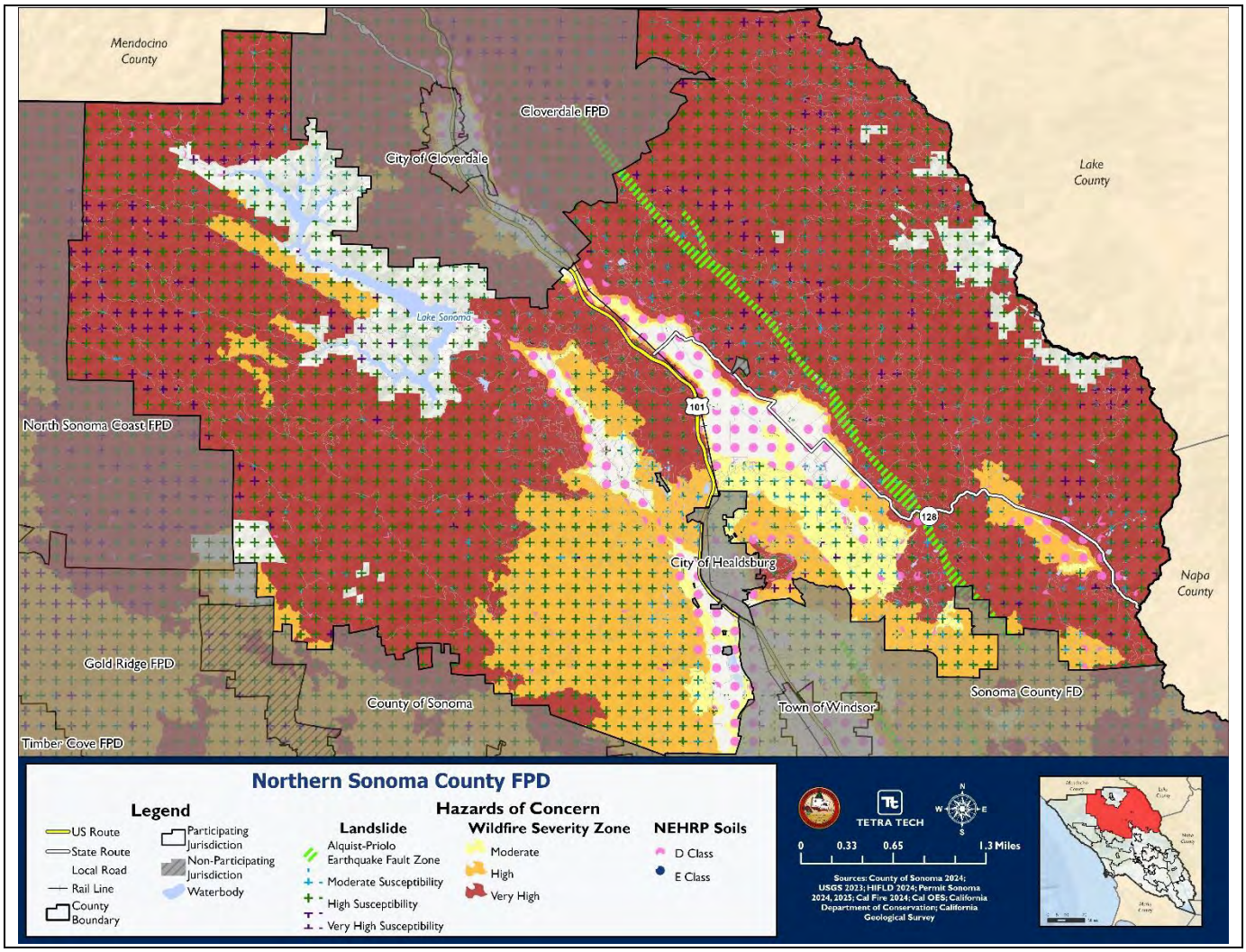


Figure 15-4. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



15.9.2 Hazard Event History

The history of natural and non-natural hazard events in Northern Sonoma County Fire Protection District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 15-11 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 15-11. Hazard Event History in Northern Sonoma County Fire Protection District, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in the District
March 10, 2021	Hail	N/A	A cold upper low moved through the region in early March bringing widespread showers and isolated thunderstorms to the Greater Bay Area. The Santa Rosa Fire Department reports multiple vehicle accidents on US-101 due to accumulating small hail.	Assisted Cloverdale Fire Protection District with a vehicle accident on Highway 101 near Asti.
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton. A 43-year old woman from Ukiah was recovered on the 10th after her car got stuck in floodwaters.	No Impact
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	Responded to two trees that blocked public roads.
January 21-22, 2024	Flood	N/A	A series of frontal systems with a weak subtropical tap led to widespread rainfall and nuisance flooding across the Bay Area. Westbound California Route 116 at Travis Road was reported flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road offramp from UIS Highway 101 Northbound was closed due to standing water on the roadway. The Arata Lane offramp from US Highway 101 Northbound was closed due to standing water on the roadway. Localized flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; three inches of water flooded a trailer in less than 20 minutes.	Responded to two trees that blocked public roads.
January 31, 2024	Flood	N/A	A quick-moving cold front came through California on January 31, bringing widespread rain and high winds. A water rescue occurred on Mark West Station Road at Starr Road.	Responded to two vehicle accidents on Highway 101 near Geyserville.

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in the District
February 4, 2024	Flood	N/A	A quickly-moving cold front came through the region on the 17th, causing minor nuisance flooding and gusty winds. A second, deeper but slower moving, system followed the next day with widespread rain and gusty winds. A warm front associated with this low came through the region late on Sunday the 18th, followed by the associated cold front and associated thunderstorms on Monday the 19th. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two different spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road before and after Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound California Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. California Route 12 was closed until 8 AM due to flooding from Fremont Drive to Watmaugh Road. Creek flowing over Mark West Station Road after heavy rainfall. Mud, dirt, and rock blocking Los Alamos Road.	Multiple incidents including responding to eighteen trees that blocked public roads.
June 16, 2024	Vegetation Fire (Point Incident)	N/A	https://www.fire.ca.gov/incidents/2024/6/16/point-fire 1,207 acre wind driven vegetation fire that burned residential structures and outbuildings on the western boundary of Dry Creek Valley south of Lake Sonoma. https://socoemergency.org/recover/point-fire/	Road closure, infrastructure damage, damaged structures and destroyed structures.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

15.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Northern Sonoma County Fire Protection District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts

of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Northern Sonoma County Fire Protection District reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. Table 15-12 shows Northern Sonoma County Fire Protection District's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 15-12. Hazard Ranking

Hazard	Rank
Dam Failure	Medium
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	Medium
Landslide	Medium
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Because the district is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities located in the District.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to Northern Sonoma County Fire Protection District. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

The qualitative assessments of risk in the hazard profiles in Volume I are equally applicable to Northern Sonoma County Fire Protection District. Table 15-13 summarizes additional risks specific to Northern Sonoma County Fire Protection District.

Table 15-13. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	The District is exposed to potential dam failure inundation, which could result in significant threats to life, property, and infrastructure. Dams within or potentially affecting the District include the Warm Springs, Merlo, Cook No. 2, Norton No. 2, Lytton, Foss Creek North Area, Axel, Lowe, Murray, Kellogg Ballpark, Foote No. 3, Foote No. 4, and Mallacomes dams, which are all high-hazard potential dams. Several other low- and significant-hazard dams also exist in or could impact the District. The Warm Springs Dam is especially noteworthy, as it maintains the reservoir at Lake Sonoma. A failure of this dam could lead to significant downstream flooding along Dry Creek, and reduce the availability of water for the 600,000 people dependent on it. Several dams have mapped inundation areas that, in the event of failure, could impact Highway 101 and Highway 128, impacting both transportation infrastructure and the people who may be traveling at the time of failure. The populations most vulnerable to these hazards are those downstream of the reservoirs, including residents and tourists along the various waterways in the District, such as the Russian River, and the District's first responders who may be involved in rescue and emergency assistance
Drought	The District is susceptible to drought conditions that can significantly impact local water supply and agricultural activities. The District's fire-fighting activities and infrastructure depend on a sufficient supply of water. Drought can diminish the water available in the system. Populations most vulnerable to drought are people living in higher fire-risk areas, which includes most of the District, and people dependent on agricultural and forestry activities. In periods of extended drought, wineries in the District can be negatively impacted. Recreation near or on the Russian River may also be vulnerable.
Earthquake	The District is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. The eastern side of the district is especially vulnerable, as it is near a fault, although the entire district is prone to earthquakes. NEHRP Class D soils are common in the Alexander Valley, in the central part of the District surrounding Healdsburg, making several of the high-hazard dams there vulnerable to failure. The hydroelectric generating plant at Lake Sonoma could also be vulnerable to an earthquake that causes a dam failure, reducing available power and possibly leading to power outages that could be difficult to recover from. Especially vulnerable populations include people living in older homes that are not retrofitted to withstand earthquakes, or travelers along Highway 101 or Highway 128. First responders from the District may also be vulnerable while responding to an earthquake. The Knights/Franz Valleys Fire Station lacks adequate structural protections against seismic activity, compromising its ability to function during and after hazard events.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the District's population and infrastructure. Elderly populations in the District are more vulnerable to extreme cold than the general populace, as are people living alone or in remote areas. Emergency shelters and fire stations in the District can be vulnerable to extreme cold, especially if the event coincides with a power outage.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Elderly populations in the District are more vulnerable to extreme heat than the general populace, as are people living alone or in remote areas. Highways 101 and 128 can be vulnerable to extreme heat, as heat can impact road integrity. Emergency shelters and fire stations in the District can be vulnerable to extreme heat, especially if the event coincides with a power outage.

Hazard	Qualitative Local Impacts
Extreme Wind	The District may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Transportation along Highway 128 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. People living in low-lying areas can be vulnerable to flooding. Tourists and travelers may be unaware of flooding risks as well, especially in areas that are within the SFHA, such as the floodplain of the Russian River north of Healdsburg, where several wineries are in the SFHA. Flooding can also endanger the District's first responders performing rescues. Highway 101 runs along the Russian River, which has a wide SFHA that abuts the highway, and Highway 128 crosses the river's floodplain at Geyserville, making these roads vulnerable to flooding. Heavy winter rains can contribute to downed trees and power line hazards that can impact travel. The Knights/Franz Valleys Fire Station lacks adequate structural protections against flooding, compromising its ability to function during and after hazard events.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. Most of the District is rated as having high or very high landslide susceptibility, outside of the valleys. Stretches of Highway 101 and Highway 128 going through the District are in areas rated as having high or very high landslide susceptibility, making the roads vulnerable to landslides. Lake Sonoma is also surrounded by areas susceptible to landslides, which over time can lead to sedimentation in the reservoir. Populations vulnerable to landslides include residents in high-landslide susceptibility areas, moderate wildfire risk areas, and those near the fault zone, as well as travelers and visitors unaware of risks. People in areas with limited communication options, such as remote or rugged terrain, can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	Sea level rise is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Tsunami	Tsunami is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Wildfire	The District faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. People that are impacted most are likely to be low-income people living in remote, rural locations that can be difficult to access or provide sufficient warning to during a hazard event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation. Most of the District has a high or very high severity fire risk, including most of the areas surrounding Highways 101 and 128, which are major evacuation routes for the area. Travelers and tourists are also vulnerable for this reason. The District's fire fighters are especially vulnerable when responding to wildfires. The Knights/Franz Valleys Fire Station is located in a high-risk wildfire zone, making it vulnerable to ember intrusion and potential ignition.

15.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Northern Sonoma County Fire Protection District identified the following risk-related issues for the community:

- The Knights/Franz Valleys Fire Station is located in a high-risk wildfire zone, making it vulnerable to ember intrusion and potential ignition. Additionally, the facility lacks adequate structural protections against seismic activity and flooding, compromising its ability to function during and after hazard events.
- Rural and outlying areas within the District lack reliable and accessible water sources for firefighting operations. This deficiency significantly hampers the ability to control and suppress wildfires, increasing the risk to life, property, and natural resources.
- Areas within the District contain unmanaged dry vegetation, which significantly increases the risk of wildfire ignition and spread. This accumulation of fuels poses a direct threat to life, property, and critical infrastructure, especially during periods of extreme heat and drought.
- The District currently lacks formal engagement in regional collaborative efforts focused on addressing climate-related and multi-hazard risks. This limits access to shared resources, coordinated planning, and region-wide strategies that could enhance local resilience.
- There is currently limited coordination between the District and County-level efforts to promote public awareness and preparedness for natural and human-caused hazards. This gap reduces the effectiveness of outreach and education initiatives and may leave residents underprepared for emergencies.
- Building fires and other hazard-related incidents are sometimes caused or exacerbated by faulty construction practices, outdated materials, or unsafe building occupancy conditions. Without consistent enforcement of modern codes and inspections, these risks remain unaddressed.
- Many residents in the District may lack the knowledge, resources, or support systems needed to effectively prepare for and respond to a wide range of natural hazards. This is especially true in rural or isolated areas, where emergency response times may be longer and community cohesion is critical.
- The District is exposed to potential dam failure inundation, which could result in significant threats to life, property, and infrastructure. Currently, there is a lack of formalized planning, response protocols, and public alerting systems specific to dam failure scenarios.

15.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

15.10.1 Past Mitigation Action Status

Table 15-14 indicates progress on the County's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 15-14. Status of 2021 Mitigation Actions for Northern Sonoma County Fire Protection District

Mitigation Actions	Status
Project Number	SCN-1
Hazards Addressed	Earthquake, wildfire, flooding
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Provide earthquake, wildfire, and flooding retrofitting for hardening and to build resilience to critical infrastructure (fire stations and District buildings).
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	The Alexander Valley Fire Station was renovated in 2024. The Knights/Franz Valleys Fire Station is being planned to be renovated.
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Knights/Franz Valleys Fire Station is in a wildfire prone area where embers could ignite the building.
Project Number	SCN-2
Hazards Addressed	Wildfire
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Develop water supply accessibility including pipelines and water storage tanks in outlying and rural areas.
Status	In Progress, Ongoing
Narrative describing progress or obstacles that have prevented implementation	Funding has been a challenge to implementation. Helicopter dip sites have also been installed in The Geysers area.
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Develop water supply accessibility including pipelines and water storage tanks in outlying and rural areas.

Mitigation Actions	Status
Project Number	SCN-3
Hazards Addressed	Wildfire
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Plan and implement vegetation management and fuel reduction projects.
Status	In Progress, Ongoing
Narrative describing progress or obstacles that have prevented implementation	Funding has been a challenge to implementation.
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Plan and implement vegetation management and fuel reduction projects.
Project Number	SCN-4
Hazards Addressed	All hazards
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Participation in regional groups addressing climate risks.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The District often does not have the staffing capacity to fully participate in regional climate groups.
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Participate in regional groups addressing climate risks.
Project Number	SCN-5
Hazards Addressed	All hazards
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Partner and support the County of Sonoma in increasing awareness and preparedness for all hazards
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Funding has been a challenge to implementation.
Include in the 2025 HMP or Discontinue?	Include/Discontinue
If include, revise/reword as appropriate	Partner and support the County of Sonoma in increasing awareness and preparedness for all hazards

Mitigation Actions	Status
Project Number	SCN-6
Hazards Addressed	All hazards
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Adopt building and fire code; perform comprehensive building life safety inspections
Status	In Progress
Narrative describing progress or obstacles that have prevented implementation	Funding has been a challenge to implementation.
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Adopt building and fire code; perform comprehensive building life safety inspections
Project Number	SCN-7
Hazards Addressed	All hazards
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Upgrade Emergency Medical Services from Basic Life Support to Advanced Life Support
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	N/A
Include in the 2025 HMP or Discontinue?	Discontinue
If discontinue, explain why	Project was completed by adding an additional ambulance
Project Number	SCN-8
Hazards Addressed	All hazards
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Develop a community based risk reduction program (Neighbors helping neighbors)
Status	In progress, Ongoing
Narrative describing progress or obstacles that have prevented implementation	Funding has been a challenge to implementation.
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Develop a community based risk reduction program (Neighbors helping neighbors)

Mitigation Actions	Status
Project Number	SCN-9
Hazards Addressed	Dam failure
Lead Agency	Northern Sonoma County Fire Protection District
Mitigation Action Description	Partner with US Army Corps of Engineers for to develop dam failure planning and response protocols and procedures and alerting procedures
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	Funding has been a challenge to implementation.
Include in the 2025 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Partner with US Army Corps of Engineers for to develop dam failure planning and response protocols and procedures and alerting procedures

15.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 15-14, Northern Sonoma County Fire Protection District identified the following mitigation efforts completed since the last HMP:

- Vegetation management projects to reduce wildfire risk
- Risk reduction planning and preparedness including defensible space inspections and presentations
- Citizens Organized to Prepare for Emergencies (COPE) outreach

15.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Northern Sonoma County Fire Protection District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Northern Sonoma County Fire Protection District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 15-15 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 15-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X				X					
Drought	X				X					
Earthquake	X	X			X					X
Extreme Cold	X				X					
Extreme Heat	X				X					
Extreme Wind	X				X					
Flood	X	X			X					X
Landslide	X				X					
Wildfire	X	X	X		X			X		X

Note: Mitigation category codes as follows (see Appendix D): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 15-16 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 15-16. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Regional Climate Risk	Low	Low	13	1-5 years	7.001	High
All Hazards Preparedness	Low	Low	13	1-5 years	7.001	High
Building and Fire Code	Low	Low	13	1-5 years	7.001	High
Neighbors Helping Neighbors	Low	Low	13	1-5 years	7.001	High
Dam Failure Planning	Medium	Medium	6	1-5 years	6.462	Medium
Harden Critical Facilities	High	High	3	1-5 years	6.231	Medium
Water Supply Accessibility	High	High	1	1-5 years	6.077	Medium
Vegetation and Fuel Reduction	High	Medium	1	1-5 years	5.077	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-NSCFPD-1. Harden Critical Infrastructure

Lead Agency:	Northern Sonoma County Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	The Knights/Franz Valleys Fire Station is located in a high-risk wildfire zone, making it vulnerable to ember intrusion and potential ignition. Additionally, the facility lacks adequate structural protections against seismic activity and flooding, compromising its ability to function during and after hazard events.
Description of the Solution:	Implement comprehensive retrofitting measures to enhance the fire station's resilience to earthquakes, wildfires, and floods. This includes structural hardening, ember-resistant construction materials, defensible space improvements, and floodproofing techniques. These upgrades will ensure the facility remains operational during emergencies and continues to serve as a critical response hub.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program
Implementation Timeline:	1-5 Years
Objectives Met:	1, 2, 4
Benefits:	Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Supports resilient infrastructure planning and sets a precedent for hazard-resistant public facilities.
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline by ensuring the fire station remains functional during disasters.
Impact on Capabilities:	Improves the District's ability to respond effectively to emergencies, reducing response time and increasing community safety.
Climate Change Considerations:	Wildfire and flooding are expected to become more frequent and severe with changing weather patterns.
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

Action 2026-NSCFPD-2. Water Supply Accessibility

Lead Agency:	Northern Sonoma County Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Wildfire
Description of the Problem:	Rural and outlying areas within the District lack reliable and accessible water sources for firefighting operations. This deficiency significantly hampers the ability to control and suppress wildfires, increasing the risk to life, property, and natural resources.
Description of the Solution:	Develop and expand water supply infrastructure in underserved areas by installing strategically located water storage tanks and extending pipelines. These improvements will ensure a consistent and accessible water supply for firefighting efforts, particularly in high-risk wildfire zones.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Community Resilience Grants
Implementation Timeline:	1-5 Years
Objectives Met:	2
Benefits:	Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Supports safe and resilient development in rural and wildfire-prone areas.
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline by ensuring water availability for emergency response.
Impact on Capabilities:	This action will improve the District’s operational readiness and effectiveness in wildfire suppression.
Climate Change Considerations:	Wildfire is expected to occur more frequently and cause more damage due to changing weather patterns.
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

Action 2026-NSCFPD-3. Vegetation and Fuel Reduction

Lead Agency:	Northern Sonoma County Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Wildfire
Description of the Problem:	Areas within the District contain unmanaged dry vegetation, which significantly increases the risk of wildfire ignition and spread. This accumulation of fuels poses a direct threat to life, property, and critical infrastructure, especially during periods of extreme heat and drought.
Description of the Solution:	Develop and implement a comprehensive vegetation management and fuel reduction program. This includes mechanical thinning, prescribed burns, defensible space creation, and ongoing maintenance to reduce wildfire fuel loads across high-risk areas.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Community Resilience Grants
Implementation Timeline:	1-5 Years
Objectives Met:	2
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Supports safer development practices by reducing wildfire risk in areas targeted for growth.
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline by reducing the threat of wildfire to essential services and infrastructure.
Impact on Capabilities:	Improves the District’s ability to prevent, contain, and suppress wildfires, reducing response time and resource strain.
Climate Change Considerations:	Wildfire is expected to occur more frequently and cause more damage due to changing weather patterns.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection
Priority	Medium

Action 2026-NSCFPD-4. Regional Climate Risk

Lead Agency:	Northern Sonoma County Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The District currently lacks formal engagement in regional collaborative efforts focused on addressing climate-related and multi-hazard risks. This limits access to shared resources, coordinated planning, and region-wide strategies that could enhance local resilience.
Description of the Solution:	Actively participate in regional climate resilience and hazard mitigation groups. This includes attending meetings, contributing to planning initiatives, sharing data and best practices, and aligning local strategies with broader regional efforts to address climate risks and all-hazard threats.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Community Resilience Grants
Implementation Timeline:	1-5 Years
Objectives Met:	1,2,3,4,5,6,7,8,9,10,11,12,13
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Encourages climate-informed planning and development through regional collaboration.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Improves institutional capacity to plan for and respond to climate and hazard risks.
Climate Change Considerations:	Supports proactive engagement in climate adaptation planning and regional climate risk assessments.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	High

Action 2026-NSCFPD-5. All Hazards Preparedness

Lead Agency:	Northern Sonoma County Fire Protection District Board of Directors
Supporting Agencies:	County of Sonoma
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	There is currently limited coordination between the District and County-level efforts to promote public awareness and preparedness for natural and human-caused hazards. This gap reduces the effectiveness of outreach and education initiatives and may leave residents underprepared for emergencies.
Description of the Solution:	Collaborate with the County of Sonoma to support and enhance public education, outreach, and preparedness campaigns for all hazards. This includes participating in county-led initiatives, distributing preparedness materials, co-hosting community events, and aligning messaging to ensure consistency and broad reach.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Community Resilience Grants
Implementation Timeline:	1-5 Years
Objectives Met:	1,2,3,4,5,6,7,8,9,10,11,12,13
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Encourages hazard-aware development through increased public understanding of local risks.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Improves the District’s outreach and education capabilities through regional collaboration.
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	High

Action 2026-NSCFPD-6. Building and Fire Code

Lead Agency:	Northern Sonoma County Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Building fires and other hazard-related incidents are sometimes caused or exacerbated by faulty construction practices, outdated materials, or unsafe building occupancy conditions. Without consistent enforcement of modern codes and inspections, these risks remain unaddressed.
Description of the Solution:	Adopt and enforce up-to-date building and fire codes and implement a comprehensive building life safety inspection program. This includes regular inspections of residential, commercial, and public buildings to ensure compliance with fire safety standards and to identify and mitigate potential ignition sources.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Community Resilience Grants
Implementation Timeline:	1-5 Years
Objectives Met:	1,2,3,4,5,6,7,8,9,10,11,12,13
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Encourages safer, code-compliant development and construction practices.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Improves the District’s ability to identify and mitigate structural fire risks before emergencies occur.
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	High

Action 2026-NSCFPD-7. Neighbors Helping Neighbors

Lead Agency:	Northern Sonoma County Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Many residents in the District may lack the knowledge, resources, or support systems needed to effectively prepare for and respond to a wide range of natural hazards. This is especially true in rural or isolated areas, where emergency response times may be longer and community cohesion is critical.
Description of the Solution:	Develop and implement a community-based risk reduction program, such as a “Neighbors Helping Neighbors” initiative. This program would focus on building local networks of support, increasing hazard awareness, promoting preparedness activities, and encouraging mutual aid during emergencies. Activities may include neighborhood training sessions, emergency contact networks, and community drills.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Community Resilience Grants
Implementation Timeline:	1-5 Years
Objectives Met:	1,2,3,4,5,6,7,8,9,10,11,12,13
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Improves local response capacity and reduces reliance on external emergency services during initial disaster phases.
Climate Change Considerations:	Supports adaptive capacity by preparing communities for the increasing frequency and severity of climate-related hazards.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	High

Action 2026-NSCFPD-8. Dam Failure Planning

Lead Agency:	Northern Sonoma County Fire Protection District Board of Directors
Supporting Agencies:	US Army Corps of Engineers
Hazards of Concern:	Dam Failure
Description of the Problem:	The District is exposed to potential dam failure inundation, which could result in significant threats to life, property, and infrastructure. Currently, there is a lack of formalized planning, response protocols, and public alerting systems specific to dam failure scenarios.
Description of the Solution:	Collaborate with the U.S. Army Corps of Engineers to develop comprehensive dam failure preparedness and response protocols. This includes creating inundation maps, establishing clear evacuation and emergency response procedures, and implementing robust public alert and notification systems to ensure timely warnings in the event of a dam breach.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Community Resilience Grants
Implementation Timeline:	1-5 Years
Objectives Met:	6
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Encourages hazard-informed development and land use planning in dam inundation zones.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	Improves the District’s ability to respond effectively to dam-related emergencies and coordinate with regional partners.
Climate Change Considerations:	N/A
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

16. RANCHO ADOBE FIRE PROTECTION DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the Rancho Adobe Fire Protection District (RAFPD) with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of the Rancho Adobe Fire Protection District, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

16.1 HAZARD MITIGATION PLANNING TEAM

The Rancho Adobe Fire Protection District identified primary and alternate HMP points of contact and developed this plan over the course of several months The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization. The following District official participated in development of the annex:

Primary Point of Contact: Tim Caldwell, Battalion Chief

Address: 11000 Main Street, Penngrove CA 94951

Phone Number: 707-795-6011

Email: TCaldwell@rafd.org

The primary point of contact was responsible for updating and reviewing the items for this HMP update. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

16.2 COMMUNITY PROFILE

The Rancho Adobe Fire Protection District encompasses 86 square miles just east of the cities of Rohnert Park and Petaluma. Its service area includes the City of Cotati, Sonoma State University, and the unincorporated communities of Penngrove and Canon Manor. The District was formed in 1993 through the consolidation of the Cotati and the Penngrove Fire Protection Districts.

16.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, RAFPD completed specific activities

to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

The following targeted outreach was made to underserved communities and vulnerable populations:

- Assisted living facilities
- School districts
- Residents in the wildland urban interface

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to the District was contributed through community engagement activities.

16.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, RAFPD invited stakeholders relevant to their planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

16.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

Local and state agencies involved in emergency response, transportation, and emergency management were invited to contribute to the County's HMP update. Their participation reflects the critical role these organizations play in identifying risks and enhancing regional resilience.

- City of Cotati Public Works
- Caltrans
- Sonoma County GIS
- Sonoma County Roads
- California Highway Patrol
- CAL FIRE
- Sonoma County Emergency Management
- Fire Safe Sonoma

16.4.2 Agencies that Have the Authority to Regulate Development

Agencies who have the authority to regulate development within the area were invited to participate in the planning process, ensuring that land use aligns with established planning, safety, and environmental standards.

- Permit Sonoma
- City Of Cotati Planning Department
- Sonoma County District 2 Supervisor David Rabbit

16.4.3 Neighboring Communities

As part of the hazard mitigation planning process, outreach was conducted to neighboring service providers and emergency response agencies to inform them of the effort and invite their participation. Communication included sharing the planning timeline and opportunities to provide input on regional hazard vulnerabilities and potential mitigation strategies.

- Sonoma Valley Fire Rescue Authority
- Sonoma County Fire Protection District
- Gold Ridge Fire Protection District
- CAL FIRE

16.4.4 Representatives of Business, Academia, and Other Private Organizations

RAFPD engaged local school district representatives, utility companies, and other organizations by notifying them of the HMP update. These stakeholders were requested to share the survey and planning information their staff and those they serve and to provide feedback on community vulnerabilities and resilience priorities.

- Cotati-Rohnert Park
- Petaluma City Schools
- Liberty School District
- Kenwood/Penngrove Water Company
- Sonoma Water
- Rotary Club of Rohnert Park – Cotati
- PG&E
- AT&T, Verizon, T- mobile

16.4.5 Nonprofit Organizations and Community-Based Organizations

Coordination with local community organizations supported broader engagement in the hazard mitigation planning process. These groups were invited to review draft materials and share feedback based on their local knowledge and experience in emergency preparedness, helping to ensure that community perspectives were reflected in the final plan.

- American Red Cross
- Sonoma County Social Services
- Community Housing Sonoma County

16.5 CHANGES IN COMMUNITY PRIORITIES

Rancho Adobe Fire Protection District's priorities have not changed since the 2021 HMP.

16.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Rancho Adobe Fire Protection District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Rancho Adobe Fire Protection District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

16.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, the Rancho Adobe Fire Protection District does not possess planning or regulatory authority, including the development or enforcement of codes, ordinances, regulations, or formal planning and emergency response documents. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 16-1 summarizes the codes, ordinances, and regulations for the District.

Table 16-1. Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building Codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	Municipal/ County 2022 California Building Code	City of Cotati, County of Sonoma
Fire Code	The California Fire Code supports the goals of the HMP by establishing fire prevention standards that reduce the risk of wildfire and structural fires. It includes requirements for defensible space, fire-resistant materials, and emergency access, all of which are critical for protecting people, property, and infrastructure in fire-prone areas.	State CA Fire Code, 2022, amended State code	County of Sonoma
Health and Safety Code	Outlines the organizations, powers, and responsibilities of fire protection districts throughout the state.	State California Code, Health and Safety Code - HSC § 13800	County of Sonoma

Planning Documents

Table 16-2 summarizes the planning documents available to the District.

Table 16-2. Rancho Adobe Fire Protection District Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Capital Improvement Plan	-	-	-
Community Wildfire Protection Plan	The Program is focused on education of the public living in the wildland urban Interface and building defensible space around the home.	County Fire Safe Sonoma	County of Sonoma

16.6.2 Integration

While the District has limited formal planning mechanisms in place, future development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans or annex updates
- Using hazard-specific information, such as drought data, to inform updates to policies and operational practices
- Incorporating hazard analyses into the development of new plans or District annexation efforts

Although lacking other formal planning mechanisms specific to the RAFPD, the District can integrate this plan into its annual budget to accomplish actions outlined in the mitigation strategy.

The 2023 Sonoma County Community Wildfire Protection Plan (CWPP) update integrated goals and information from the 2021 Sonoma County HMP. The Countywide CWPP and smaller, community based CWPPs identify wildfire risk reduction efforts and lead to the development and implementation of vegetation management projects to reduce wildfire risk and protect structures. The 2021 HMP was also incorporated into the General Safety Plan Element for the County. Due to a lack of District-specific plans, no further integration of the 2021 HMP occurred.

16.6.3 Development and Permitting Capability

RAFPD is a special district subject to Sonoma County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Sonoma County. Therefore, building code, land use, and development capabilities are not applicable to the District.

16.6.4 Administrative and Technical Capability

Table 16-3 and Table 16-4 summarize staff resources available to Rancho Adobe Fire Protection District and their current responsibilities that contribute to hazard mitigation.

Table 16-3. Administrative Capabilities

Resources	Available?	Comment
Planning Board	No	-
Zoning Board of Adjustment	No	-
Planning Department	No	-
Mitigation Planning Committee	Yes	Available staff. Support of hazard mitigation.
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Through the City of Cotati and county roads department.
Construction/Building/Code Enforcement Department	No	-
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Sonoma County DEM Road crew for tree trimming and chipping
Mutual aid agreements	Yes	-
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Fire prevention – vegetation management inspection program
Other	-	-

Table 16-4. Technical Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	No	-
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazus applications	No	-
Staff that work with socially vulnerable populations or underserved communities	No	-
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	Yes	-
Grant writers	Yes	Available staff
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-

16.6.5 Fiscal Capability

Table 16-5 summarizes financial resources available to Rancho Adobe Fire Protection District.

Table 16-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes- FEMA, Cal Water, OTS grant opportunities
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	-

16.6.6 Education and Outreach Capability

Table 16-6 summarizes the education and outreach resources available to Rancho Adobe Fire Protection District.

An opportunity for the District to expand and improve its capabilities stems from the fact that, although community members are concerned about wildfires in the County, they often fail to take action to mitigate their risk from wildfires. The District could participate in county wildfire prevention and community outreach programs and develop and implement a fuel reduction and vegetation management prevention program that would encourage the public to reduce their risk.

Table 16-6. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	-
Personnel skilled or trained in website development	Yes	-
Hazard mitigation information available on your website	Yes	Social media utilized to notify public of ongoing or anticipated incidents, hazards, etc. Also used for public outreach and education
Social media for hazard mitigation education and outreach	Yes	Social media utilized to notify public of ongoing or anticipated incidents, hazards, etc. Also used for public outreach and education
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Rancho Adobe Fire Protection District Board of Directors is an elected body of citizens chosen to oversee the management of the District.
Warning systems for hazard events	Yes	Through our county dispatch center (REDCOM) Cotati P.D. and Sonoma State University P.D. we have the ability to use reverse 9-1-1 system to send broadcast emergency messages/warnings to the public and traditional media for the same.
Natural disaster/safety programs in place for schools	Yes	Rancho Adobe FPD maintains an active community education program, teaching citizens of all ages, topics ranging from fire safety to the community disaster preparedness.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	-
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Defensible Space Inspection Program. Education of mitigation of wildland fire hazard in wildland urban interface areas within the District.

16.6.7 Community Classifications

Table 16-7 summarizes classifications for community programs available to Rancho Adobe Fire Protection District.

Table 16-7. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	-	-	-
Building Code Effectiveness Grading Schedule	N/A	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	03,05,10	2020
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	Yes	-	2025
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

16.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 16-8 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 16-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

16.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, Rancho Adobe Fire Protection District is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within the District’s jurisdiction can be found in the annexes for Sonoma County and the City of Cotati.

16.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction is included in the Sonoma County annex.

Overall, development in the District has not significantly affected its vulnerability. The City of Cotati approved over 300 new construction permits since the previous HMP was written. However, the majority of the city is not in elevated wildfire risk zones. Two new warehouses were built partially within the 1 percent annual chance flood zone.

16.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Rancho Adobe Fire Protection District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

16.9.1 Hazard Area

Maps of probable hazard areas within the District are shown in Figure 16-1 and Figure 16-2. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Rancho Adobe Fire Protection District has significant exposure.

Figure 16-1. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

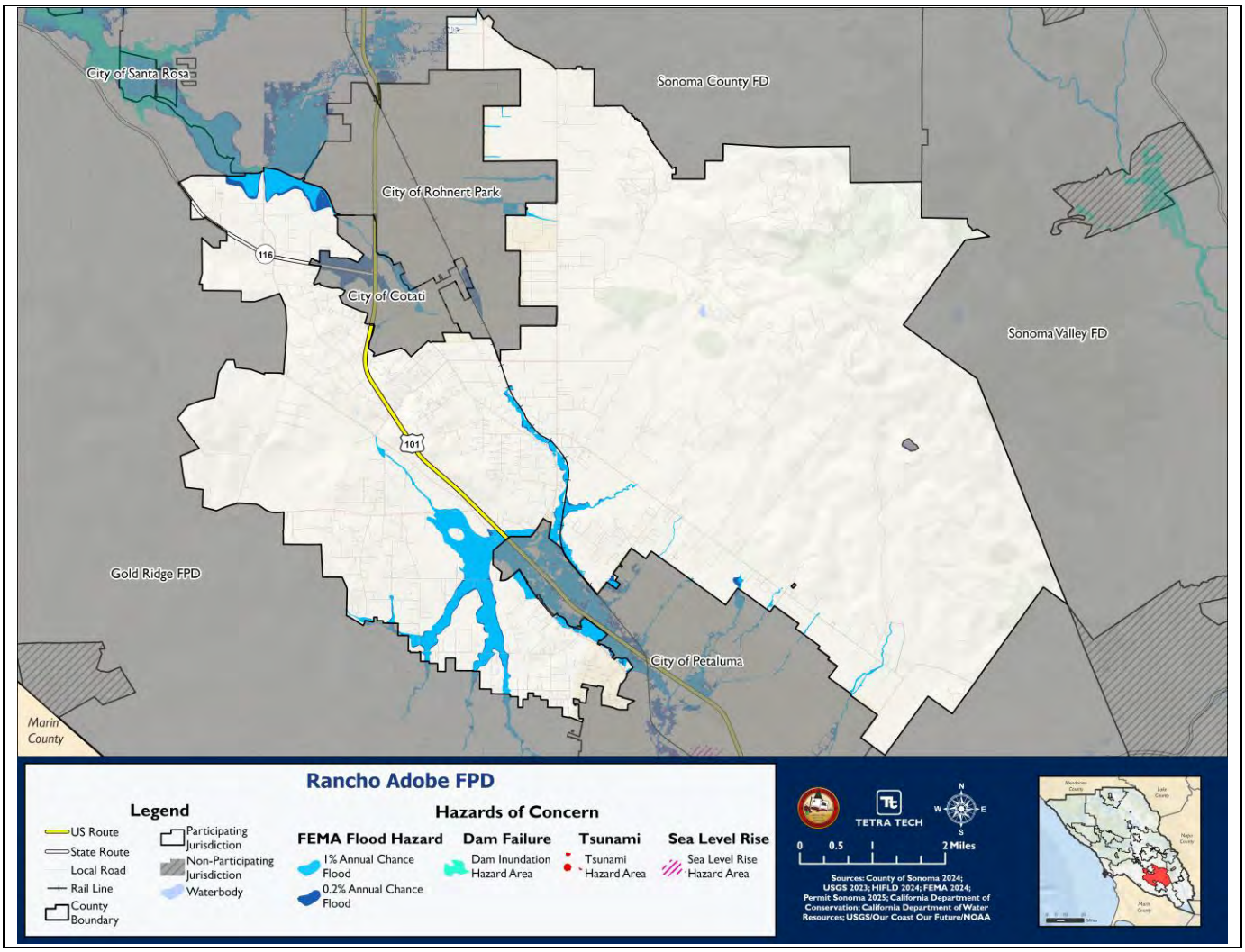
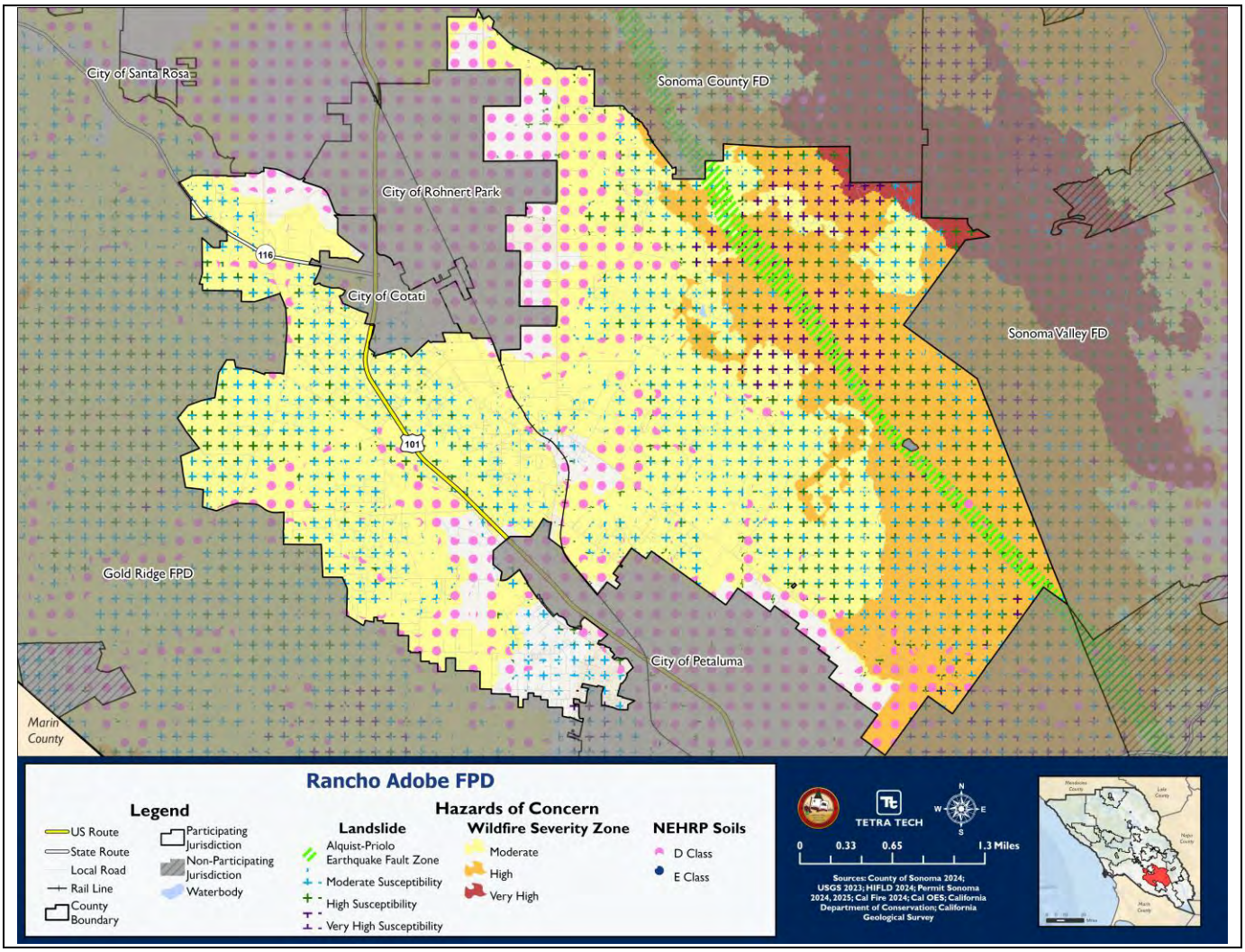


Figure 16-2. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



16.9.2 Hazard Event History

The history of natural and non-natural hazard events in Rancho Adobe Fire Protection District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 16-9 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 16-9. Hazard Event History in Rancho Adobe Fire Protection District, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in RAFPD
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton.	No impact to the District
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	A sub-tropical moisture plume moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	No impact to the District
June 27,2023	Fire	N/A	Roblar Fire. 33-acre grass fire.	Evacuations of residents. Road closures
June 16-24, 2024	Fire	N/A	Point Fire. 1,400-acre grass fire	Evacuations of residents. Damage to structures
August 29,2024	Fire	N/A	Two Fire. 33-acre grass fire.	Evacuations of residents. Road closures
October 2-4, 2024	PSP Heat Wave	N/A	Heat wave with temperatures in the triple digits hit Sonoma County.	Cooling stations were set up throughout the county. Heat related medical calls. Power shut off to residence.
November 4-8,2024	PSP Wind Event	N/A	PSP red flag wind event. Several grassfires throughout the county.	No impact to the District
November 19-24, 2024	Flood	Yes	A strong atmospheric river impacted North Bay. Heavy rain and high winds will persist causing flooding to local creeks and streams in flood prone urban areas with tree damage and relate impact	Several road closures throughout the District due to flooding, down powerlines, and trees. Damage roadways washed out Civilian rescues trapped in flood waters.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

16.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Rancho Adobe Fire Protection District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking

process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Rancho Adobe Fire Protection District reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. Table 16-10 shows Rancho Adobe Fire Protection District's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 16-10. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	Medium
Landslide	Medium
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Because the District is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities located in the District.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to RAFPD. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on District-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the District. Table 16-11 summarizes additional risks specific to the District.

Table 16-11. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	Rancho Adobe Fire Protection District faces low risk from dam failure. Nearby dams that could affect the District include the Meadow Lane, Brown's Lane, and Lawler dams, which are high-, high-, and low-hazard potential dams, respectively. There are areas east of Rohnert Park that could be inundated by a dam failure, but few mapped inundation areas exist in the District. The greatest vulnerability of the District's infrastructure is the potential loss of surface waters that could be used in firefighting. RAFPD's first responders who may be involved in rescue and emergency assistance may also be vulnerable during a dam failure event.
Drought	The District is susceptible to drought conditions that can significantly impact local water supply and agricultural activities. RAFPD's fire-fighting activities and infrastructure depend on a sufficient supply of water. Drought can diminish the water available in the system. Populations most at risk due to drought are people living in higher fire-risk areas and people dependent on agricultural activities that dominate the land use in the District. In periods of extended drought, ranches and dairies in the District can be negatively impacted.
Earthquake	Rancho Adobe Fire Protection District is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. The eastern side of the District is especially vulnerable, where a fault zone runs through, although the entire District is prone to earthquakes. NEHRP Class D soils are common in the District, including areas near the railroad, Highway 101 and Highway 116. Especially vulnerable populations include people living in older homes that are not retrofitted to withstand earthquakes, or travelers along Highway 101 or Highway 116. First responders from RAFPD may also be vulnerable while responding to an earthquake. The District fire stations' generators are outdated and may not be sufficient if an earthquake caused a power outage, limiting their effectiveness.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the District's population and infrastructure. Elderly populations in RAFPD are more vulnerable to extreme cold than the general populace, as are people living alone or in remote areas. Emergency shelters and fire stations in the District can be vulnerable to extreme cold, especially if the event coincides with a power outage.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Elderly populations in RAFPD are more vulnerable to extreme heat than the general populace, as are people living alone or in remote areas. Emergency shelters and fire stations in the District can be vulnerable to extreme heat, especially if the event coincides with a power outage.
Extreme Wind	The District may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. The District fire stations' generators are outdated and may not be sufficient if an extreme wind event caused a power outage, limiting their effectiveness. Especially vulnerable populations include those living in mobile homes and older houses. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.

Hazard	Qualitative Local Impacts
Flood	Flooding is a concern due to heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. People living in low-lying areas can be vulnerable to flooding. Tourists and travelers may be unaware of flooding risks as well, especially in areas that are within the SFHA, such as the floodplain of the Petaluma River on the north end of Petaluma, where Highway 101 runs through the SFHA. This can also endanger RAFPD's first responders performing rescues.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. Parts of the eastern and western sides of RAFPD are rated as having high landslide susceptibility. Populations vulnerable to landslides include residents of high-landslide susceptibility areas, moderate wildfire risk areas, and those near the fault zone, as well as travelers and visitors unaware of risks. People in areas with limited communication options, such as remote areas or steeper terrain, can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	Per the above risk assessment findings, sea level rise is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Tsunami	Per the above risk assessment findings, tsunami is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Wildfire	The District faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. Most of RAFPD has a moderate fire severity risk, with higher risk on the District's eastern side, where smaller roads are the primary evacuation routes for the area and may not be sufficient to navigate District equipment during a wildfire. These roads are thus vulnerable to being overwhelmed during wildfires and possibly damaged with heavy use. People that are impacted most are likely to be low-income people living in remote, rural locations where it can be difficult to access or provide sufficient warning in a hazard event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation. The District's fire fighters are especially vulnerable when responding to wildfires.

16.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Rancho Adobe Fire Protection District identified the following risk-related issues within the community:

- The District's three fire stations have backup generators that are outdated for the current demand of facilities to support a long public safety power shutoff.
- Wildfires are fueled by dead and dry vegetation, which covers a significant portion of the District.
- Community members are concerned about wildfires in the County but often fail to take action to mitigate their risk from wildfires.
- New plans, ordinances, and programs should be integrated with the 2026 Sonoma County HMP.
- Existing evacuation routes and roads may not be sufficient to navigate District equipment during a wildfire in a high-risk area.
- Firefighting capabilities in outlying and rural areas are hampered by limited water supplies.

16.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

16.10.1 Past Mitigation Action Status

Table 16-12 indicates progress on Sonoma County's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 16-12. Status of 2021 Mitigation Actions for Rancho Adobe Fire Protection District

Mitigation Actions	Status
Project Number	RAF-1
Hazards Addressed	Earthquake, flooding, landslide, tsunami, wildfire
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Where appropriate, retrofit, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.
Status	Ongoing, No progress
Narrative describing progress or obstacles that have prevented implementation	RAF-1 was more specific to fire stations of the fire district. Obstacles to plan is what are the future needs of fire dept. deployment do stations need to be relocated, upgraded.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not applicable
If discontinue, explain why	Project should be removed from the plan. The fire District doesn't have authority to relocate of structures
Project Number	RAF-2
Hazards Addressed	Flood, severe weather
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Secure funding to study localized Flood Reduction Programs
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not applicable
If discontinue, explain why	RAFPD advised to not include

Mitigation Actions	Status
Project Number	RAF-3
Hazards Addressed	Earthquake, flooding, landslide, severe weather, tsunami, wildfire
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Purchase stationary generators for critical facilities and infrastructure that lack adequate backup power and upgrading electrical Facility wiring.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	The fire districts 3 fire stations had backup generators that were outdated for the current demand of facilities to support a long PSP. Generators were upgraded and facilities electrical upgraded as well.
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not applicable
If discontinue, explain why	This action has been completed.
Project Number	RAF-4
Hazards Addressed	Wildfire, Climate Change, Drought
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Develop and implement fuel reduction and vegetation management prevention program
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Defensible space inspection program last 4 yrs was funded by Sonoma County. 2025/2026 fire districts will have to fund
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Not change
If discontinue, explain why	Not applicable
Project Number	RAF-5
Hazards Addressed	Wildfire, Drought
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Participate in county wildfire prevention and community outreach programs
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Future programs supported by measure H and District budget
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable

Mitigation Actions	Status
Project Number	RAF-6
Hazards Addressed	Earthquake, Flooding, Landslide, Severe Weather, Tsunami, Wildfire, Drought
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Integrate the hazard mitigation plan into other plans, ordinances and programs
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable
Project Number	RAF-7
Hazards Addressed	Wildfire
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Establish a fuel management program and staff augmentation to mitigate wildfire hazards
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable
Project Number	RAF-8
Hazards Addressed	Wildfire, Earthquake, Flooding
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Designate and improve emergency evacuation routes and fire access roads in high risk areas.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	In process working with multiple agencies to improve and create no fire roads.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable

Mitigation Actions	Status
Project Number	RAF-9
Hazards Addressed	Wildfire
Lead Agency	Rancho Adobe Fire Protection District
Mitigation Action Description	Develop water supply accessibility including pipelines and water storage tanks in outlying and rural areas
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Working on getting drafting sites/ additional water storage in the high hazard areas
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No change
If discontinue, explain why	Not applicable

16.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 16-12, Rancho Adobe Fire Protection District identified the following mitigation efforts completed since the last HMP:

- Defensible space inspection program
- Sonoma County chipper program
- Caltrans/Sonoma County Roads fuel reduction

16.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Rancho Adobe Fire Protection District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Rancho Adobe Fire Protection District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in RAFPD priorities.

Table 16-13 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 16-13. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	-	-	-	X	-	-	-	-	-
Drought	X	-	X	X	X	-	X	-	-	-
Earthquake	X	X	-	-	X	-	-	-	-	X
Extreme Cold	X	-	-	-	X	-	-	-	-	-
Extreme Heat	X	-	X	-	X	-	-	-	-	-
Extreme Wind	X	-	-	-	X	-	-	-	-	-
Flood	X	X	-	-	X	-	-	-	-	X
Landslide	X	X	-	-	X	-	-	-	-	X
Wildfire	X	X	X	X	X	-	X	-	-	X

Note: Mitigation category codes as follows (see Appendix D): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 16-14 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 16-14. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Fuel Reduction and Vegetation Management	Medium	High	2	1-5 years	7.154	High
Wildfire Prevention Programs	Low	Medium	2	1-5 years	7.154	High
HMP Integration	Low	Low	5	1-5 years	6.385	Medium
Evacuation Routes	Low	Medium	2	1-10 years	6.154	Medium
Critical Facility Generators	High	Medium	7	1-5 years	5.539	Medium
Water Supply Accessibility	Medium	Medium	1	1-10 years	5.077	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-RAF-1. Critical Facility Generators

Lead Agency:	Rancho Adobe Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Flooding, Landslide, Wildfire
Description of the Problem:	The fire districts 3 fire stations had back-up generators that were outdated for the current demand of facilities to support a long public safety power shutoff.
Description of the Solution:	Purchase stationary generators for critical facilities and infrastructure that lack adequate backup power and increase the capacity and level of protection of the electrical wiring.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Wildfire Prevention Program, Coalitions and Collaboratives Action, Implementation, and Mitigation Grant, California Land Use and Climate Innovation Integrated Climate Adaptation and Resiliency Program, Staff Time, General Funds
Implementation Timeline:	1-5 Years
Objectives Met:	1, 2, 3, 4, 5, 9, 10
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	This action will allow firefighters to continue to respond to disasters and support community members during power outages, including socially vulnerable populations.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline by keeping firefighters operational during a power outage.
Impact on Capabilities:	This action will expand the capabilities of the District by allowing them to continue working during a power outage.
Climate Change Considerations:	As rain patterns shift, drought becomes more prevalent in the area, and extreme heat becomes more common, the frequency and severity of wildfires is expected to increase.
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

Action 2026-RAF-2. Fuel Reduction and Vegetation Management

Lead Agency:	Rancho Adobe Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Extreme Heat, Wildfire
Description of the Problem:	Wildfires are fueled by dead and dry vegetation, which covers a significant portion of the District.
Description of the Solution:	Develop and implement fuel reduction and vegetation management prevention program.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Wildfire Prevention Program, Coalitions and Collaboratives Action, Implementation, and Mitigation Grant, California Land Use and Climate Innovation Integrated Climate Adaptation and Resiliency Program, Staff Time, General Funds
Implementation Timeline:	1-5 Years
Objectives Met:	2, 6
Benefits:	Action will provide an immediate reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	This action decreases the fuel available to wildfires and will protect structures, including those of socially vulnerable populations.
Impact on Future Development:	A regular vegetation management program may allow for additional development in the Wildland Urban Interface.
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline by decreasing the frequency and severity of wildfires in the District.
Impact on Capabilities:	N/A
Climate Change Considerations:	As rain patterns shift, drought becomes more prevalent in the area, and extreme heat becomes more common, the frequency and severity of wildfires is expected to increase.
Mitigation Category	Natural Systems Protection
CRS Category	Emergency Services
Priority	High

Action 2026-RAF-3. Wildfire Prevention Programs

Lead Agency:	Rancho Adobe Fire Protection District Board of Directors
Supporting Agencies:	Sonoma Department of Emergency Management
Hazards of Concern:	Drought, Wildfire
Description of the Problem:	Community members are concerned about wildfires in the County but often fail to take action to mitigate their risk from wildfires.
Description of the Solution:	Participate in county wildfire prevention and community outreach programs.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Wildfire Prevention Program, Coalitions and Collaboratives Action, Implementation, and Mitigation Grant, California Land Use and Climate Innovation Integrated Climate Adaptation and Resiliency Program, Staff Time, General Funds
Implementation Timeline:	1-5 Years
Objectives Met:	2, 6
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	This action will increase the knowledge and abilities of the whole community, including socially vulnerable populations.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline by making community members more resilient to future wildfires.
Impact on Capabilities:	N/A
Climate Change Considerations:	As rain patterns shift, drought becomes more prevalent in the area, and extreme heat becomes more common, the frequency and severity of wildfires is expected to increase.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	High

Action 2026-RAF-4. HMP Integration

Lead Agency:	Rancho Adobe Fire Protection District Board of Directors
Supporting Agencies:	Sonoma County Department of Emergency Management
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	New plans, ordinances, and programs should be integrated with the 2026 Sonoma County Hazard Mitigation Plan.
Description of the Solution:	Integrate the hazard mitigation plan into other plans, ordinances and programs.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Wildfire Prevention Program, Coalitions and Collaboratives Action, Implementation, and Mitigation Grant, California Land Use and Climate Innovation Integrated Climate Adaptation and Resiliency Program, Staff Time, General Funds
Implementation Timeline:	1-5 Years
Objectives Met:	1, 4, 9, 11, 12
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	This action will increase the District's planning capabilities by aligning hazard plans.
Climate Change Considerations:	As rain patterns shift, drought becomes more prevalent in the area, and extreme heat becomes more common, the frequency and severity of wildfires is expected to increase.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-RAF-5. Evacuation Routes

Lead Agency:	Rancho Adobe Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Wildfire
Description of the Problem:	Existing evacuation routes and roads may not be sufficient to navigate District equipment during a wildfire in a high-risk area.
Description of the Solution:	Designate and improve emergency evacuation routes and fire access roads in high-risk areas.
Estimated Cost:	Low
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Wildfire Prevention Program, Coalitions and Collaboratives Action, Implementation, and Mitigation Grant, California Land Use and Climate Innovation Integrated Climate Adaptation and Resiliency Program, Staff Time, General Funds
Implementation Timeline:	1-10 Years
Objectives Met:	2, 6
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	This action will expand the capabilities of the District by allowing them to move efficiently during a wildfire.
Climate Change Considerations:	As rain patterns shift, drought becomes more prevalent in the area, and extreme heat becomes more common, the frequency and severity of wildfires is expected to increase.
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

Action 2026-RAF-6. Water Supply Accessibility

Lead Agency:	Rancho Adobe Fire Protection District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Wildfire
Description of the Problem:	Firefighting capabilities in outlying and rural areas are hampered by limited water supplies.
Description of the Solution:	Develop water supply accessibility including pipelines and water storage tanks in outlying and rural areas.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, CAL FIRE Wildfire Prevention Program, Coalitions and Collaboratives Action, Implementation, and Mitigation Grant, California Land Use and Climate Innovation Integrated Climate Adaptation and Resiliency Program, Staff Time, General Funds
Implementation Timeline:	1-10 Years
Objectives Met:	2
Benefits:	Action will provide a long-term reduction of risk for life and property.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Safety and Security lifeline by increasing firefighting capabilities in rural and outlying areas.
Impact on Capabilities:	This action will expand the capabilities of the District by allowing them to continue working in rural and outlying areas.
Climate Change Considerations:	As rain patterns shift, drought becomes more prevalent in the area, and extreme heat becomes more common, the frequency and severity of wildfires is expected to increase.
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Emergency Services
Priority	Medium

17. SONOMA COUNTY FIRE DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the Sonoma County Fire District (SCFD) with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of the Sonoma County Fire District, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

17.1 HAZARD MITIGATION PLANNING TEAM

Sonoma County Fire District identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many stakeholders. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below and shown in Table 17-1. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Cyndi Foreman, Division Chief/Fire Marshall

Address: 8200 Old Redwood Hwy, Windsor, CA 95492

Phone Number: 707-838-1170

Email: cforeman@sonomacountyfd.org

Table 17-1. Additional Contributors

Name	Department	Position	HMP Contribution
Karen Hancock	SCFD	Outreach Specialist	Outreach
Ben Nichols	CAL FIRE	Division Chief	Project planning/coordination
Ron Busch	SCFD	Fire Chief	Chiefs review

17.2 COMMUNITY PROFILE

SCFD is a consolidated fire and emergency services agency serving a large and diverse region of Sonoma County. SCFD was established in April 2019 through the merger of several long-standing fire protection districts, including the Rincon Valley Fire District (est. 1945), Windsor Fire Protection District (est. 1965), Bennett Valley Fire District (est. 1948), and the Mountain Volunteer Fire Department (est.

1968). Subsequent consolidations included the Russian River Fire Protection District (est. 1922) in 2020, the Forestville Fire Protection District (est. 1938) in 2021, and the Bodega Bay Fire Protection District in 2022 (SCFD 2025).

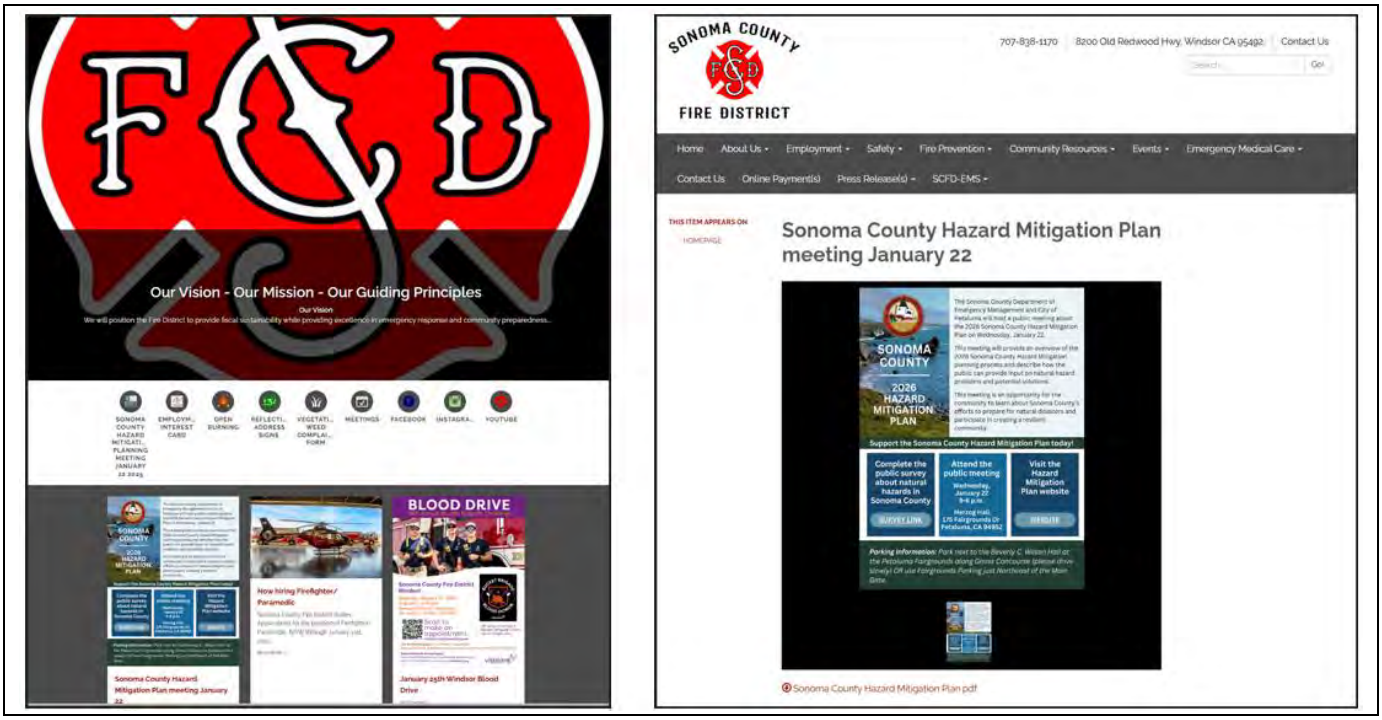
SCFD provides fire protection, emergency medical services (EMS), and disaster response across approximately 250 square miles, serving a population of over 80,000 residents. Its jurisdiction includes the communities of Windsor, Larkfield-Wikiup, Mark West, Mountain, Middle Rincon, Bennett Valley, Bellevue, Fulton, Forestville, Bodega Bay, and the Graton Casino, as well as surrounding unincorporated areas. The district operates 11 fire stations and maintains a combination staffing model, including full-time firefighters/paramedics and volunteers.

17.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Sonoma County Fire District completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

The District demonstrated its public outreach efforts by using platforms such as its website homepage. In January 2025, the District posted a flyer on its homepage announcing a public meeting to present an overview of the upcoming 2026 Hazard Mitigation Plan (see Figure 17-1).

Figure 17-1. Sonoma County Fire District Public Outreach Initiatives



The following targeted outreach was made to underserved communities and vulnerable populations:

- Bellevue Community (Population ~7,500)—Identified as an underserved, predominantly Hispanic area. SCFD hosted two community events at Andy Lopez Park, providing bilingual staff and materials. The District also participated in local school district events to increase engagement and awareness.
- In collaboration with the Guy Fieri Foundation, SCFD distributes emergency preparedness and safety information to families receiving meals, ensuring that critical resources reach those in need.
- Guerneville Community (Population ~4,522)—A lower-income area with many homes over 40 years old. SCFD has conducted multiple outreach events here, including Firewise, COPE, and CERT programs, as well as school district events and town halls with Supervisor Lynda Hopkins. All events include bilingual staff and materials.

  Senior Mobile Home Parks (55+)—SCFD serves over 32 senior mobile home parks throughout the District. The District maintains close relationships with park management to provide tailored outreach and education, including:

  - Smoke alarm installation programs
  - Post-incident town halls following fire events
  - Distribution of educational materials in community rooms and on bulletin boards
- Assisted Living Facilities—SCFD currently serves three assisted living facilities, with three additional facilities under development. Educational materials are regularly distributed to common areas to support resident safety and preparedness.
- Hospitals (Sutter & Kaiser)—Both hospitals fall within SCFD's jurisdiction. The District maintains daily coordination with these facilities to support emergency planning and response.

17.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Sonoma Water invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

17.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The California Department of Forestry and Fire Protection (CAL FIRE; Ben Nichols) and Sonoma County Fire Department (Fire Marshal Steve Mosiurchak) were invited to participate in the planning process due to their critical roles in emergency response and hazard mitigation.

17.4.2 Agencies that Have the Authority to Regulate Development

Local agencies involved in land use and development were included in the planning process to help make sure the mitigation strategies could be used in real-world projects.

- Permit Sonoma
- Town of Windsor (planning, zoning, economic development, building official, planning commission, mayor, town council)

17.4.3 Neighboring Communities

Neighboring fire agencies were invited to participate in the planning process to support regional coordination and address shared risks. Their involvement helped identify shared challenges such as overlapping service areas, mutual aid agreements, and shared infrastructure, and supported the development of coordinated mitigation strategies across jurisdictional boundaries.

- CAL FIRE
- Northern Sonoma County Fire Protection District Marshal Turbeville
- Santa Rosa Fire
- Graton Fire
- Sebastopol Fire
- Gold Ridge Fire

17.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community, utility providers, and educational institutions to ensure the mitigation plan reflected the needs and priorities of the broader community. Local chambers of commerce contributed insights on economic resilience and business continuity. Public and private water service providers offered input on infrastructure reliability and emergency preparedness. School districts across the planning area participated by sharing perspectives on student safety, facility readiness, and long-term community resilience. This diverse engagement supported strong public-private collaboration and helped shape inclusive, actionable mitigation strategies.

- Chamber of Commerce Town of Windsor, Larkfield/Santa Rosa/Guerneville/Bodega Bay
- Cal Am Water, California Water, Sonoma County Water, Forestville Water, Windsor Water, Sweetwater Springs Water, numerous private water systems
- Mark West, Windsor, Forestville, Roseland, Guerneville, Bodega Bay, Bennett Valley School Districts

17.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- Rotary, Kiwanis, Lions Clubs
- Red Cross
- Guy Fieri Foundation
- Salvation Army
- Redwood Empire Food Bank
- Catholic Charities

17.5 CHANGES IN COMMUNITY PRIORITIES

SCFD did not participate in the 2021 HMP update; therefore, the District's priorities have not changed.

17.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Sonoma County Fire District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Sonoma County Fire District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

17.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, Sonoma County Fire District possesses capabilities that are different from those of municipal governments. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 17-2 summarizes the codes, ordinances, and regulations for SCFD.

Table 17-2. SCFD Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building Codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Fire Code	The California Fire Code supports the goals of the HMP by establishing fire prevention standards that reduce the risk of wildfire and structural fires. It includes requirements for defensible space, fire-resistant materials, and emergency access, all of which are critical for protecting people, property, and infrastructure in fire-prone areas.	State CA Fire Code, 2022, amended State code	County of Sonoma
Health and Safety Code	Outlines the organizations, powers, and responsibilities of fire protection districts throughout the state.	State California Code, Health and Safety Code - HSC § 13800	County of Sonoma

Planning Documents

Table 17-3 summarizes the planning documents available to SCFD.

Table 17-3. SCFD Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Community Wildfire Protection Plan	The CWPP will guide wildfire risk reduction efforts at the local level. The CWPP identifies high-risk areas, prioritizes fuel reduction projects, and outlines strategies for defensible space, evacuation planning, and community education. Its alignment with the HMP ensures a coordinated approach to wildfire mitigation and strengthens community resilience.	County, 2023	County of Sonoma

Response and Recovery Planning Documents

SCFD does not have any response and recovery planning capabilities. This is an opportunity for the District to expand and improve its capabilities. As noted in the mitigation strategy in section 17.10, planning and policy are part of actions reducing risk from many of the hazards impacting the District.

17.6.2 Integration

The integration of regulatory codes and planning tools, such as building codes, the California Fire Code, and the Community Wildfire Protection Plan, is essential to the success of the HMP. These frameworks provide the foundation for reducing risk, enhancing public safety, and guiding resilient development across the community.

- Building Codes play a critical role by ensuring that new construction and renovations are designed to withstand local hazard conditions, including earthquakes, floods, and high winds. Their enforcement helps minimize structural damage and supports long-term community resilience.
- The California Fire Code complements these efforts by establishing fire prevention standards that reduce the risk of wildfire and structural fires. It includes requirements for defensible space, fire-resistant materials, and emergency access, all of which are vital in fire-prone areas.
- The Community Wildfire Protection Plan (CWPP) provides a locally driven strategy for identifying wildfire risks, prioritizing fuel reduction projects, and promoting public education. It supports land use planning, emergency response coordination, and community engagement, aligning closely with the goals of the HMP.

The HMP will continue to integrate these codes and plans by aligning mitigation actions with evolving standards, hazard data, and community needs. This ongoing coordination ensures that risk reduction strategies remain current, enforceable, and effective in protecting life, property, and critical infrastructure.

17.6.3 Development and Permitting Capability

Sonoma County Fire District is a special district subject to the Sonoma County and State of California building codes and land use regulations. Sonoma County Fire District does not permit or regulate

development. Development permits within the planning area are issued through Sonoma County and the Town of Windsor. Therefore, building code, land use, and development capabilities are not applicable to Sonoma County Fire District.

17.6.4 Administrative and Technical Capability

Table 17-4 summarizes the administrative bodies and programs available to support mitigation initiatives at Sonoma County Fire District.

Table 17-4. Administrative Capabilities

Resources	Available?	Comment
Planning Board	No	-
Zoning Board of Adjustment	No	-
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	No	-
Construction/Building/Code Enforcement Department	No	-
Emergency Management/Public Safety Department	Yes	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	-
Mutual aid agreements	No	-
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other	N/A	-

Table 17-5 summarizes technical staff available to Sonoma County Fire District and their current responsibilities that contribute to hazard mitigation.

Table 17-5. Technical Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	No	-
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	Yes	-
Personnel skilled or trained in GIS and/or Hazus applications	Yes	-
Staff that work with socially vulnerable populations or underserved communities	Yes	-
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	Yes	-
Grant writers	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	N/A	-

17.6.5 Fiscal Capability

Table 17-6 summarizes financial resources available to Sonoma County Fire District.

Table 17-6. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	-

17.6.6 Education and Outreach Capability

Table 17-7 summarizes the education and outreach resources available to Sonoma County Fire District.

Table 17-7. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Community Outreach Specialist/PIO Karen Hancock
Personnel skilled or trained in website development	Yes	Community Outreach Specialist/PIO Karen Hancock
Hazard mitigation information available on your website	Yes	Community Outreach Specialist/PIO Karen Hancock
Social media for hazard mitigation education and outreach	Yes	Community Outreach Specialist/PIO Karen Hancock
Citizen boards or commissions that address issues related to hazard mitigation	No	MAC's, Measure H, COPE, CERT, Firewise
Warning systems for hazard events	Yes	SCFD has own Nixle Account
Natural disaster/safety programs in place for schools	Yes	Fire & life safety education to schools (all hazard)
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	There are numerous outreach organizations and groups that support the fire district in connecting with our underserved
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Twitter, Facebook, Instagram, website, Nixle,

17.6.7 Community Classifications

Table 17-8 summarizes classifications for community programs available to Sonoma County Fire District.

Table 17-8. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	-	-	-
Building Code Effectiveness Grading Schedule	-	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Town of Windsor – 1 Varying numbers through rest of District 2 -10	2024
National Weather Service StormReady Certification	-	-	-
Firewise Communities classification	Yes	Numerous Firewise communities throughout District	-
Other: COPE	Yes	Numerous COPE groups throughout District	2017-2024

17.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 17-9 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 17-9. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flooding	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

17.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, SCFD is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within the District’s jurisdiction can be found in the annex for Sonoma County.

17.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the SCFD's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction is included in the Sonoma County annex.

17.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Sonoma County Fire District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

17.9.1 Hazard Area

Maps of the probable hazard areas within the District are shown in Figure 17-2 through Figure 17-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Sonoma County Fire District has significant exposure.

Figure 17-2. Flood, Dam Failure, Tsunami, and Sea Level Rise Hazard Area

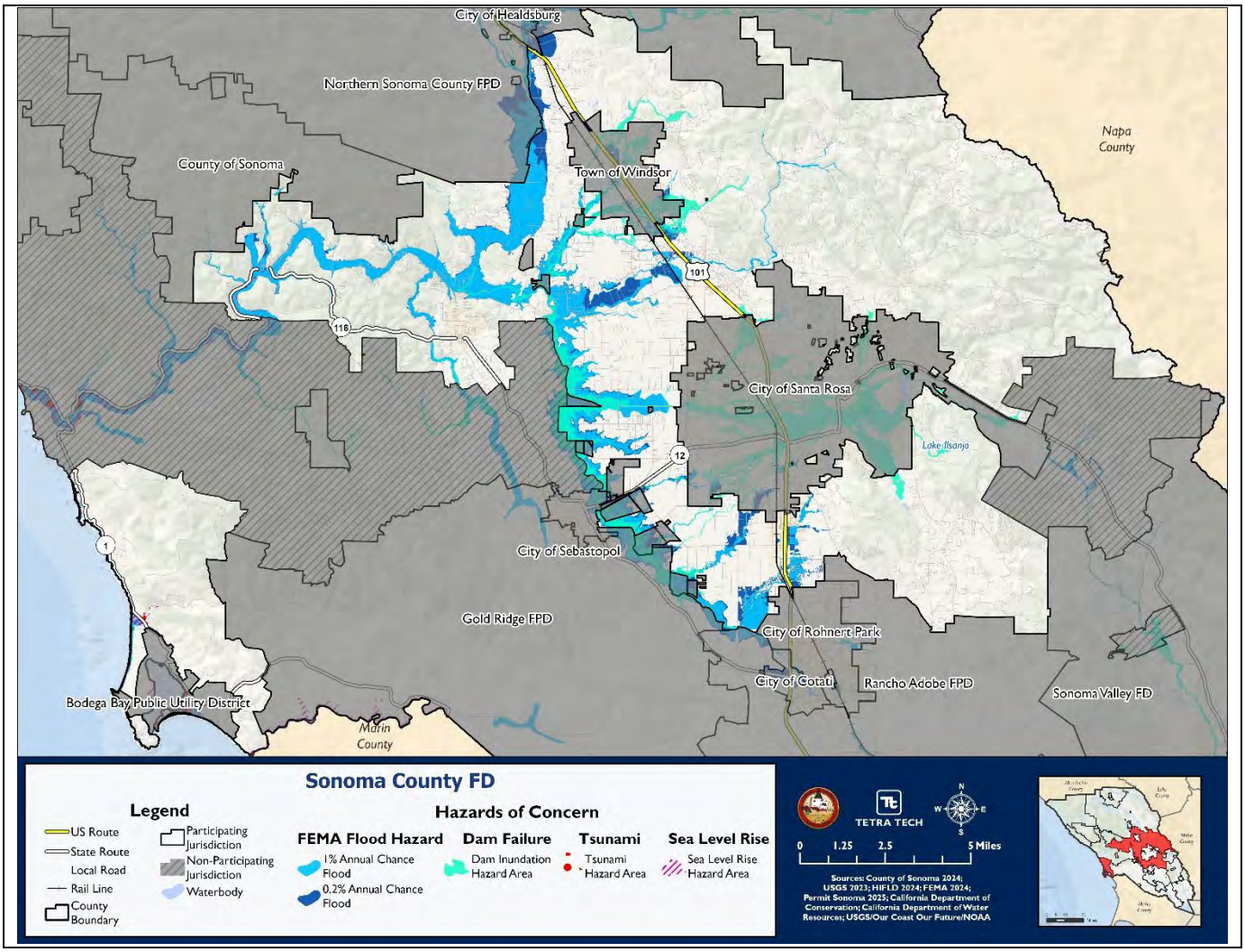
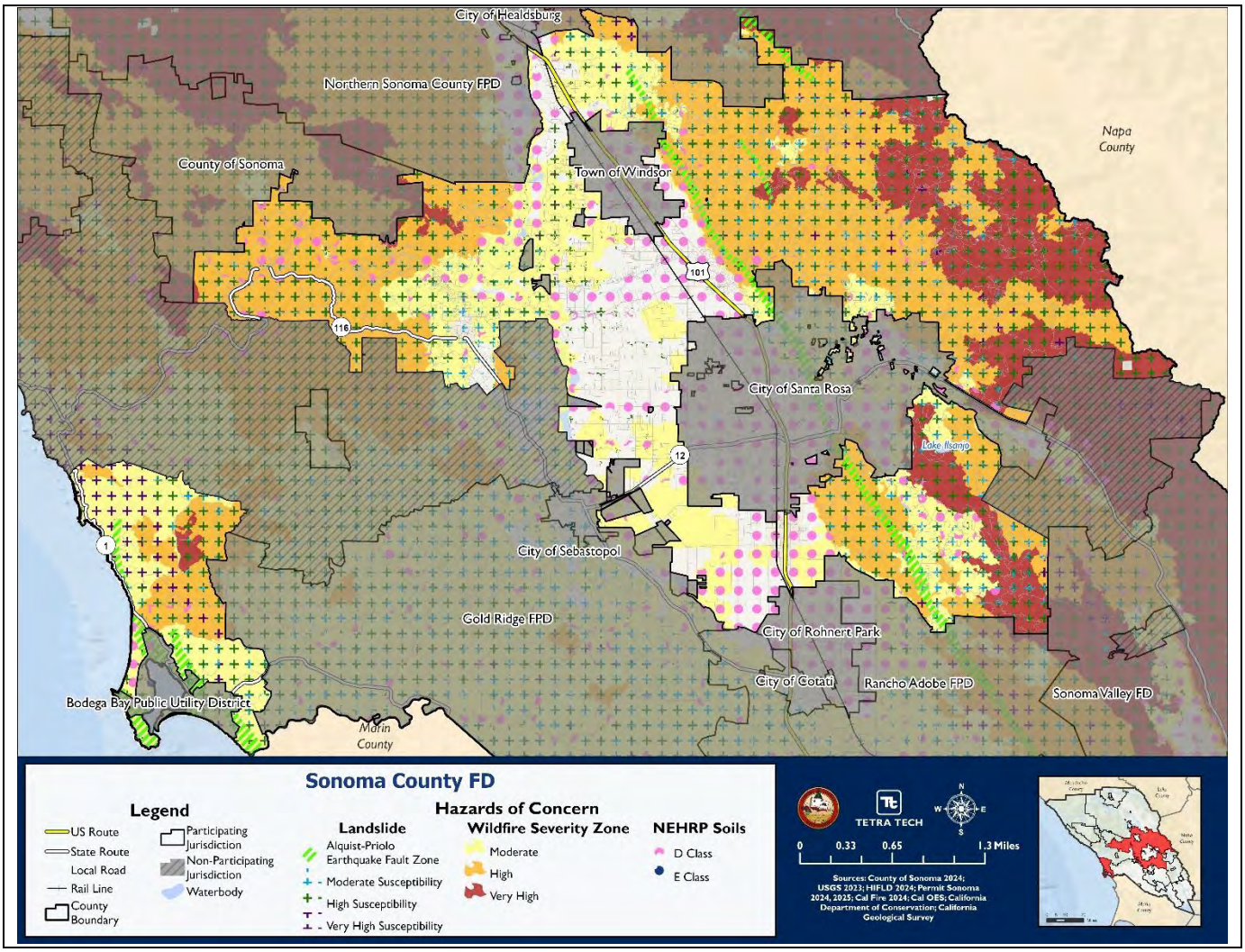


Figure 17-3. Landslide, Wildfire, and NEHRP Hazard Area



17.9.2 Hazard Event History

The history of natural and non-natural hazard events in Sonoma County Fire District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 17-10 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 17-10. Hazard Event History in Sonoma County Fire District, 2021-2025

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in the District
January 26-29, 2021	Flood and Debris Flow	A plume of moisture from the tropical Pacific brought an Atmospheric River to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	• 14 Hazardous conditions calls • 10 Public service calls • 18 Dispatched and cxl in route calls • Rolling and wide spread power outages, stations ran on generators on and off throughout event
November 8, 2021	Flood	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	• 16 Dispatched and cxl in route • 5 Public service calls • 1 Water problem call
December 13, 2021	Flood	A low pressure system descended from the Gulf of Alaska southward along the entire Pacific Coast and tapped into sub-tropical moisture originating from the Central Pacific to drop heavy rain throughout the state. Heavy rain caused flooding on Labath Ave and the closure of SR 12 between Route 116 and 8th St.	• 18 Hazardous conditions calls • 9 Tree down calls • 14 Dispatched and cxl in route • 6 Public service calls • 9 Rescue calls
January 9, 2023	Flood DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton. A 43-year old woman from Ukiah was recovered on the 10th after her car got stuck in floodwaters.	**SCFD Resolution # 2023-01 Disaster Declaration on 1/10/23** • 4 Swift water rescue • 8 Hazardous conditions calls • 7 Public service calls • 6 Dispatched and cxl in route calls • 1 Flood assessment call • Rolling and wide spread power outages, stations ran on generators on and off throughout event • Widespread low lying flooded roadways throughout District
March 9, 2023	Flood DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	• 3 Swift water rescues calls • 7 Public service calls • 8 Dispatched and cxl in route • 6 Flood assessment calls

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in the District
January 21-22, 2024	Flood	A series of frontal systems with a weak subtropical tap led to widespread rainfall and nuisance flooding across the Bay Area. Westbound California Route 116 at Travis Road was reported flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road offramp from UIS Highway 101 Northbound was closed due to standing water on the roadway. The Arata Lane offramp from US Highway 101 Northbound was closed due to standing water on the roadway. Localized flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; three inches of water flooded a trailer in less than 20 minutes.	**SCFD Resolution #2024-03 Disaster Declaration on 4/16/24 to carry through to events on 2/4/2024** • 9 Hazardous conditions calls • 14 Public service calls • 5 Tree down calls • 12 Dispatched in route calls • 5 No incident found upon arrival • Rolling and wide spread power outages, stations ran on generators on and off throughout event • Widespread low lying flooded roadways throughout District
January 31, 2024	Flood	A quick-moving cold front came through California on January 31, bringing widespread rain and high winds. A water rescue occurred on Mark West Station Road at Starr Road.	**SCFD Resolution #2024-03 Disaster Declaration on 4/16/24 to carry through to events on 2/4/2024** • 2 Swift water rescue calls • 3 Public service calls • 7 Dispatched and cxl in route calls • 2 No incident found on arrival calls • Widespread low lying flooded roadways throughout District • PI installing flood gauges on some of the commonly flood roadways and do preemptive closures

Dates of Event	Event Type	Summary of Event	Summary of Damage and Losses in the District
February 4, 2024	Flood	A cold front caused nuisance flooding and gusty winds. A second, deeper but slower moving, system followed the next day with widespread rain and gusty winds. A warm front associated with this low came through the region late on Sunday the 18th, followed by the associated cold front and associated thunderstorms on Monday the 19th. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two different spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road before and after Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound California Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. California Route 12 was closed until 8 AM due to flooding from Fremont Drive to Watmaugh Road. Creek flowing over Mark West Station Road after heavy rainfall. Mud, dirt, and rock blocking Los Alamos Road.	**SCFD Resolution #2024-03 Disaster Declaration on 4/16/24 to carry through to events on 2/4/2024** • 37 Hazardous condition calls • 64 Trees down calls • 25 Dispatch but cxl in route calls • 7 No incident found on arrival calls • 2 Swift water rescue calls • Widespread low lying flooded roadways throughout District • Trenton Healdsburg Rd. – Flooded roadway with deceased subject found in vehicle • PI installed flood gauges on some of the commonly flood roadways and do preemptive closures
February 9, 2024	Commercial vessel runs a ground Bodega Bay	The Aleutian Storm commercial fishing vessel ran a ground with crew on board	Initially this was a water rescue event to get the crew off the vessel that ran ashore and then transitioned into a Hazardous condition with the vessel becoming grounded and damaged on the beach, leaking fuel and breaking into pieces with the pounding high surf
November 2-18, 2024	Ocean Rescue	3 Separate recreational vessels (opening of crab season) on 3 sperate days sank with occupants on board resulting in a total of 8 drowning fatalities in Bodega Bay	Small craft advisory in effect on the coast
November 19-23, 2024	Flood	Atmospheric River brought wide spread flooding to much of the District impacting rivers, creeks and streams beds. Widespread tree and mudslides, and general hazardous conditions	Extensive wide spread low level flooding due to Mark West Creek

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

17.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Sonoma County Fire District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Sonoma County Fire District reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the community. Table 17-11 shows Sonoma County Fire District's final hazard rankings for identified hazards of concern. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 17-11. Hazard Ranking

Hazard	Rank
Dam Failure	Medium
Drought	Low
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flood	Medium
Landslide	Medium
Sea Level Rise	Low
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to Sonoma County Fire District. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the District. Table 17-12 summarizes additional risks specific to the District.

Table 17-12. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	SCFD may face risks from dam failure at nearby reservoirs, which could lead to flooding in certain areas of the district. Dams within or potentially affecting the District include the Azalea, Lake Helen, Airport Storage Pond 1 and 2, Shiloh Ranch, Lagunita, Foothill Regulating Park, and Donovan dams, which are all high-hazard potential dams. Several other low- and significant-hazard dams also exist in or could impact the District. Several mapped dam inundation areas cross major transportation routes, such as Highways 101 and 12, and the railroad, impacting both transportation infrastructure and the people who may be traveling at the time of failure. The populations most vulnerable to these hazards are those downstream of the reservoirs, including residents and tourists along the various waterways in the District, such as the Russian River, and SCFD's first responders who may be involved in rescue and emergency assistance
Drought	The district is susceptible to drought conditions that can significantly impact local water supply and agricultural activities. SCFD's fire-fighting activities and infrastructure depend on a sufficient supply of water. Drought can diminish the water available in the system. Populations most vulnerable to drought are people living in higher fire-risk areas, which includes most of the easternmost and westernmost parts of District, and people dependent on agricultural and forestry activities. In periods of extended drought, wineries in the District can be negatively impacted. Recreation near or on the Russian River or Laguna de Santa Rosa may also be vulnerable.
Earthquake	Sonoma County Fire District is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. Fault zones run across the western, central, and northern sides, making them especially vulnerable, although the entire district is prone to earthquakes. NEHRP Class D soils are common in the central part of the district, surrounding Windsor and Santa Rosa, making several of the high-hazard dams there vulnerable to failure. Numerous water facilities exist in the district whose service could be interrupted by an earthquake. This includes wells, water and wastewater treatment plants near Windsor, and dozens of water tanks across the District. Energy disruptions could also occur, as generating stations such as the natural gas plant in Santa Rosa and the solar facilities along the 101 could be impacted. Especially vulnerable populations include people living in mobile or older homes that are not retrofitted to withstand earthquakes, such as the numerous senior mobile home parks in the District, or travelers along Highway 101 or Highway 12. First responders from SCFD may also be vulnerable while responding to an earthquake.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the district's population and infrastructure. Elderly populations in SCFD are more vulnerable to extreme cold than the general populace, as are people living alone or in remote areas. Many senior mobile home parks exist in the district, which could be especially vulnerable. Emergency shelters and fire stations in the District can be vulnerable to extreme cold, especially if the event coincides with a power outage.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Elderly populations in SCFD are more vulnerable to extreme heat than the general populace, as are people living alone or in remote areas. Many senior mobile home parks exist in the district, which could be especially vulnerable. Highways 101, 116, and 12 can be vulnerable to extreme heat, as heat can impact road integrity. Emergency shelters and fire stations in the District can be vulnerable to extreme heat, especially if the event coincides with a power outage.

Hazard	Qualitative Local Impacts
Extreme Wind	SCFD may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Transportation along Highway 116 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses, such as the numerous senior mobile home parks in the District. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. People living in low-lying areas can be vulnerable to flooding. Tourists and travelers may be unaware of flooding risks as well, especially in areas that are within the SFHA, such as the floodplain of the Russian River west of Windsor, where several wineries are in or near the SFHA. Flooding can also endanger SCFD's first responders performing rescues. Highways 116, 12, and 101 cross SFHAs at various points in the District, making these roads vulnerable to flooding. Heavy winter rains can contribute to downed trees and power line hazards that can impact travel.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. The primary impact of landslides is the need for the District to respond to calls for emergency assistance and evacuation of residents trapped or potentially trapped by landslides. Response efforts may be hampered if roads are blocked by landslide debris. Much the eastern and western sides of SCFD is rated as having high or very high landslide susceptibility, primarily outside of the valleys. Stretches of Highway 1 and Highway 116 going through the District are in areas rated as having high or very high landslide susceptibility, making the roads vulnerable to landslides. Populations vulnerable to landslides include residents in high-landslide susceptibility areas, moderate wildfire risk areas, and those near the fault zone, as well as travelers and visitors unaware of risks. People in areas with limited communication options, such as remote or rugged terrain, can be vulnerable as well, since alerts and requests for help may not come through. SCFD first responders can be vulnerable as they perform rescues of people trapped by landslides.
Sea Level Rise	The District is at risk from sea level rise along the Pacific Ocean. As sea level rise changes the rate of erosion on beaches and sea cliffs, homes and roads could be impacted in areas such as along Highway 1. The most vulnerable populations will be people recreating or living along the coast.
Tsunami	The District is at risk from tsunami along the Pacific Ocean. People that are impacted most are likely to be elderly residents or low-income people living in remote, rural locations that can be difficult to access or provide sufficient warning to during a hazard event. Visitors at the many beaches in the district can also be vulnerable to tsunamis that allow little warning time. People living in areas with limited escape routes are especially vulnerable. Tsunamis with enough height and force can erode or surmount sea cliffs, causing damage to homes and roads, such as Highway 1.
Wildfire	The district faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. People that are impacted most are likely to be low-income people living in remote, rural locations that can be difficult to access or provide sufficient warning to during a hazard event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation. Many parts of SCFD have a high or very high severity fire risk, including most of the areas surrounding Highway 116, which is a major evacuation route for the northwestern part of the District. Travelers and tourists are also vulnerable for this reason. The District's fire fighters are especially vulnerable when responding to wildfires.

17.9.4 Identified Issues

After a review of hazard event history, hazard rankings, hazard location, and current capabilities, Sonoma County Fire District identified the following risk-related issues for the community:

- Some of the District is located on Class D soil and a fault runs through the jurisdiction. In the e event of an earthquake, there is a risk of critical facility collapse, power disruption, and infrastructure damage, especially to older water pipes on which the District depends for firefighting capacity.
- The District would be responsible for fighting wildfires within its service area and would likely be called upon to assist in fighting wildfires outside of its service area as a result of both formal and informal mutual aid agreements.
- The primary impact of landslides is the need for the District to respond to calls for emergency assistance and evacuation of residents trapped or potentially trapped by landslides. Response efforts may be hampered if roads are blocked by landslide debris.
- Localized flooding is often an issue during severe winter weather, sometimes isolating neighborhoods.
- Downed trees and power lines during extreme wind events are common and often block major roads. In these cases, the District is likely to be called upon for evacuation of isolated areas and traffic control on roads.

17.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

17.10.1 Past Mitigation Action Status

The Sonoma County Fire District did not participate in the 2021 HMP Update and has no prior mitigation actions.

17.10.2 Additional Mitigation Efforts

Sonoma County Fire District identified the following mitigation efforts completed since the last HMP:

- Firewise demonstration garden at Station #1 – Windsor Rotary & Daily Acts of Kindness along with Santa Rosa Junior College
- Bennett Valley Road shaded fuel break in conjunction annually with CAL FIRE
- Fire danger signs in four locations across the District – Eagle Scout and COPE (Citizens Organized to Prepare for Emergencies) funded
- Conducted approximately 15,000 defensible space inspections over five years throughout the District – County of Sonoma funded

- Distributed 200 “dry bags” with educational materials to help to create a go bag for families on the Russian River
- Ridge top fuel break above Odd Fellows community and ties into the Summer Home Park ridge top fuel break – funded by the County
- Two LED informational signs installed at Stations #1 & 10 – funded by DEM
- Distributed 5,000 NOAA weather radios with grant from the County
- Supported mailing cost and envelopes for three Firewise communities to solicit involvement
- Provided engine and staff support to various prescribed burns each season
- Purchased two Type 3 engines with funds from Senator McGuire’s office
- Portable radios from California Water Services
- Station #5 generator and outreach materials from Cal OES
- Firefighter behavioral health grant from California Fire Foundation
- Fire Boat Integrity from Port Security (Homeland Security)
- Fully equipped ambulance, hoses and nozzles, water tender, radios, Type 6 – all from USDA grants
- Communications enhancement from CAL FIRE VFA grant
- Extrication tools from California Fire Foundation
- Swift water rescue equipment, Tablet Command software

Since the adoption of the County’s first HMP, Sonoma County Fire District has made significant mitigation progress in the following areas:

- CALVTP completed for Eucalyptus grove adjacent to densely populated communities and into Shiloh Regional Park
  - Slated to commence in 2025 with the help of CAL FIRE, County, Montebello HOA and Cal Am Water
- Calistoga Road shaded fuel break
- Gates Road shaded fuel break
- Guernewood, Rio Nido and Hacienda shaded fuel breaks

17.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Sonoma County Fire District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Sonoma County Fire District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 17-13 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 17-13. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X	X	X	X	X	X	X	X	X
Drought	X	-	X	X	X	X	X	X	-	X
Earthquake	X	-	X	X	X	X	X	X	-	X
Extreme Cold	X	-	-	-	X	X	X	-	-	X
Extreme Heat	X	X	-	X	-	-	X	-	-	X
Extreme Wind	X	-	-	X	X	X	X	-	-	X
Flood	X	X	X	X	X	-	X	X	X	X
Landslide	X	X	X	X	X	-	X	X	-	X
Sea Level Rise	X	X	X	X	X	X	X	X	X	X
Tsunami	X	X	X	X	X	X	X	X	X	X
Wildfire	X	-	-	X	X	X	X	X	X	X

Note: Mitigation category codes as follows (see Appendix D): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 17-14 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 17-14. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Community Hazard Awareness & Preparedness	Low	Medium	7	1-5 years	7.539	High
Landslide Risk Management	Medium	Medium	7	1-5 years	6.539	Medium
Wildfire Risk Reduction	Medium	Medium	7	1-5 years	6.539	Medium
Dam Safety Risk Management	Medium	Medium	7	1-5 years	6.539	Medium
Extreme Cold Resilience	Medium	Medium	6	1-5 years	6.462	Medium
Extreme Heat Resilience	Medium	Medium	6	1-5 years	6.462	Medium
Extreme Wind Resilience	Medium	Medium	6	1-5 years	6.462	Medium
Flood Management	High	High	5	1-5 years	6.385	Medium
Drought Conditions	High	High	4	1-5 years	6.308	Medium
Sea Level Rise Adaptation	High	Medium	5	1-5 years	5.385	Medium
Seismic Retrofitting and Preparedness	High	Medium	4	1-5 years	5.308	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-SCFD-01. Drought Conditions

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought
Description of the Problem:	**1. Increased Wildfire Risk** **2. Limited Water Availability for Firefighting** **3. Impact on Equipment and Infrastructure** **4. Financial and Operational Burden** **5. Community Vulnerability** **6. Planning and Coordination Challenges** **Summary** Persistent drought poses a **compounding risk to the Sonoma County Fire District**, intensifying wildfires, reducing water supply for firefighting, and increasing costs and service demands. SCFD must adapt operations, infrastructure, and community outreach to remain effective in this water-scarce environment.
Description of the Solution:	Water supply sources, infrastructure upgrades, and community collaboration. **1. Enhance Water Storage and Supply Infrastructure** **2. Implement Water Conservation and Management Practices** **3. Upgrade and Maintain Firefighting Equipment** **4. Community Engagement and Preparedness** **5. Integrated Planning and Regional Coordination** **Summary** The solution to drought challenges involves a **multi-faceted approach** that strengthens water supply infrastructure, optimizes water use, modernizes equipment, engages the community, and enhances regional collaboration. These measures will improve SCFD's ability to effectively fight fires and protect communities during increasingly severe drought conditions.
Estimated Cost:	High
Potential Funding Sources:	**Potential Funding Sources for SCFD Drought Resilience** **1. Federal Grants** • **FEMA Assistance to Firefighters Grant (AFG) Program**. • **U.S. Department of Agriculture (USDA) Rural Development Grants** • **U.S. Department of Homeland Security (DHS) Grants** **2. State Grants and Programs** • **California Office of Emergency Services (Cal OES) Grants** • **California Department of Water Resources (DWR) Grants** • **California Climate Investments (CCI)** • **California Natural Resources Agency Grants** **3. Local and Regional Sources** • **Sonoma County Community Development Block Grants (CDBG)** • **Water Agency Partnerships** • **Public-Private Partnerships** **4. Other Sources** • **Philanthropic Foundations** • **Special Assessments or Bonds** **Summary** SCFD can leverage a combination of federal, state, local, and private funding sources to finance drought resilience initiatives—focusing on water infrastructure, equipment, training, and community engagement.
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6,13

Benefits:	• Improved water availability and firefighting capacity during drought • Reduced wildfire risk and faster response times • Enhanced protection for vulnerable communities • Lower long-term operational costs through proactive planning • Stronger regional coordination and climate adaptation
Impact on Socially Vulnerable Populations:	**1. Limited Access to Reliable Water Sources** **2. Higher Financial Burden** **3. Increased Health Risks** **4. Greater Fire Risk and Evacuation Challenges** **5. Compounded Recovery Difficulties** **Summary** Drought amplifies the challenges faced by socially vulnerable populations by limiting water access, increasing economic and health risks, and heightening wildfire danger. SCFD and partners must prioritize **equitable outreach, assistance programs, and resource access** to protect these communities.
Impact on Future Development:	**1. Water Availability Constraints** **2. Stricter Building and Environmental Regulations** **3. Increased Costs and Project Viability Challenges** **4. Greater Emphasis on Fire-Resistant and Water-Efficient Communities** **5. Shift Toward Sustainable and Climate-Resilient Development** **Summary** Drought imposes significant constraints on future development in Sonoma County by limiting water availability, increasing regulatory requirements, and elevating costs. SCFD's collaboration with planners and developers is essential to ensure growth is both **safe from fire risks and sustainable under drought conditions**.
Impact on Critical Facilities/Lifelines:	**1. Water Supply Limitations** **2. Increased Fire Risk Near Facilities** **3. Operational Stress and Increased Costs** **4. Impact on Infrastructure and Equipment** **5. Threats to Health and Safety Services** **Summary** Drought poses a critical threat to the water supply, fire safety, and operational integrity of Sonoma County's vital facilities. Proactive water management, infrastructure hardening, and contingency planning are essential to maintain continuity of services during drought conditions.
Impact on Capabilities:	**1. Reduced Water Availability for Fire Suppression** **2. Increased Wildfire Frequency and Intensity** **3. Strain on Personnel and Equipment** **4. Limitations on Training and Prevention Activities** **5. Increased Operational Costs** **6. Greater Reliance on Mutual Aid and Partnerships** **Summary** Drought reduces SCFD's firefighting effectiveness by limiting water availability, increasing fire risk and operational demands, and raising costs. To maintain capabilities, SCFD must invest in resilient infrastructure, adaptive staffing, and regional collaboration.
Climate Change Considerations:	**1. Increased Frequency and Severity of Droughts** **2. Amplified Wildfire Risk** **3. Vegetation Stress and Ecosystem Changes** **4. Water Resource Challenges** **5. Increased Community Vulnerability** **6. Need for Adaptive and Forward-Looking Planning** **Summary** Climate change exacerbates drought severity and duration in Sonoma County, increasing wildfire risk and operational challenges for SCFD. Addressing these issues requires **climate-informed planning, adaptive resource management, and community engagement** to ensure long-term resilience.

Mitigation Category	Local Plans and Regulations, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information, Natural Resource Protection, Emergency Services
Priority	Medium

Action 2026-SCFD-02. Seismic Retrofitting and Preparedness

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	**1. High Risk of Structural Damage** **2. Increased Demand for Emergency Response** **3. Disruption of Water Supplies** **4. Damage to Fire District Facilities and Equipment** **5. Access and Mobility Challenges** **6. Community Vulnerability and Preparedness Gaps** **Summary** Earthquakes in Sonoma County pose a severe threat to life, property, and infrastructure, creating complex and high-demand emergency scenarios. SCFD must prepare for rapid, large-scale response despite challenges to water supply, infrastructure damage, and resource limitations.
Description of the Solution:	**1. Strengthening Infrastructure Resilience** **2. Enhancing Fire Suppression Capabilities Post-Earthquake** **3. Expanding Emergency Training and Preparedness** **4. Improving Coordination and Communication** **5. Leveraging Technology and Data**
Estimated Cost:	High
Potential Funding Sources:	**Here are several potential funding sources Sonoma County Fire could pursue to support earthquake-related preparedness and resilience efforts:** **Federal Funding Sources** • FEMA – Hazard Mitigation Grant Program (HMGP) • FEMA – Assistance to Firefighters Grant (AFG) • U.S. Department of Homeland Security (DHS) – Urban Area Security Initiative (UASI) • U.S. Geological Survey (USGS) – Earthquake Hazards Program • Grants **State Funding Sources** • California Governor's Office of Emergency Services (Cal OES) • CAL FIRE • California Seismic Safety Commission • California Fire Safe Council – Fire Prevention Grants **Local & Regional Sources** • Measure-Approved Local Bonds or Sales Taxes • Bay Area Joint Powers Authorities or Regional Grants **Private and Nonprofit Sources** • PG&E Safety and Emergency Preparedness Grants • Private Foundations (e.g., Rockefeller Foundation, Ford Foundation) • Community Development Financial Institutions (CDFIs)
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6,13

Benefits:	**1. Faster Emergency Response** **2. Reduced Risk of Post-Earthquake Fires** **3. Lives and Property Saved** **4. Greater Community Confidence and Safety** **5. Financial Savings Over Time** **6. Strengthened Interagency Collaboration** **7. Enhanced Eligibility for Grants**
Impact on Socially Vulnerable Populations:	**Impact of Earthquakes on Socially Vulnerable Populations in Sonoma County** Earthquakes disproportionately affect socially vulnerable groups—including low-income households, elderly residents, people with disabilities, and renters in older housing—exacerbating existing challenges and increasing their risk during disaster events. 1. Greater risk from unsafe or older housing stock 2. Displacement and limited access to shelter 3. Increased health and safety risks 4. Mobility and evacuation barriers 5. Longer and more difficult recovery **Summary** Earthquakes amplify the challenges faced by socially vulnerable populations by increasing risks of housing loss, displacement, and barriers to emergency services. SCFD and partners must prioritize equitable outreach, assistance, and resource access to protect these communities.
Impact on Future Development:	**Impacts of Earthquakes on Future Development in Sonoma County** 1. Stricter building codes and seismic safety standards 2. Higher construction and retrofitting costs 3. Project delays and viability challenges 4. Greater emphasis on resilient and safe development 5. Long-term land use considerations in seismically active areas **Summary** Earthquakes shape future development in Sonoma County by driving stronger building standards, increasing construction costs, and influencing land use decisions. SCFD's collaboration with planners and developers is essential to ensure safe and resilient community growth.
Impact on Critical Facilities/Lifelines:	**Impacts of Earthquakes on Critical Facilities in Sonoma County** 1. Structural damage to facilities 2. Utility and lifeline service disruptions 3. Operational stress and emergency relocation needs 4. Damage to equipment and communications systems 5. Threats to health and safety services **Summary** Earthquakes pose a critical threat to the structural safety and functionality of Sonoma County's vital facilities. Proactive seismic retrofitting, infrastructure hardening, and continuity planning are essential to maintain operations and public safety services during and after an earthquake.
Impact on Capabilities:	**Impact of Earthquakes on SCFD Capabilities** 1. Increased emergency call volume and strain on resources 2. Potential facility and equipment damage 3. Access barriers due to road and bridge failures 4. Limitations on training and service continuity 5. Increased operational costs and recovery needs 6. Greater reliance on mutual aid and regional partnerships **Summary** Earthquakes can reduce SCFD's operational effectiveness by damaging facilities, increasing emergency demand, and restricting mobility. To maintain capabilities, SCFD must invest in resilient infrastructure, surge staffing plans, and strong mutual aid coordination.

Climate Change Considerations:	1. Potential for Earthquake Impacts to Compound Climate Hazards 2. Added Strain on Recovery from Multi-Hazard Events 3. Vulnerability of Critical Infrastructure to Cascading Impacts 4. Need for Climate-Informed Seismic Resilience Planning 5. Increased Community Vulnerability in Repeated Disaster Scenarios 6. Emphasis on Integrated Hazard Mitigation **Summary** While climate change does not directly cause earthquakes, it increases the likelihood of overlapping and compounding disasters. Planning for seismic resilience within the broader context of climate change ensures that SCFD and Sonoma County are prepared for multi-hazard challenges
Mitigation Category	Local Plans and Regulations, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information, Natural Resource Protection, Emergency Services
Priority	Medium

Action 2026-SCFD-03. Extreme Cold Resilience

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Extreme Cold
Description of the Problem:	**1. Increased Emergency Calls** **2. Strain on Firefighting Operations** **3. Vulnerable Infrastructure** **4. Greater Risk for Vulnerable Populations** **5. Limited Preparedness and Equipment** **Summary** Extreme cold events are an emerging threat for Sonoma County Fire District. These conditions strain emergency response systems, endanger vulnerable populations, and expose infrastructure and operational weaknesses that must be addressed through **cold-weather preparedness, training, and coordination**.
Description of the Solution:	**1. Infrastructure and Equipment Upgrades** **2. Specialized Training and Preparedness** **3. Enhanced Emergency Response Planning** **4. Community Outreach and Education** **5. Interagency Coordination** **6. Funding and Resource Allocation**
Estimated Cost:	Medium
Potential Funding Sources:	**Federal Funding Sources** 1. **FEMA – Hazard Mitigation Grant Program (HMGP)** 2. **FEMA – Assistance to Firefighters Grant (AFG)** 3. **Department of Health and Human Services (HHS) – Emergency Preparedness Grants** **State Funding Sources** 5. **California Office of Emergency Services (Cal OES)** 6. **California Department of Community Services and Development (CSD)** 7. **California Energy Commission (CEC)** **Local and Regional Sources** 8. **Sonoma County General Fund and Special District Revenues** 9. **Regional Climate and Resilience Grants** **Private and Nonprofit Funding** 10. **Utility Company Grants (e.g., PG&E)** 11. **Foundations Focused on Disaster Resilience and Vulnerable Populations** **Additional Strategies** • **Public-Private Partnerships (P3s)** • **Community Fundraising and Grants**
Implementation Timeline:	1-5 Years
Objectives Met:	1,2,4,10,12,13
Benefits:	**1. Enhanced Emergency Response and Safety** **2. Protection of Vulnerable Populations** **3. Increased Infrastructure Resilience** **4. Reduced Healthcare and Economic Costs** **5. Stronger Community Trust and Preparedness** **6. Better Interagency Collaboration** **7. Eligibility for Additional Funding**

Impact on Socially Vulnerable Populations:	**Challenges Faced by Socially Vulnerable Populations** 1. **Increased Health Risks** 2. **Housing Instability and Homelessness** 3. **Limited Access to Resources** 4. **Communication and Awareness Gaps** **Positive Impacts of Addressing Extreme Cold** 1. **Life-Saving Services and Outreach** 2. **Improved Health Outcomes** 3. **Greater Equity in Emergency Preparedness** 4. **Reduced Long-Term Costs and Strain on Systems** **Conclusion** Addressing extreme cold impacts through fire district preparedness and community support is **critical to protecting Sonoma County's most vulnerable residents**, saving lives, and promoting resilience equity.
Impact on Future Development:	**1. Building and Infrastructure Design Changes** **2. Land Use and Zoning Considerations** **3. Infrastructure Investment Priorities** **4. Increased Costs and Insurance Implications** **5. Climate Adaptation Integration** **6. Enhanced Community Preparedness and Awareness** **Conclusion** Addressing extreme cold conditions in future development promotes **safer, more resilient communities** in Sonoma County, though it may require upfront investment and careful planning to balance cost and safety.
Impact on Critical Facilities/Lifelines:	**1. Vulnerability to Infrastructure Damage** **2. Operational Disruptions** **3. Increased Maintenance and Operational Costs** **4. Impact on Emergency Shelter and Healthcare Capacity** **5. Resilience Benefits from Preparedness** **Conclusion** Extreme cold conditions present serious risks to the **infrastructure and operation of critical facilities** in Sonoma County. Investing in cold-weather resilience is essential to maintaining **life-saving services and protecting the community** during winter emergencies.
Impact on Capabilities:	**1. Reduced Response Efficiency** **2. Increased Operational Challenges** **3. Impact on Training and Drills** **4. Greater Need for Multi-Hazard Preparedness** **5. Opportunities for Capability Enhancement** **Conclusion** Extreme cold conditions challenge Sonoma County Fire District's ability to **respond quickly and safely**, but with targeted investments in equipment, training, and planning, these impacts can be minimized—strengthening the department's overall capabilities.
Climate Change Considerations:	**1. Increased Weather Extremes and Variability** **2. Compound Hazards** **3. Infrastructure Stress and Resilience** **4. Vulnerable Populations at Greater Risk** **5. Necessity for Integrated Climate Adaptation** **6. Opportunities for Sustainable Investments** **Conclusion** Climate change adds complexity to extreme cold event preparedness, making it essential for Sonoma County Fire District to **adopt flexible, multi-hazard, and climate-informed approaches** to protect the community effectively.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SCFD-04. Extreme Heat Resilience

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Extreme Heat
Description of the Problem:	1. **Increased Fire Risk and Fire Behavior** 2. **Strain on Firefighter Health and Safety** 3. **Higher Emergency Call Volume and Resource Demand** 4. **Impact on Equipment and Infrastructure** 5. **Vulnerable Populations at Greater Risk** 6. **Complications in Multi-Hazard Events**
Description of the Solution:	1. **Enhanced Fire Prevention and Mitigation Efforts** 2. **Improved Firefighter Health and Safety Protocols** 3. **Upgrade Facilities and Equipment** 4. **Expand Emergency Medical Response Capacity** 5. **Community Outreach and Support Programs** 6. **Integrate Climate Resilience Planning**
Estimated Cost:	Medium
Potential Funding Sources:	**Federal Funding Sources** 1. **FEMA Hazard Mitigation Grant Program (HMGP)** 2. **FEMA Assistance to Firefighters Grant (AFG)** 3. **U.S. Department of Energy (DOE) – Energy Efficiency and Renewable Energy Grants** 4. **Centers for Disease Control and Prevention (CDC) – Public Health Emergency Preparedness Grants**
	State Funding Sources 1. **California Climate Investments (CCI)** 2. **California Office of Emergency Services (Cal OES) Grants** 3. **California Energy Commission (CEC) Grants**
	Local and Regional Funding 1. **Sonoma County Local Government Grants** 2. **Regional Climate Collaboratives and Foundations**
	Other Potential Sources • **Private Foundations and Nonprofits** • **Public-Private Partnerships**
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,10,12,13
Impact on Socially Vulnerable Populations:	**1. Improved Access to Life-Saving Information** **2. Increased Use of Cooling Centers and Public Services** **3. Early Warning and Evacuation Support** **4. Reduction in Emergency Incidents** **5. Stronger Community Support Networks** **6. Empowerment and Resilience** **7. Reduced Disparities in Disaster Outcomes**

Impact on Future Development:	1. **Building Design and Construction Standards** 2. **Land Use and Urban Planning** 3. **Energy Demand and Infrastructure** 4. **Water Resource Management** 5. **Public Health and Safety Considerations** 6. **Fire Risk and Mitigation Integration** **Summary** Extreme heat will drive changes in **building codes, infrastructure design, land use policies, and emergency preparedness**, shaping Sonoma County's future development toward more climate-resilient, safe, and sustainable communities.
Impact on Critical Facilities/Lifelines:	1. **Increased Cooling Demand and Energy Stress** 2. **Risk of Power Failures** 3. **Equipment and Infrastructure Vulnerability** 4. **Operational Challenges for Emergency Services** 5. **Maintenance and Lifecycle Impacts** **Conclusion** Extreme heat poses significant challenges to the **functionality, safety, and reliability of critical facilities** in Sonoma County. Investing in robust cooling systems, backup power, and heat-resilient infrastructure is essential to maintain emergency response capabilities and protect public health during heat events.
Impact on Capabilities:	**Impact on Fire District Capabilities Due to Extreme Heat** 1. **Reduced Firefighter Performance and Safety** 2. **Increased Demand on Emergency Services** 3. **Equipment and Vehicle Reliability Challenges** 4. **Training and Preparedness Limitations** 5. **Logistical and Resource Constraints** **Conclusion** Extreme heat challenges Sonoma County Fire District's ability to **maintain effective, safe, and timely emergency response**. Addressing these impacts through enhanced training, equipment upgrades, and health protocols is critical to sustaining operational capabilities.
Climate Change Considerations:	**Climate Change Considerations for Extreme Heat** 1. **Increasing Frequency and Intensity of Heatwaves** 2. **Extended Fire Seasons** 3. **Compound Climate Hazards** 4. **Vulnerable Populations at Greater Risk** 5. **Need for Sustainable and Resilient Infrastructure** 6. **Policy and Funding Shifts** **Conclusion** Climate change amplifies extreme heat challenges in Sonoma County, requiring the fire district to adopt **adaptive, multi-hazard, and equity-focused strategies** to safeguard public safety and operational effectiveness.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP), Education and Awareness Programs (EAP)
Priority	Medium

Action 2026-SCFD-05. Extreme Wind Resilience

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Extreme Wind
Description of the Problem:	1. **Rapid Fire Spread** 2. **Safety Risks to Firefighters and Residents** 3. **Communication and Power Disruptions** 4. **Infrastructure Damage** 5. **Increased Demand on Resources** 6. **Community Vulnerability**
Description of the Solution:	1. **Enhanced Fire Prevention and Vegetation Management** 2. **Improved Early Warning and Monitoring Systems** 3. **Strengthened Infrastructure Resilience** 4. **Enhanced Emergency Response and Evacuation Planning** 5. **Equip and Train Personnel for Wind-Driven Fire Scenarios** 6. **Interagency Coordination and Communication** 7. **Community Outreach and Support for Vulnerable Populations**
	Summary Implementing these solutions improves Sonoma County Fire District's ability to anticipate, respond to, and mitigate the impacts of extreme wind events, ultimately enhancing public safety and operational effectiveness.
Estimated Cost:	Medium
Potential Funding Sources:	**Federal Funding Sources** 1. **FEMA Hazard Mitigation Grant Program (HMGP)** 2. **FEMA Assistance to Firefighters Grant (AFG)** 3. **Department of Homeland Security (DHS) - Emergency Operations Center Grants** 4. **U.S. Forest Service Grants**
	State Funding Sources 1. **California Office of Emergency Services (Cal OES) Grants** 2. **California Climate Investments (CCI)** 3. **California Department of Forestry and Fire Protection (CAL FIRE) Grants**
	Local and Regional Funding 1. **Sonoma County Local Government Grants** 2. **Regional Fire Safe Councils and Nonprofits**
	Other Potential Sources • **Private Foundations and Corporate Sponsorships** • **Public-Private Partnerships**
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,10,12,13

Benefits:	1. **Reduced Wildfire Risk and Damage** 2. **Increased Firefighter and Public Safety** 3. **Improved Emergency Response and Coordination** 4. **Greater Community Resilience and Awareness** 5. **Protection of Critical Infrastructure** 6. **Long-Term Cost Savings** **Summary** By tackling extreme wind challenges, Sonoma County Fire District strengthens safety, operational readiness, and community resilience, leading to healthier, safer, and more prepared communities.
Impact on Socially Vulnerable Populations:	Benefits low-income individuals, elderly populations, and medically fragile residents.
Impact on Future Development:	**1. Increased Risk to New Construction** **2. Stricter Building Codes and Design Standards** **3. Limitations on Development Locations** **4. Infrastructure Investment Needs** **5. Increased Insurance Costs and Financing Challenges** **6. Urban Planning and Community Design Changes** **7. Resilience and Sustainability Integration** **8. Potential Delays and Costs Due to Regulatory Compliance** **Summary** Extreme wind events shape the future of development by imposing **safety-driven regulations, infrastructure requirements, and design adaptations**. While this may increase initial costs and complexity, it also presents an opportunity to build more resilient, sustainable, and safer communities—reducing long-term risks and protecting lives and property.
Impact on Critical Facilities/Lifelines:	**1. Structural Damage and Operational Disruption** **2. Power Outages and Backup Power Challenges** **3. Communication System Failures** **4. Access and Safety Risks** **5. Water and Wastewater System Vulnerability** **6. Emergency Shelter Capacity and Safety** **7. Increased Maintenance and Operational Costs**
Impact on Capabilities:	**1. Reduced Emergency Response Effectiveness** **2. Strain on Communication and Coordination** **3. Decreased Infrastructure Reliability** **4. Increased Demand for Resources** **5. Personnel Safety and Operational Limitations** **6. Limited Access to Affected Areas** **7. Challenges in Maintaining Continuity of Critical Services** **Summary** Extreme wind events **significantly degrade the operational capabilities** of emergency responders, utilities, and community support systems by creating hazardous working conditions, damaging critical infrastructure, and increasing demand. Enhancing preparedness, training, and resource allocation is vital to maintain effective response and recovery.

Climate Change Considerations:	**1. Increased Frequency and Intensity of Wind Events** **2. Longer and More Severe Fire Seasons** **3. Compound Weather Hazards** **4. Changing Vegetation and Landscape Patterns** **5. Increased Vulnerability of Infrastructure** **6. Need for Adaptive Planning and Investment** **7. Health and Social Equity Implications** **Summary** Climate change is intensifying the **severity, frequency, and complexity** of extreme wind events, requiring Sonoma County and similar regions to adopt **forward-looking, adaptive strategies**. Proactive investment in resilient infrastructure, emergency preparedness, and community outreach will be critical to mitigate escalating risks.
Mitigation Category	Local Plans and Regulations (LPR), Education and Awareness Programs (EAP)
Priority	Medium

Action 2026-SCFD-06. Flood Management

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	1. **Seasonal and Intense Rainfall Events** 2. **Riverine Flooding** 3. **Coastal and Tidal Flooding** 4. **Urban Flooding and Drainage Issues** 5. **Landslide and Debris Flow Risks** 6. **Climate Change Amplification** **Impacts of Flooding in Sonoma County:** • Damage to homes, businesses, roads, bridges, and utilities. • Threats to public safety, including injury, displacement, and loss of life. • Economic losses due to business interruption and costly repairs. • Environmental degradation, including erosion and water quality issues. **Summary** Flooding in Sonoma County is a **multi-faceted hazard** influenced by seasonal storms, topography, urban development, and climate change. Effective flood management requires coordinated efforts in infrastructure improvement, land use planning, emergency preparedness, and environmental conservation.
Description of the Solution:	**1. Improved Flood Infrastructure** **2. Natural Flood Management** **3. Land Use Planning and Zoning** **4. Early Warning Systems and Monitoring** **5. Emergency Preparedness and Response** **6. Community Engagement and Equity** **7. Climate Change Adaptation** **Summary** A combination of **engineering, nature-based solutions, policy, community action, and adaptive planning** is essential to effectively manage flooding in Sonoma County. These solutions reduce flood risk, protect lives and property, and enhance long-term resilience in the face of evolving climate challenges.
Estimated Cost:	High
Funding Sources	To address flooding problems in the Sonoma County Fire District, you can explore a variety of potential funding sources, including federal, state, local, and private grants or programs. Here are some options to consider: **Federal Funding Sources** 1. **Federal Emergency Management Agency (FEMA) – HMGP, PDM, FMA** 2. **U.S. Army Corps of Engineers (USACE)** 3. **Environmental Protection Agency (EPA)** 4. **Department of Agriculture (USDA) – Natural Resources Conservation Service (NRCS)** **State of California Funding Sources** 1. **California Department of Water Resources (DWR)** 2. **California Office of Emergency Services (Cal OES)** 3. **California State Water Resources Control Board** 4. **California Climate Investments** **Local and Regional Sources** 1. **Sonoma County Flood Control District** 2. **Special Districts and Water Agencies** 3. **Local Bond Measures or Taxes** **Private and Nonprofit Funding** 1. **Private Foundations and Grants** 2. **Corporate Sponsorships or Partnerships** 3. **Public-Private Partnerships (PPP)**

Implementation Timeline:	1-5 years
Objectives Met:	3,5,6,7,10
Benefits:	**1. Reduced Flood Damage** **2. Enhanced Public Safety** **3. Improved Water Quality and Ecosystem Health** **4. Increased Community Resilience** **5. Sustainable Urban Development** **6. Economic Stability** **7. Cost Savings Over Time** **8. Climate Change Adaptation** **Key Takeaway** Investing in comprehensive flood solutions not only safeguards lives and property but also promotes a healthier environment, stronger economy, and more resilient communities ready to face future challenges.
Impact on Socially Vulnerable Populations:	1. **Health Risks** 2. **Economic Hardship** 3. **Reduced Mobility and Access** 4. **Psychosocial Stress** 5. **Infrastructure Disparities**
Impact on Future Development:	**1. Restrictions on Development in Flood-Prone Areas** **2. Increased Construction Costs** **3. Infrastructure Planning Challenges** **4. Insurance and Financing Implications** **5. Community and Environmental Considerations** **6. Long-Term Sustainability and Resilience** **Summary** Flooding shapes future development by imposing **regulatory, financial, and design constraints** that encourage safer and more resilient building practices. Thoughtful planning can reduce risk exposure while supporting sustainable growth in Sonoma County.
Impact on Critical Facilities/Lifelines:	**1. Physical Damage and Operational Disruption** **2. Power and Utility Interruptions** **3. Access and Evacuation Challenges** **4. Contamination Risks** **5. Increased Maintenance and Recovery Costs** **6. Need for Enhanced Flood Protection Measures** **Summary** Flooding poses significant threats to the **functionality, safety, and accessibility** of critical facilities, jeopardizing essential services during emergencies. Strengthening flood resilience is vital to ensure continuous operation and community safety.
Impact on Capabilities:	**1. Reduced Emergency Response and Rescue Operations** **2. Communication and Coordination Disruptions** **3. Utility Service Interruptions** **4. Increased Demand on Resources** **5. Personnel Safety and Operational Challenges** **6. Limited Access to Critical Infrastructure** **Summary** Flooding impairs the **effectiveness, safety, and reach** of emergency response, utilities, and community services. Enhancing flood preparedness, infrastructure resilience, and resource management is essential to maintain capabilities during flood events.

Climate Change Considerations:	**1. Increased Frequency and Intensity of Heavy Rainfall** **2. Sea Level Rise and Coastal Flooding** **3. Changes in Snowpack and Runoff Patterns** **4. More Frequent and Severe Wildfires** **5. Infrastructure Vulnerability** **6. Impacts on Water Resources Management** **7. Need for Adaptive and Integrated Planning** **Summary** Climate change is intensifying flood risks in Sonoma County through heavier rains, rising seas, and altered landscapes. Proactive, adaptive measures are essential to protect communities, infrastructure, and ecosystems in this changing environment.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP), Education and Awareness Programs (EAP)
Priority	Medium

Action 2026-SCFD-07. Landslide Risk Management

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Landslide
Description of the Problem:	**1. Geographic and Environmental Factors – soil, terrain, vegetation, rainfall patterns**
	2. Impact of Wildfires on Landslide Risk - Post-Fire Debris Flows, **Recovery Areas**:
	3. Challenges for the Sonoma County Fire District • **Access and Mobility** • **Infrastructure Damage** • **Public Safety** • **Resource Strain**
	4. Mitigation and Preparedness • **Risk Mapping and Monitoring** • **Community Education** • **Interagency Coordination**
	5. Looking Ahead Climate change is increasing the frequency of extreme weather events and intensifying wildfire seasons, both of which raise the probability and severity of landslides. This means the Sonoma County Fire District must continue evolving its planning and response strategies to handle compound disasters.
Description of the Solution:	**Integrated Landslide Risk Management Plan** **1. Pre-Disaster Mitigation and Prevention** **A. Slope Stabilization Projects** **B. Improved Drainage Infrastructure** **C. Wildfire Recovery Best Practices**
	2. Early Warning and Monitoring Systems **A. Real-Time Monitoring** **B. Early Warning Alerts**
	3. Community Education and Preparedness **A. Resident Training and Evacuation Plans** **B. Defensible Infrastructure**
	4. Response and Emergency Coordination **A. Prepositioning Resources** **B. Unified Command with Other Agencies**
	5. Funding and Policy Support **A. Secure Grants and State Aid** **B. Update Zoning and Building Codes**
Estimated Cost:	

Potential Funding Sources:	**Federal Funding Sources** 1. **Federal Emergency Management Agency (FEMA) – HMGP, PDM, PA** 2. **U.S. Geological Survey (USGS)** 3. **U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)** 4. **National Oceanic and Atmospheric Administration (NOAA)**
	State of California Funding Sources 1. **California Department of Conservation – California Geological Survey** 2. **California Office of Emergency Services (Cal OES)** 3. **California Department of Water Resources (DWR)** 4. **California Natural Resources Agency**
	Local and Regional Sources 1. **Sonoma County Emergency Management or Public Works Departments** 2. **Local Flood Control or Watershed Districts** 3. **Special Assessment Districts or Local Bonds**
	Private and Nonprofit Funding 1. **Environmental Foundations and Grants** 2. **Corporate Social Responsibility (CSR) Programs**
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,8,9,13
Benefits:	**1. Increased Public Safety** **2. Enhanced Emergency Response** **3. Reduced Damage to Infrastructure** **4. Lower Long-Term Costs** **5. Improved Community Resilience** **6. Environmental Protection** **7. Strengthened Public Trust**
Impact on Socially Vulnerable Populations:	**1. Location in High-Risk Areas** **2. Limited Resources for Preparedness** **3. Language and Information Barriers** **4. Transportation and Mobility Challenges**
	How the Solution Helps Socially Vulnerable Populations **1. Equity-Centered Risk Mapping** **2. Targeted Outreach and Education** **3. Inclusive Early Warning Systems** **4. Assistance with Evacuation and Recovery** **5. Financial and Technical Support**
Impact on Future Development:	**1. Stricter Land Use and Zoning Regulations** **2. Increased Building Standards** **3. Influence on Infrastructure Planning** **4. Sustainable and Resilient Growth Patterns** **5. Insurance and Lending Considerations** *discourage unsafe development, protecting both residents and financial institutions.* **Positive Long-Term Outcomes** ✔ **Safer, Smarter Communities** ✔ **Environmental Protection** ✔ **Alignment with State Policy and Climate Goals**

Impact on Critical Facilities/Lifelines:	**1. Transportation Systems** **2. Water and Wastewater Systems** **3. Power and Communications** **4. Emergency Facilities** **5. Fuel and Supply Chains**
Impact on Capabilities:	**1. Emergency Response Delays** **2. Personnel Safety Risks** **3. Strain on Resources** **4. Communication Disruptions** **5. Evacuation and Shelter Operations** **6. Increased Training and Equipment Needs** **7. Impaired Long-Term Recovery Support**
Climate Change Considerations:	**1. More Frequent and Intense Wildfires** **2. Heavier and More Intense Rainfall** **3. Drought Followed by Rainfall** **4. Sea Level Rise and Coastal Erosion** **5. Strain on Emergency Systems** **6. Vulnerable Populations Are More at Risk**
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP), Education and Awareness Programs (EAP)
Priority	Medium

Action 2026-SCFD-08. Sea Level Rise Adaptation

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Sea Level Rise
Description of the Problem:	Sonoma County, while largely inland and mountainous, includes **coastal communities and critical infrastructure near the Pacific Ocean and tidal rivers**, such as along the Russian River estuary and Tomales Bay. Rising sea levels driven by climate change pose a growing challenge to the Sonoma County Fire District in several key ways: **1. Increased Flooding and Coastal Erosion** **2. Saltwater Intrusion into Freshwater Systems** **3. Increased Frequency of Compound Flooding Events** **4. Infrastructure Vulnerability** **5. Community and Population Risks** **Summary** Sea level rise exacerbates existing hazards and creates **new challenges for emergency preparedness, infrastructure protection, and community safety** in Sonoma County's coastal and estuarine zones. For the Sonoma County Fire District, this means adapting to **more frequent flooding, compromised access, strained water resources, and the need for resilient infrastructure and response strategies** to continue protecting life and property.
Description of the Solution:	**1. Infrastructure Adaptation and Hardening** **2. Enhanced Water Resource Management** **3. Improved Emergency Planning and Response** **4. Monitoring and Early Warning Systems** **5. Collaboration and Regional Partnerships** **6. Land Use and Development Coordination** **Summary** By combining infrastructure hardening, water resource management, improved emergency preparedness, and regional collaboration, the Sonoma County Fire District can **effectively reduce the risks posed by sea level rise**, maintain critical services, and protect vulnerable communities.
Estimated Cost:	High

Potential Funding Sources:	**Potential Funding Sources for Sea Level Rise Solutions** **1. Federal Grants and Programs** • **FEMA Hazard Mitigation Assistance (HMA) Programs** • **FEMA Flood Mitigation Assistance (FMA)** • **US Department of Housing and Urban Development (HUD) – Community Development Block Grant – Disaster Recovery (CDBG-DR)** • **NOAA Coastal Resilience Grants** • **US Army Corps of Engineers (USACE) Civil Works Projects** **2. State of California Funding** • **California Office of Emergency Services (Cal OES)** • **California Department of Water Resources (DWR) – Flood Management Grants** • **California Coastal Conservancy Grants** • **California Climate Investments (CCI)** • **CAL FIRE's Fire Prevention Grants** **3. Regional and Local Funding Opportunities** • **Sonoma County Agricultural Preservation and Open Space District Grants** • **Bay Area Air Quality Management District (BAAQMD) Grants** • **Local Bond Measures and Special District Funding** **4. Private and Nonprofit Foundations** • **The Nature Conservancy and other environmental foundations** • **The Rockefeller Foundation** • **Insurance Industry Grants**
Implementation Timeline:	1-5 years
Objectives Met:	2,6,7,9, 13
Benefits:	**1. Enhanced Public Safety and Life Protection** **2. Increased Operational Resilience** **3. Reduced Economic Loss and Recovery Costs** **4. Improved Environmental and Community Health** **5. Strengthened Community Trust and Preparedness** **6. Access to Funding and Partnership Opportunities** **7. Long-Term Sustainability and Climate Adaptation**
Impact on Socially Vulnerable Populations:	**1. Disproportionate Risk of Flooding and Displacement** **2. Limited Access to Information and Resources** **3. Health and Safety Risks** **4. Economic Hardships** **5. Challenges in Recovery and Rebuilding** **Implications for SCFD** **Summary** Sea level rise amplifies vulnerabilities for already at-risk populations in Sonoma County, making **equitable emergency response and resilience-building essential** for SCFD's mission to protect all community members safely and effectively.

Impact on Future Development:	**1. Restrictions on Development in Flood-Prone Areas** **2. Higher Construction and Insurance Costs** **3. Need for Climate-Resilient Infrastructure** **4. Shift Toward Infill and Higher Ground Development** **5. Challenges for Emergency Access and Response** **6. Potential for Increased Displacement and Housing Demand** **Summary** Sea level rise will drive Sonoma County's future development toward more resilient, carefully planned growth—restricting vulnerable areas while increasing the importance of infrastructure and emergency service adaptation. For SCFD, proactive involvement in land-use planning and climate-smart infrastructure development is crucial to ensure continued effective emergency response and community protection.
Impact on Critical Facilities/Lifelines:	**1. Flooding of Fire Stations and Emergency Operations Centers** **2. Compromised Emergency Communications Infrastructure** **3. Disruption of Transportation and Access Routes** **4. Impacts on Water Supply Systems** **5. Power Outages and Backup System Vulnerabilities** **6. Increased Maintenance and Retrofit Costs** **Summary** Sea level rise poses a significant threat to the **functionality and reliability of critical SCFD facilities**, risking operational disruptions, increased costs, and challenges to effective emergency response. Proactive planning, infrastructure upgrades, and strategic siting are essential to maintaining resilience and protecting public safety.
Impact on Capabilities:	**1. Reduced Emergency Response Efficiency** **2. Strain on Resources and Personnel** **3. Compromised Communication and Coordination** **4. Challenges in Maintaining Water Supply for Firefighting** **5. Vulnerability of Critical Facilities** **6. Need for Specialized Training and Equipment** **Summary** Sea level rise poses a multi-faceted challenge to SCFD's capabilities, affecting **response times, resource availability, communications, and operational readiness**. Addressing these impacts through infrastructure upgrades, training, and planning is essential to maintain effective emergency services in a changing climate.
Climate Change Considerations:	**1. Increasing Frequency and Intensity of Extreme Weather Events** **2. Accelerated Sea Level Rise** **3. Compound Hazards and Cascading Effects** **4. Saltwater Intrusion and Ecosystem Changes** **5. Vulnerable Populations and Social Equity** **6. Infrastructure Resilience and Adaptation** **7. Collaboration and Policy Alignment** **Summary** Considering climate change in planning allows the Sonoma County Fire District to **anticipate future risks, build resilient operations, protect vulnerable communities, and respond effectively to an evolving emergency landscape** shaped by sea level rise and other climate impacts.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP), Education and Awareness Programs (EAP)
Priority	Medium

Action 2026-SCFD-09. Community Hazard Awareness & Preparedness

Lead Agency:	Sonoma Couty Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Tsunami
Description of the Problem:	1. **Rapid Onset and Limited Warning Time** 2. **Coastal Flooding and Inundation** 3. **Potential for Multiple Cascading Hazards** 4. **Vulnerable Populations at Higher Risk** 5. **Infrastructure Vulnerability** 6. **Public Awareness and Preparedness Gaps** **Summary** Tsunamis represent a **low-frequency but high-consequence hazard** for Sonoma County Fire District, requiring **robust early warning systems, rapid response capabilities, community preparedness, and resilient infrastructure** to minimize loss of life and property.
Description of the Solution:	**1. Enhanced Early Warning and Alert Systems** **2. Community Education and Preparedness Programs** **3. Evacuation Planning and Infrastructure Improvements** **4. Resilient Emergency Facilities and Equipment** **5. Interagency Coordination and Training** **6. Post-Event Recovery Planning** **Summary** By combining **advanced warning systems, public education, resilient infrastructure, and coordinated emergency response**, Sonoma County Fire District can significantly reduce tsunami risks and enhance community safety and resilience.
Estimated Cost:	Low
Potential Funding Sources:	**1. Federal Emergency Management Agency (FEMA) Grants** • **Hazard Mitigation Grant Program (HMGP)** • **Pre-Disaster Mitigation (PDM) Program** • **Flood Mitigation Assistance (FMA)** **2. California Office of Emergency Services (Cal OES)** **3. National Oceanic and Atmospheric Administration (NOAA)** **4. Department of Homeland Security (DHS) Grants** • **Emergency Management Performance Grant (EMPG)** • **Port Security Grant Program**. **5. Community Development Block Grants (CDBG)** **6. State and Local Government Funds** **7. Private Foundations and Nonprofits** **8. Public-Private Partnerships** **Summary** By pursuing a combination of **federal, state, local, and private funding sources**, SCFD can secure the necessary resources to implement comprehensive tsunami preparedness, mitigation, and response strategies.
Implementation Timeline:	1-5 years
Objectives Met:	2,4,5,6,10,12,13

Benefits:	**1. Improved Public Safety and Life Protection** **2. Enhanced Emergency Response Capabilities** **3. Reduced Property Damage and Economic Loss** **4. Increased Community Resilience** **5. Protection of Critical Infrastructure** **6. Access to Funding and Support** **Summary** Investing in tsunami preparedness enables SCFD to **save lives, reduce damage, maintain critical services, and build a more resilient community** prepared to face tsunami hazards.
Impact on Socially Vulnerable Populations:	**1. Higher Exposure to Risk** **2. Limited Evacuation Capacity** **3. Communication Barriers** **4. Health and Safety Concerns** **5. Economic and Social Hardships** **Summary** Tsunami risks exacerbate existing social inequities in Sonoma County, making it essential for SCFD to incorporate **equity-focused strategies** to protect and serve socially vulnerable populations effectively during tsunami emergencies.
Impact on Future Development:	**1. Restrictions on Development in High-Risk Zones** **2. Increased Construction Costs** **3. Shift Toward Safer Locations** **4. Infrastructure Planning and Resilience** **5. Potential Constraints on Critical Facilities** **6. Economic and Social Considerations** **Summary** Tsunami risks will shape Sonoma County's future development by enforcing **more cautious, resilient, and strategically located growth**, necessitating integrated planning between SCFD, local government, developers, and communities to balance safety, cost, and economic vitality.
Impact on Critical Facilities/Lifelines:	**1. Flooding and Structural Damage** **2. Disruption of Emergency Operations** **3. Utility and Communication Failures** **4. Water Supply and Fire Suppression Impact** **5. Access and Transportation Disruptions** **6. Increased Maintenance and Recovery Costs** **Summary** Tsunamis pose a significant threat to the functionality and resilience of critical facilities within Sonoma County Fire District. Protecting and adapting these facilities is essential to ensure **continuous emergency services and community safety** before, during, and after tsunami events.
Impact on Capabilities:	**1. Delayed Emergency Response** **2. Overwhelmed Resources** **3. Communication Challenges** **4. Compromised Facilities and Equipment** **5. Need for Specialized Training and Preparedness** **6. Extended Recovery and Continuity Challenges** **Summary** Tsunamis can **significantly hinder SCFD's ability to respond swiftly and effectively**, highlighting the need for resilient infrastructure, specialized training, and strong interagency coordination to maintain critical emergency capabilities in the face of tsunami hazards.

Climate Change Considerations:	**1. Increased Seismic and Tsunami Risk** **2. Sea Level Rise and Coastal Vulnerability** **3. More Complex and Frequent Extreme Weather Events** **4. Impacts on Emergency Infrastructure** **5. Changing Demographics and Vulnerability** **6. Need for Adaptive Planning** **Summary** Climate change amplifies the risks and challenges associated with tsunamis for Sonoma County Fire District by **increasing flooding severity, stressing infrastructure, and complicating emergency response**, making proactive, adaptive planning essential for community safety.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP), Education and Awareness Programs (EAP)
Priority	High

Action 2026-SCFD-10. Wildfire Risk Reduction

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Wildfire
Description of the Problem:	Sonoma County is highly susceptible to wildfires due to its dry Mediterranean climate, extensive forested and grassland areas, and periodic drought conditions. The increasing frequency, intensity, and duration of wildfire seasons pose significant challenges to SCFD's ability to protect residents, property, and natural resources. **Key Aspects of the Problem:** 1. **Increased Wildfire Frequency and Severity** 2. **Rapid Fire Spread and Complex Terrain** 3. **Threat to Communities and Infrastructure** 4. **Evacuation Challenges** 5. **Resource Constraints** 6. **Smoke and Health Impacts**
	Summary The Sonoma County Fire District faces an escalating wildfire threat driven by climate change, challenging terrain, and growing development in fire-prone areas. These conditions demand enhanced prevention, preparedness, response, and recovery capabilities to protect life and property effectively.
Description of the Solution:	**1. Vegetation Management and Fuel Reduction** **2. Community Risk Reduction Programs** **3. Emergency Preparedness and Evacuation Planning** **4. Resource and Capability Enhancements** **5. Technology and Early Detection Systems** **6. Climate Adaptation and Land Use Planning** **Summary** The solution to Sonoma County's wildfire challenge lies in a **comprehensive, coordinated approach** that prioritizes fuel management, community readiness, enhanced response, and climate-smart planning. SCFD must lead through collaboration, education, and sustained investment in resilience.
Estimated Cost:	Medium

Potential Funding Sources:	**Federal Funding Sources** 1. **FEMA – Hazard Mitigation Grant Program (HMGP)** 2. **U.S. Forest Service – Community Wildfire Defense Grant (CWDG)** 3. **U.S. Department of Homeland Security – SAFER and AFG Grants** 4. **U.S. Department of the Interior – Wildland Fire Management Program**
	State Funding Sources (California) 1. **CAL FIRE – Fire Prevention Grants** 2. **California Climate Investments (CCI) – Cap-and-Trade Program** 3. **California Office of Emergency Services (Cal OES) – HMGP Match Assistance** 4. **California Fire Safe Council Grants**
	Local & Regional Sources 1. **County Resilience Funds or Bonds** 2. **Community Facilities Districts (CFDs)**
	Private, Philanthropic & Corporate Sources 1. **PG&E and Utility Wildfire Mitigation Partnerships** 2. **Private Foundations & Nonprofits** 3. **Insurance Industry Resilience Grants**
	Summary By combining federal, state, local, and private resources, SCFD can fund a **sustainable, long-term wildfire resilience strategy**—including fuel treatments, community outreach, personnel support, and infrastructure upgrades.
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,8,9,13
Benefits:	**1. Enhanced Public Safety** **2. Reduced Property and Infrastructure Damage** **3. Improved Emergency Response Capabilities** **4. Long-Term Cost Savings** **5. Stronger Community Resilience** **6. Environmental Protection** **7. Climate Adaptation and Future Readiness** **Summary** Investing in wildfire preparedness and mitigation provides **life-saving, financial, environmental, and operational benefits** for SCFD and the communities it serves—building a safer, more resilient Sonoma County.
Impact on Socially Vulnerable Populations:	**1. Higher Exposure to Risk** **2. Barriers to Evacuation** **3. Health and Safety Risks** **4. Economic Hardship and Housing Insecurity** **5. Long-Term Psychological and Social Impacts** **6. Disparities in Recovery** **Summary** Wildfires **intensify existing social and economic inequalities**. SCFD must prioritize inclusive preparedness, culturally appropriate communication, and equitable recovery planning to ensure **all communities are protected and supported**, especially the most vulnerable.

Impact on Future Development:	**1. Stricter Building Codes and Land Use Regulations** **2. Limitations on Growth in Wildland-Urban Interface (WUI)** **3. Rising Development Costs** **4. Shifts in Development Patterns** **5. Increased Demand on Fire Services** **6. Insurance and Financial Challenges** **Summary** Wildfires are reshaping the future of development in Sonoma County by driving stricter regulations, shifting growth patterns, and increasing costs. SCFD must be actively involved in **land use planning, development review, and long-term community risk reduction** to ensure that new growth is both safe and sustainable.
Impact on Critical Facilities/Lifelines:	**1. Direct Fire Damage or Destruction** **2. Smoke, Heat, and Air Quality Hazards** **3. Loss of Utilities and Communications** **4. Blocked Access and Evacuation Routes** **5. Costly Repairs, Relocation, or Hardening** **6. Disruption to Emergency Response and Community Services** **Summary** Wildfires pose a serious threat to critical facilities that underpin emergency response and community functioning. SCFD must prioritize **fireproofing, backup systems, and risk-informed siting** to ensure that these vital assets remain operational during wildfire events.
Impact on Capabilities:	**1. Resource Strain and Fatigue** **2. Decreased Response Capacity for Other Emergencies** **3. Limited Access and Safety Hazards** **4. Damage to SCFD Facilities and Equipment** **5. Increased Operational and Training Demands** **6. Pressure on Recruitment and Retention** **7. Rising Costs and Financial Pressure** **Summary** Wildfires are significantly degrading SCFD's emergency response capabilities by **overburdening personnel, consuming resources, and exposing facilities and crews to danger**. Long-term resilience requires increased staffing, modernized infrastructure, and dedicated funding for wildfire-specific preparedness.
Climate Change Considerations:	**1. Longer, More Intense Fire Seasons** **2. Hotter, Drier Conditions** **3. Increased Frequency of Wind-Driven Fires** **4. Vegetation Stress and Fuel Buildup** **5. More Communities at Risk** **6. Greater Demand on Emergency Services** **7. Need for Climate-Informed Planning** **Summary** Climate change is intensifying wildfire risks in Sonoma County, requiring SCFD to adopt a **forward-looking, climate-adaptive approach** to fire prevention, response, and community protection. This includes strategic planning, upgraded infrastructure, and cross-agency collaboration.
Mitigation Category	Local Plans and Regulations (LPR), Education and Awareness Programs (EAP)
Priority	Medium

Action 2026-SCFD-11. Dam Safety Risk Management

Lead Agency:	Sonoma County Fire District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure
Description of the Problem:	• **Seismic activity** (e.g., proximity to active faults) • **Extreme weather events** (e.g., atmospheric rivers, prolonged rainfall, and climate-related extremes) • **Aging infrastructure** • **Wildfire-damaged watersheds**, which accelerate runoff and erosion If a dam were to breach, the **downstream flooding** could be rapid and severe, threatening: • Lives of residents in low-lying areas • Transportation networks and emergency access routes • Water and power infrastructure • Agricultural and economic assets • Response capabilities of the Fire District itself Many downstream areas—particularly in the **Russian River watershed t**he Fire District must also prepare for **secondary impacts**, such as: • Debris flows and mudslides • Chemical or fuel contamination from damaged facilities • Fire station flooding or disruption of communications **Summary** The Sonoma County Fire District faces a **critical need to assess, plan, and prepare** for potential dam failures. This includes coordination with dam operators, enhancing public warning systems, updating emergency evacuation routes, and ensuring that vulnerable communities are included in risk communication and response planning.
Description of the Solution:	**1. Emergency Action Planning and Coordination** **2. Risk Assessment and Mapping** **3. Evacuation Planning and Route Clearance** **4. Early Warning and Public Alert Systems** **5. Community Engagement and Education** **6. Station and Infrastructure Hardening** **7. Funding and Grant Pursuit** **Summary** These solutions aim to build a **comprehensive, community-centered, and coordinated response** to the threat of dam failure. By combining hazard assessment, infrastructure upgrades, real-time communication, and public outreach, the Sonoma County Fire District can significantly reduce life safety risks and improve its operational readiness.
Estimated Cost:	Medium

Potential Funding Sources:	**Federal Funding Sources** **1. FEMA – Hazard Mitigation Grant Program** **2. FEMA – Pre-Disaster Mitigation Program** **3. U.S. Department of Homeland Security – Urban Area Security Initiative** **4. U.S. Army Corps of Engineers – Silver Jackets Program** **5. U.S. Department of Agriculture– Watershed Protection and Flood Prevention Program** **State of California Funding Sources** **1. California Office of Emergency Services** **2. California Department of Water Resources – Flood Risk Reduction Grants** **3. California State Water Resources Control Board** **Local & Regional Sources** **1. Sonoma Water & Regional Partnerships** **2. Measure M or Other Local Sales Tax Funds** **Private & Foundation Funding** **1. PG&E Safety and Preparedness Grant Program** **2. Community Foundation Sonoma County** **3. Insurance and Utility Risk Pools**
Implementation Timeline:	1-5 years
Objectives Met:	1,2,3,4,8,9,13
Benefits:	**1. Life Safety Protection** **2. Community Resilience** **3. Faster Emergency Response** **4. Protection of Critical Infrastructure** **5. Environmental and Economic Preservation** **6. Compliance with State and Federal Mandates** **7. Improved Equity and Inclusion**
Impact on Socially Vulnerable Populations:	**1. Increased Risk of Injury or Death** **2. Loss of Housing and Displacement** **3. Economic Disruption4. Health and Mental Health Impacts** **5. Limited Access to Recovery Resources** **6. Long-Term Community Fragmentation**
Impact on Future Development:	**1. Land Use and Zoning Restrictions** **2. Increased Development Costs** **3. Insurance and Financial Risk** **4. Infrastructure Planning Challenges** **5. Environmental and Watershed Impacts** **6. Regulatory Compliance and Delays** **7. Community Perception and Opposition** **8. Opportunities for Resilient Development** **Summary** To ensure safe and sustainable development, the Sonoma County Fire District and local planners must integrate **dam failure risk into future land use decisions**. Doing so will protect life and property, reduce long-term costs, and promote equitable and resilient community growth.

Impact on Critical Facilities/Lifelines:	**1. Direct Physical Damage** **2. Service Disruption** **3. Access and Evacuation Issues4. Loss of Shelter and Medical Capacity** **5. Operational Delays and Coordination Challenges** **6. Risk to First Responders** **7. Financial Strain and Recovery Costs** **8. Need for Resilient Design and Redundancy** **Summary** Dam failure poses a **severe threat to critical facilities**, which in turn amplifies the overall emergency. The Sonoma County Fire District must prioritize **assessment, protection, and strategic relocation or hardening** of facilities to ensure uninterrupted emergency operations and public safety during such events.
Impact on Capabilities:	**1. Overwhelmed Emergency Response Resources** **2. Disruption of Fire District Facilities and Assets** **3. Evacuation and Rescue Limitations** **4. Reduced Emergency Medical Services (EMS) Capabilities** **5. Command and Control Challenges** **6. Personnel Safety and Availability** **7. Long-Term Operational Disruption** **8. Public Trust and Expectations** **Summary** Dam failure would severely impact the Sonoma County Fire District's capabilities—reducing **response time, mobility, communication, and staffing**. Proactive investments in **facility hardening, contingency planning, mobile assets, and interagency coordination** are essential to ensure operational continuity.
Climate Change Considerations:	**1. Increased Intensity of Storms and Rainfall** **2. Increased Flooding Risk from Snowmelt and Rain-on-Snow Events** **3. Aging Infrastructure Under Climate Stress** **4. Wildfire Impacts on Watersheds** **5. Sea-Level Rise (Indirect Impact)** **6. Increased Strain on Emergency Services** **7. Equity and Environmental Justice** **8. Need for Climate-Resilient Planning and Infrastructure** **Summary** Climate change **amplifies the threat of dam failure** through extreme weather, watershed degradation, and infrastructure stress. The Sonoma County Fire District must integrate **climate adaptation, hazard forecasting, and community engagement** into its planning to remain effective and resilient.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP), Education and Awareness Programs (EAP)
Priority	Medium

18. SONOMA VALLEY FIRE DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the Sonoma Valley Fire District (SVFD) with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of the Sonoma Valley Fire District, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

18.1 HAZARD MITIGATION PLANNING TEAM

The Sonoma Valley Fire District identified primary and alternate HMP points of contact and developed this plan over the course of several months. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below and shown in Table 18-1. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Trevor Smith, Deputy Chief / Fire Marshal

Address: 630 Second Street, West Sonoma, CA 95476

Phone Number: 707-933-2305

Email: trevors@sonomavalleyfire.org

Alternate Point of Contact: Sean Lacy, Battalion Chief

Address: 630 Second Street, West Sonoma, CA 95476

Phone Number: 707-721-2096

Email: seanl@sonomavalleyfire.org

Table 18-1. Additional Contributors

Name	Department	Position	HMP Contribution
Mason Lewis	SVFD	Vegetation Management & Defensible Space Coordinator	Fuels Management / wildfire prevention & mitigation
Robert Norrbom	SVFD	Deputy Chief	Historical issues flooding
Sean Lacy	SVFD	Battalion Chief	Historical knowledge
Gary Johnson	SVFD	Battalion Chief	Fuels Management / wildfire prevention & mitigation

18.2 COMMUNITY PROFILE

The Sonoma Valley Fire District provides all-risk fire, rescue, and paramedic level emergency medical services to the communities of Agua Caliente, Boyes Hot Springs, the City of Sonoma, Diamond-A, El Verano, Fetters Hot Springs, Glen Ellen, Kenwood, Mayacamas, Temelec, and Seven Flags.

Effective July 1, 2025, the Sonoma Valley Fire District expanded through the merger with the Kenwood Fire Protection District, completing a multi-phase consolidation process that began with the unification of the Valley of the Moon and Glen Ellen Fire Districts, and the Mayacamas Volunteer Fire Company service area on July 1, 2020. This regional integration was approved through the Local Agency Formation Commission (LAFCO) reorganization process, which included public hearings and compliance with statutory requirements.

The District provides comprehensive fire protection and emergency medical services to the incorporated City of Sonoma under a formal service agreement.

The Sonoma Valley Fire District operates from a network of eight fire stations—five career-staffed and three volunteer-staffed—supported by an administrative headquarters and a centralized maintenance facility. The District staffs six primary response companies: four paramedic engine companies and three advanced life support ambulances. Additionally, through a strong volunteer firefighter program, the District fields a range of specialized apparatus including one ladder truck, two rescues, three water tenders, and nine additional fire engines, six of which are wildland-type engines.

The District's direct service area, including the City of Sonoma, spans approximately 83 square miles with a resident population of about 49,000. Ambulance services extend beyond district boundaries to the greater Sonoma Valley, covering roughly 100 square miles in total.

The jurisdiction encompasses a variety of risk profiles, including wildland-urban interface zones, large single-family residences, multi-family housing, commercial lodging facilities, local business, Sonoma Valley Hospital, and the historic Sonoma Plaza.

The Sonoma Valley Fire District is an independent special district governed under the California Fire Protection District Law of 1987 (Health and Safety Code §13800 et seq.). Policy direction is established by a seven-member board of directors elected at-large by District residents to staggered four-year terms. The Fire Chief is responsible for the management and administration of the District and its resources in accordance with board policy.

18.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, SVFD completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

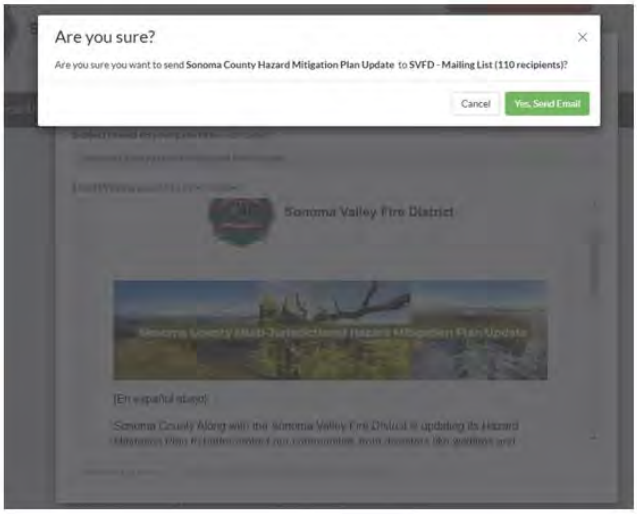
SVFD used an online survey as the primary mechanism for public engagement. The survey, available in both English and Spanish, allowed residents to share their concerns and ideas about natural hazard preparedness. The District provided this opportunity through their website, social media, as well as email to 110 recipients. These efforts are shown in Figure 18-1 and Figure 18-2.

Figure 18-1. Public Outreach - Website



Figure 18-2. Social Media and Email Outreach





In addition to online surveys, SVFD conducted three public safety outreach events within the community:

- Safety Event – Sonoma Public Library
- Safety Fair – Altamira Middle School
- Evacuation Drill for the Boyes Hot Springs

During these events SVFD communicated with members of the District about the upcoming and ongoing HMP update process and provided information on how they could participate.

To ensure that underserved communities and vulnerable populations within the Sonoma Valley Fire District are actively involved in the hazard mitigation planning process, a multifaceted, accessible, and culturally sensitive outreach approach was implemented. This engagement strategy prioritized equity, transparency, participation, and ensuring that all voices were heard in shaping the community's resilience efforts.

Targeted outreach was made to the following underserved communities and vulnerable populations:

- Low-Income Households: Residents facing economic challenges may have limited access to resources necessary for emergency preparedness and recovery.
- Elderly Residents: Older adults may have mobility issues and chronic health conditions, increasing their vulnerability during emergencies.
- Non-English Speaking Communities: Language barriers can impede access to critical information and services during disasters.
- Individuals with Disabilities: Those with physical, sensory, cognitive, or mental health disabilities may require specialized assistance during emergencies.

- Uninsured or Underinsured Individuals: Limited access to healthcare can exacerbate vulnerabilities during health crises.

During the update of the HMP, opportunities were provided for public input; however, no direct feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to SVFD was contributed through community engagement activities.

18.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, SVFD invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

18.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

Local and state agencies involved in emergency response, transportation, and utilities were invited to contribute to the County's HMP update. Their participation reflects the critical role these organizations play in identifying risks and enhancing regional resilience.

- Community
- CAL FIRE
- Municipal Public Works
- Public Utilities
- Sonoma County/Valley of the Moon Water Agencies
- County Roads

18.4.2 Agencies that Have the Authority to Regulate Development

Agencies that have the authority to regulate development within the area were invited to participate in HMP planning efforts, ensuring that land use aligns with established planning, safety, and environmental standards.

- Permit Sonoma/County of Sonoma
- City of Sonoma Planning/Building Departments
- CAL FIRE
- Sonoma Valley Fire District
- California Environmental Protection Agency

18.4.3 Neighboring Communities

As part of the hazard mitigation planning process, outreach was conducted to neighboring service providers and emergency response agencies to inform them of the effort and invite their participation. Communication included sharing the planning timeline and opportunities to provide input on regional hazard vulnerabilities and potential mitigation strategies.

- City / County of Napa
- Rancho Adobe Fire District
- Sonoma County Fire District
- City of Santa Rosa
- Schell Vista Fire Protection District
- Gold Ridge Fire Protection District
- State of Ca (lands and parks) Dept General Services / State Parks
- CA Department of Fish & Game
- Sonoma County Regional Parks

18.4.4 Representatives of Business, Academia, and Other Private Organizations

SVFD engaged local organizations and school district representatives about the HMP update. These organizations were encouraged to share the survey and planning information with their members and provide feedback on community vulnerabilities and resilience priorities.

- Sonoma State University
- Sonoma Unified School District
- Sonoma County Chamber of Commerce

18.4.5 Nonprofit Organizations and Community-Based Organizations

Coordination with local community organizations supported broader engagement in the hazard mitigation planning process. These groups were invited to review draft materials and share feedback based on their local knowledge and experience in emergency preparedness, helping to ensure that community perspectives were reflected in the final plan.

- Fire Safe Sonoma
- Sonoma Resource Conservation District
- Measure H Fuels Crew
- Sonoma Ag & Open Space
- Sonoma Ecology Center

- Sonoma Land Trust
- Private Land Owners
- Land Stewards
- Fire Safe Councils
- Firewise Communities
- Homeowners Associations
- Sonoma Valley Volunteer Firefighters Association
- Redwood Empire Food Bank
- Sonoma County Fire Chiefs Association
- Sonoma Community Animal Response Team
- Sonoma Citizens Prepared for Emergency Groups
- Meet Your Neighbors West County (MYNWC)
- Homeless Action Sonoma
- Council of Aging

18.4.6 Other Stakeholders

Other stakeholders can support the hazard mitigation planning process by sharing subject matter expertise, promoting public engagement, and helping identify vulnerable assets.

- Native American Tribal Resources
- National Weather Service
- NOAA
- USGS

18.5 CHANGES IN COMMUNITY PRIORITIES

Since the last HMP update, the Sonoma Valley Fire District (SVFD) has shifted its priorities to better address the escalating threats posed by wildfires, climate change, and extreme weather events. As fire behavior continues to become more severe due to prolonged drought, increased fuel loads, and changing climate conditions, SVFD has placed a greater emphasis on large-scale vegetation management and fuels reduction projects. Additionally, the District has recognized the critical need for proactive infrastructure hardening to ensure the resilience of emergency response facilities and essential community infrastructure. This updated focus is essential for securing funding opportunities and positioning the District for long-term hazard mitigation success.

18.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Sonoma Valley Fire District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

To reduce long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for SVFD to identify opportunities for integrating mitigation concepts into ongoing District procedures.

18.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that reduce the impacts of hazards. As a special district, the Sonoma Valley Fire District does not have planning or regulatory authority, such as the development or enforcement of codes, ordinances, regulations, or formal planning and emergency response documents. Construction and development in the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 18-2 summarizes the codes, ordinances, and regulations for the District.

Table 18-2. SVFD Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	The Sonoma Valley Fire District reviews development and construction projects within its jurisdiction to enforce these laws. This is inclusive of both the Incorporated City of Sonoma and the Unincorporated County areas within the Fire District.	Municipal and County 2024 City of Sonoma Fire Code Unincorporated County – Chapter 13 Sonoma County Fire Code Adheres to the CA state Code, amended 2022	County of Sonoma, Sonoma Valley Fire District
Real Estate Disclosure	Conduct inspections for properties within Very High Fire Hazard Severity Zones as required by AB 38. When the SVFD inspects properties before a sale for compliance with vegetation management regulations, it helps reduce wildfire risk by ensuring homes meet defensible space requirements, identifying and mitigating fire hazards, and educating new property owners about fire safety. This proactive measure promotes consistent fire safety standards across the community, enhances property values, and reduces the long-term risks and costs associated with wildfire damage. Additionally, it supports emergency responders by creating safer conditions for protecting homes during fires and fosters a community-wide commitment to fire preparedness, increasing the resilience of the Sonoma Valley area to wildfires.	State Assembly Bill 38	California, Sonoma Valley Fire District
Growth Management	The Sonoma Valley Fire District (SVFD) reduces risk to the community by assessing and collecting development impact fees, ensuring that new developments contribute to funding critical emergency response infrastructure and resources. These fees enable SVFD to maintain appropriate staffing levels, acquire essential equipment, and construct or upgrade facilities to meet the needs of a growing population. By proactively investing in fire prevention, response capabilities, and public safety initiatives, SVFD minimizes fire hazards, enhances response times, and strengthens the overall resilience of the Sonoma Valley community. https://www.sonomavalleyfire.org/fire-impact-fee	Local Sonoma Valley Fire District impact fee program	Sonoma Valley Fire District
Health and Safety Code	Outlines the organizations, powers, and responsibilities of fire protection districts throughout the state.	State California Code, Health and Safety Code - HSC § 13800	County of Sonoma
Other Code, Ordinance, or Regulation	Standards providing clarification on interpretations of the California Fire Codes as adopted and amended. https://www.sonomavalleyfire.org/sonoma-valley-fire-district-fire-prevention-standards-guidelines	Special District Sonoma Valley Fire District – Standards	Sonoma Valley Fire District

Planning Documents

Table 18-3 summarizes the planning documents available to the District.

Table 18-3. SVFD Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Capital Improvement Plan	The SVFD maintains a Capital Improvement Plan & Budget to ensure the readiness of its buildings, fleet, and other capital equipment. Maintaining a capital improvement plan, budget, and funding allows the SVFD to reduce risk by ensuring it has the resources necessary to meet current and future community needs. A well-designed capital improvement plan identifies critical investments in equipment, facilities, and technology, such as fire stations, fire engines, and communication systems. By aligning these priorities with a sustainable budget and funding strategy, SVFD can proactively replace aging assets, expand services to accommodate growth, and maintain operational readiness. This strategic approach minimizes service disruptions, enhances response capabilities, and ensures SVFD is fully equipped to effectively protect lives and property in the Sonoma Valley.	Special District	Sonoma Valley Fire District
Community Wildfire Protection Plan	SVFD reviews, adopts and utilizes a Community Wildfire Protection Plan (CWPP) that helps reduce risk in the community by providing a strategic framework for mitigating wildfire hazards and improving preparedness. The plan identifies high-risk areas, outlines fire prevention measures, and prioritizes actions to reduce fuels, such as creating defensible spaces and implementing vegetation management. By involving community members, local agencies, and fire departments, a CWPP fosters collaboration and ensures that strategies are tailored to local conditions. It also enhances public awareness and promotes practices that reduce ignition risks, such as fire-safe building standards and emergency evacuation planning. This proactive approach minimizes the potential for catastrophic wildfires, protects lives and property, and strengthens the community's overall resilience to wildfire threats.	County Number 70 Sonoma County CWPP 2023	Sonoma County
Strategic Plan	The strategic plan for SVFD helps reduce risk in the community by providing a clear and actionable roadmap for achieving the district's mission and goals. The plan identifies risks specific to Sonoma Valley, such as fire hazards, medical emergencies, and natural disasters, and outlines strategies to mitigate them effectively. It ensures SVFD allocates resources efficiently, prioritizes critical needs, and adapts to changing conditions, such as population growth or emerging threats. By focusing on key areas like staffing, training, equipment, and community outreach, the strategic plan enhances SVFD's operational readiness and response capabilities. It also fosters transparency and collaboration with stakeholders, aligning community expectations with public safety objectives. Ultimately, a well-executed strategic plan reduces risks, improves service delivery, and strengthens the overall safety and resilience of the Sonoma Valley community.	County SVFD Strategic Plan 2022-2027	Sonoma County

Response and Recovering Planning Documents

Table 18-4 summarizes the response and recovery planning documents available to the District.

Table 18-4. SVFD Response and Recovery Planning Documents

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	Establishes roles and responsibilities, enhances communication and responsibilities, includes strategies for recovery, and reduces future risk through lessons learned and hazard mitigation integration. https://www.sonomacity.org/documents/emergency-operations-plan/	Local City of Sonoma EOP, 2024 and Policy 201 – Emergency Action Plan	City of Sonoma
Continuity of Operations Plan	Contingency of Operations Plans enable SVFD to reduce risk by ensuring that essential services and operations remain uninterrupted during emergencies or disruptions. These plans identify critical functions, key personnel, and the necessary resources to maintain emergency response capabilities in scenarios such as natural disasters, infrastructure failures, or widespread illness. By proactively preparing for potential challenges, SVFD ensures continuity of service, protecting the safety and well-being of the Sonoma Valley community even under adverse conditions. By establishing clear protocols for resource allocation, communication, and decision-making, Contingency of Operations Plans minimize downtime and confusion, ensuring a swift and organized response. They also include backup systems, alternative facilities, and mutual aid agreements to address potential vulnerabilities. This preparedness not only enhances the department's ability to manage crises effectively but also safeguards the community by maintaining reliable fire protection, emergency medical services, and public safety during challenging situations.	Special District SVFD Policy Emergency Power Policy 1101 Emergency Recall Policy 1009	Sonoma Valley Fire District
Earthquake Response Plan	The SVFD Earthquake Response Policy (Policy 336) establishes procedures to ensure a rapid and coordinated response to seismic events affecting the District. This policy is activated when REDCOM dispatch reports or experiences ground movement, when SVFD personnel or units feel seismic activity, or when field units lose communication with dispatch following an earthquake. In such cases, "Emergency Earthquake Mode" is initiated, prompting immediate protective actions and operational readiness measures across all stations and personnel.	Special District Policy 336 Earthquake Response	Sonoma Valley Fire District

18.6.2 Integration

Table 18-2 through Table 18-4 list the local planning mechanisms currently in place for the District. This review revealed that SVFD has made significant progress in aligning its hazard mitigation goals with broader municipal functions. Key planning mechanisms, such as the Capital Improvement Plan, Community Wildfire Protection Plan, and Emergency Operation Plans, already incorporate hazard-related policies and strategies. These documents address land use, infrastructure resilience, emergency response, and environmental protection, all of which are critical to reducing long-term risk.

Potential areas for further integration include the following:

- Applying hazard assessment data and mitigation actions to future emergency plans or annex updates

- Using hazard-specific information, such as drought data, to inform updates to policies and operational practices
- Incorporating hazard analyses into the development of new plans or district annexation efforts

18.6.3 Development and Permitting Capability

Table 18-5 summarizes the capabilities of SVFD to oversee and track development.

Table 18-5. Development and Permitting Capability

	Yes/No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Development projects are reviewed by SVFD Fire Prevention as part of the development approval process. These are tracked via City and County Systems (Acella / OpenGov)
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Fire Hazard Severity Zones
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	Yes	Station 2 855 Center – 0.4 acre parcel partially undeveloped 20600 Arnold Dr, Sonoma – Vacant 0.5 Acres 19154 Arnold Dr, Sonoma – Vacant 3.8 Acres 19220 Arnold Dr, Sonoma – Vacant 3.8 Acres

18.6.4 Administrative and Technical Capability

Table 18-6 summarizes the administrative bodies and programs available to support mitigation initiatives in the District.

Table 18-6. Administrative Capabilities

Resources	Available?	Comment
Planning Board	No	-
Zoning Board of Adjustment	No	-
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	No	-
Construction/Building/Code Enforcement Department	Yes	Fire Prevention Office (3), Plan Review, supports hazard mitigation by ensuring compliance with codes.

Resources	Available?	Comment
Emergency Management/Public Safety Department	Yes	Fire Agency
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Chipper Program, and Vegetation Fuels Crew working within the SVFD.
Mutual aid agreements	Yes	Master Mutual Aid Program, Participation in the Sonoma County REDCOM Mutual Aid agreement.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Career Development Guide
Other	N/A	-

Table 18-7 summarizes technical staff and personnel resources available to the District and their current responsibilities that contribute to hazard mitigation. The SVFD does not have a dedicated GIS specialist but leverages County GIS support and field-based tools like Tablet Command and Intterra to access real-time data for wildfire planning and incident management. While these systems enable timely, data-driven decisions, expanding internal GIS training would further expand and improve the District's operational capabilities.

Table 18-7. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	No	-
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	Yes	Finance Administrator, Fire Chief
Professionals trained in conducting damage assessments	Yes	Fire Emergency Response Staff
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Basic GIS use and implementation
Staff that work with socially vulnerable populations or underserved communities	Yes	Fire Emergency Response Staff
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	Yes	The SVFD provides support to the City & County EOC and can staff many roles as required. Primary focus is Operations.
Grant writers	Yes	Multiple Staff members within the organization have successfully written and received grants. (local, private, federal, state)
Resilience Officer	No	-

Resources	Available?	Comment
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

18.6.5 Fiscal Capability

Table 18-8 summarizes financial resources available to Sonoma Valley Fire District.

Table 18-8. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Unknown
Withhold public expenditures in hazard-prone areas	Unknown
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Unknown
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

18.6.6 Education and Outreach Capability

Table 18-9 summarizes the education and outreach resources available to Sonoma Valley Fire District.

Table 18-9. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Trevor Smith, Deputy Chief / Fire Marshal
Personnel skilled or trained in website development	Yes	4 staff maintain SVFD website internally
Hazard mitigation information available on your website	Yes	SVFD website
Social media for hazard mitigation education and outreach	Yes	Nextdoor, Facebook, X, Instagram
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Cooperative relationships with local community groups, Firewise communities, SCOPE Groups, Fire Safe Councils.

Outreach Resources	Available?	Comment
Warning systems for hazard events	Yes	County alert and warning / Digital Signage at 3 fire stations within the District
Natural disaster/safety programs in place for schools	Yes	Annual School Safety and Fire Prevention Program / CPR in schools program
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	The SVFD, SV Volunteer Firefighters Association, and the District's SCOPE Program provide community outreach and fire prevention education. In addition the Explorer Post works to get the community involved in fire service career paths.
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Social media, community presentations and meetings, website information

18.6.7 Community Classifications

Table 18-10 summarizes classifications for community programs available to Sonoma Valley Fire District.

Table 18-10. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	City of Sonoma - Class 1 Unincorporated areas of the Sonoma Valley - Class 2/10* Glen Ellen - Class 2/10* Mayacamas - Class 8b/10*	~ 2017
National Weather Service StormReady Certification	No	-	-
Firewise Communities Classification	Yes (4)	Firewise Communities	Sonoma Greens, George Ranch, Mayacamas, Kinnybrook Glenwood.
Other: Fire Risk Reduction Community	Yes	Received assignment by Board of Forestry as a Fire Risk Reduction Community	2024 thru 2027; SVFD just received confirmation and is on the 2026 list after applying.
Other: Fire Safe Councils	Yes	Fire Safe Council	Grove Street

N/A = Not applicable; — = Unavailable

18.6.8 Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC

2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 18-11 summarizes the adaptive capacity for each identified hazard of concern and the District's capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 18-11. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Strong
Extreme Wind	Moderate
Flood	Strong
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Strong

The Sonoma Valley Fire District has significantly strengthened its adaptive capacity for wildfire, flood, and extreme heat hazards. This advancement reflects a comprehensive and proactive approach to emergency preparedness, hazard mitigation, and community engagement. As a result, the District's adaptive capacity has been upgraded from moderate to strong across all three hazard categories.

This enhancement is supported by a range of strategic initiatives:

- **Wildfire: Strong—**Justified by aggressive vegetation management, extensive public outreach, and robust mutual aid capabilities.
- **Flood: Strong—**Supported by coordinated county-level planning, pre-positioned resources, and effective alert systems.

- **Extreme Heat: Strong—**Strengthened through proactive public health coordination and strategic water resource planning

Enhanced Preparedness and Coordination

The District maintains a high level of operational readiness through strategic partnerships and coordinated response efforts. Regular collaboration with REDCOM, CAL FIRE, County and State Offices of Emergency Services (OES), and neighboring fire districts ensures seamless communication and resource sharing. Key coordination mechanisms include the following:

- Fire District Boundary Drop and County All Call systems
- County Operational Coordinator (DC Andreis) and designated alternate
- DRISC upstaffing and prepositioning at local, county, and state levels
- Participation in countywide emergency exercises and joint operational drills

These efforts collectively enhance the District's ability to respond swiftly and effectively to emerging hazards.

Specialized Local Capabilities

The District is equipped with a range of fire apparatus (Type 1, 3, and 6) capable of addressing both wildland and urban fire scenarios. Personnel are trained in specialized rescue operations and supported by advanced equipment and supplies. Wildfire mitigation efforts go beyond compliance through the following:

- Defensible space inspections
- Vegetation management programs
- Community education initiatives

These capabilities contribute to a more resilient and responsive fire service.

Mitigation Projects and Redundancies

The District actively implements mitigation strategies that reduce hazard vulnerability and improve operational resilience. These include the following:

- Fuel reduction projects, shaded fuel breaks, and prescribed burns
- Water supply mapping, hydrant maintenance programs, and regional mutual aid agreements

Such redundancies ensure sustained response capacity even under stress conditions.

Community Programs and Public Outreach

Public engagement is a cornerstone of the District's hazard mitigation strategy. Through programs like Ready, Set, Go!, Firewise USA, and the Fire Safe Council, the District empowers residents to take proactive steps in risk reduction. Additional efforts include the following:

- Fire Risk Reduction Community initiatives
- Local alerting systems and evacuation zone planning

These programs enhance community-level adaptive capacity and ensure faster, more informed public response during emergencies.

18.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

SVFD is a special district for an unincorporated part of Sonoma County and the City of Sonoma. The District does not participate in the National Flood Insurance Program directly. Therefore, the flood insurance and repetitive loss history of structures within the District's jurisdiction are assessed in the annexes for Sonoma County and the City of Sonoma.

18.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the SVFD's jurisdiction are issued through Sonoma County and the City of Sonoma. Therefore, new and anticipated development located within the District's jurisdiction is included in the annexes for Sonoma County and the City of Sonoma, summarized as follows:

- Within the City of Sonoma, development has been minimal and has not included major development in known hazard areas.
- Within the unincorporated areas, no major development has occurred in known hazard areas, although one large mixed-use residential development is in the entitlement process that could be impacted by flooding and wildfire.
- Overall, the District's vulnerability has not been impacted by recent development since the last hazard mitigation plan was updated.

18.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Sonoma Valley Fire District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

18.9.1 Hazard Area

Maps of probable hazard areas within the District are shown in Figure 18-3 through Figure 18-4. These maps are based on the best available data at the time of the preparation of this plan and are adequate

for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Sonoma Valley Fire District has significant exposure.

Figure 18-3. Sonoma Valley Fire District Hazard Area Extent and Location
Map 1 – Flood, Dam Failure, Tsunami, Sea Level Rise

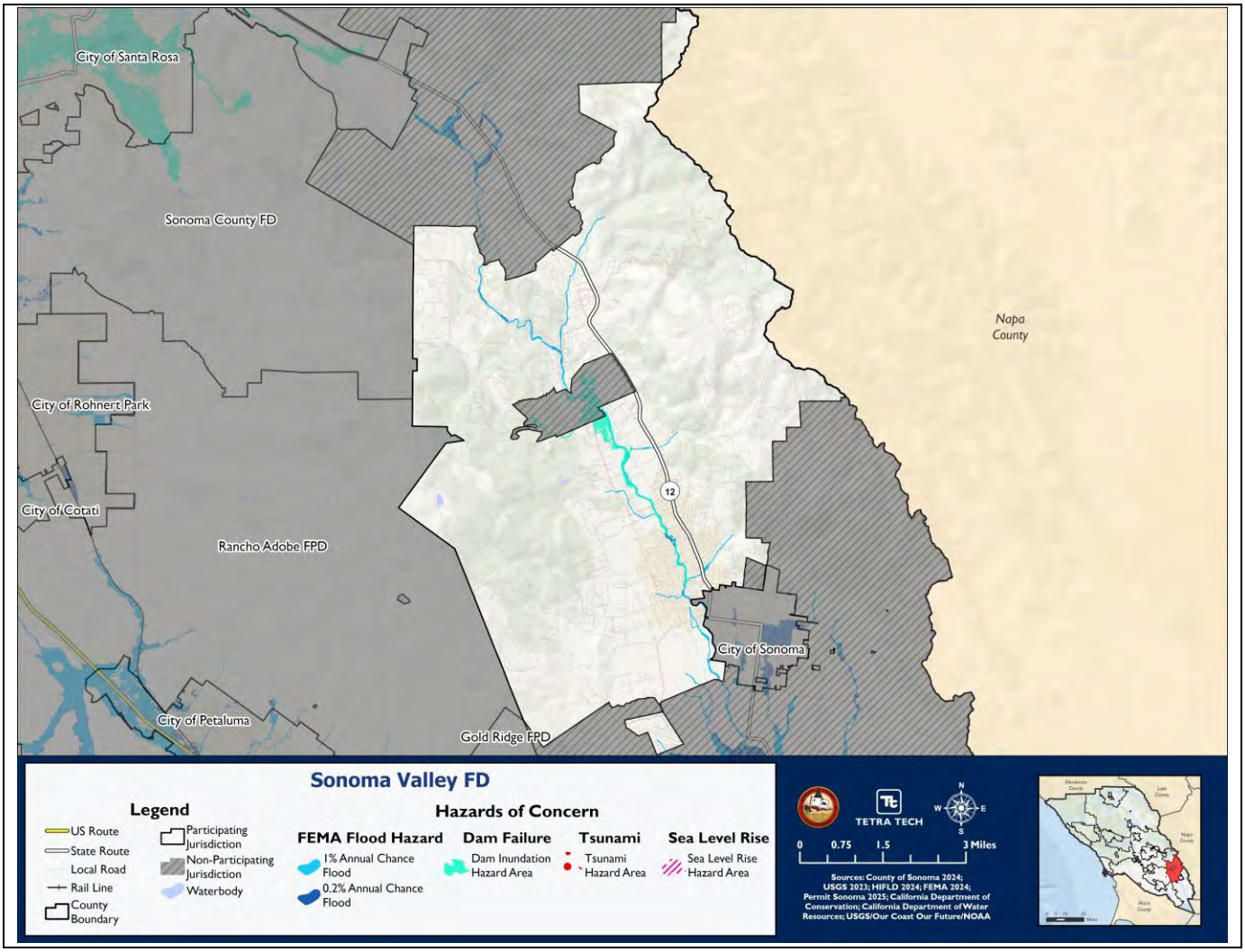
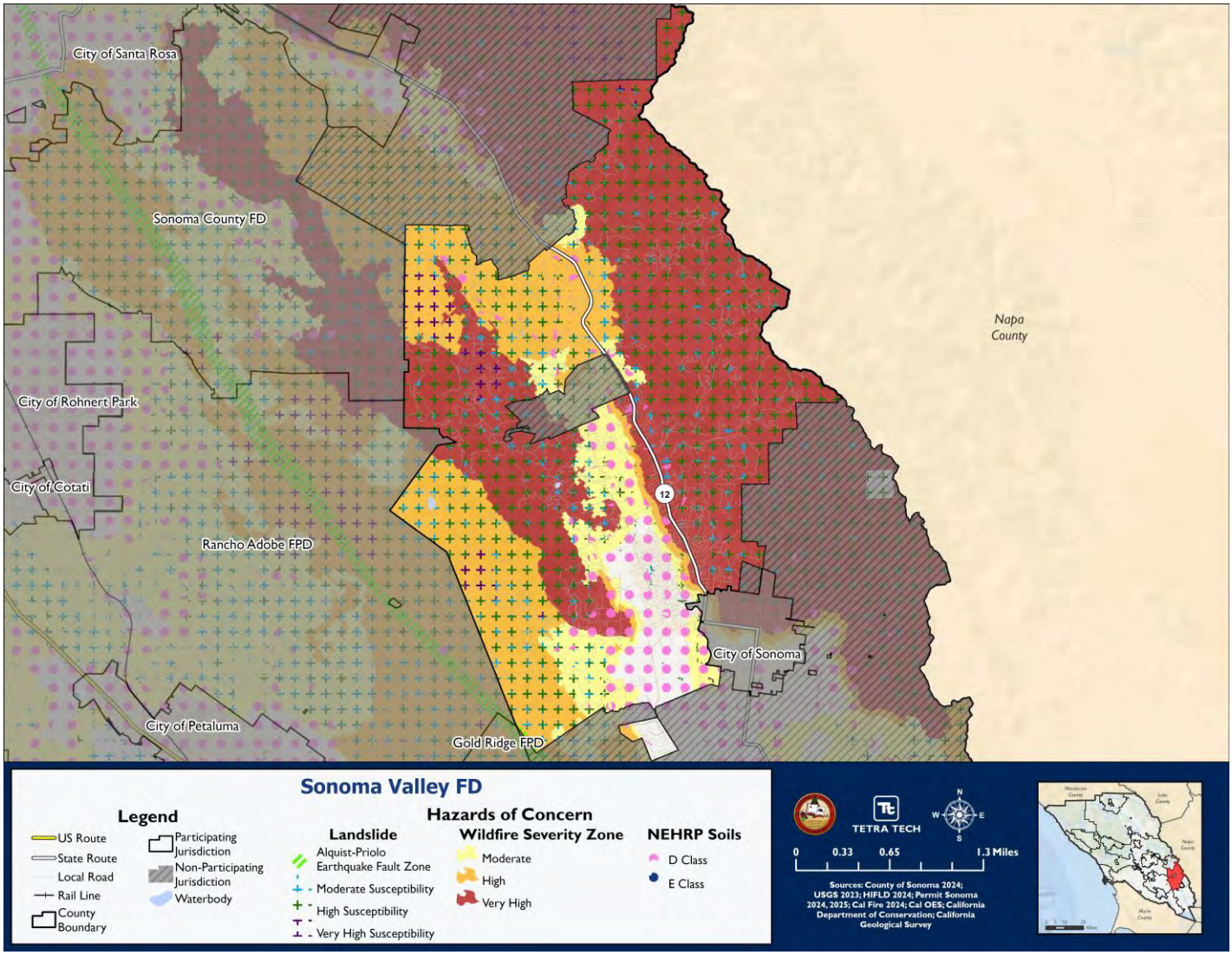


Figure 18-4. Sonoma Valley Fire District Hazard Area Extent and Location
Map 2 – Landslide, Wildfire, NEHRP Soils



18.9.2 Hazard Event History

The history of natural and non-natural hazard events in the Sonoma Valley Fire District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 18-12 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 18-12. Hazard Event History in Sonoma Valley Fire District, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Sonoma Valley Fire District
January 26-29, 2021	Flood and Debris Flow	N/A	A plume of moisture from the tropical Pacific brought an atmospheric river to the Bay Area, roadway flooding at US Highway101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	Multiple trees down, power lines down, hazardous conditions
November 8, 2021	Flood	N/A	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	Multiple trees down, power lines down, hazardous conditions
December 13, 2021	Flood	N/A	A low pressure system from the Gulf of Alaska tapped into sub-tropical moisture from the Central Pacific to drop heavy rain throughout the state.	Multiple trees down, power lines down, hazardous conditions
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast.	Multiple trees down, power lines down, hazardous conditions
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast.	No impact
January 21-22, 2024	Flood	N/A	Widespread rainfall and nuisance flooding occurred across the Bay Area. Westbound California Route 116 at Travis Road was flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road and Arata Lane offramps from US Highway 101 northbound were closed due to standing water. Flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; 3 inches of water flooded a trailer.	Multiple trees down, power lines down, hazardous conditions
January 31, 2024	Flood	N/A	A cold front brought widespread rain and high winds through California.	Multiple trees down, power lines down, hazardous conditions

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Sonoma Valley Fire District
February 4, 2024	Flood	N/A	Two cold fronts caused minor nuisance flooding gusty winds, and widespread rain. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road near Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. Route 12 was closed due to flooding from Fremont Drive to Watmaugh Road. A creek flowed over Mark West Station Road. Mud, dirt, and rock blocked Los Alamos Road.	Multiple trees down, power lines down, hazardous conditions. Multiple calls backed up in dispatch mode awaiting for resources to become available for response.
March 15-25, 2025	Weather Related	N/A	Moderate to heavy rain fell in Sonoma County for an extended period.	SVFD responded to multiple trees down and hazardous conditions during a large rain and wind storm.
November 19-25, 2025	Weather Related	N/A	A moderate atmospheric river system caused multiple days of widespread minor to moderate flooding of roadways, trees down, road closures in Sonoma County.	SVFD responded to multiple trees down, mudslides, road closures and hazardous conditions during a large rain and wind storm. Cavedale Rd. closure due to mudslide with undermining of the roadway. Adjustment of response of SVFD units to calls above 900 Cavedale Rd.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

18.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Sonoma Valley Fire District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Table 18-13 shows the District's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 18-13. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	Medium
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flood	Medium
Landslide	High
Sea Level Rise	No exposure to this hazard
Tsunami	No exposure to this hazard
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

Because the District is inland, tsunamis and sea level rise are not expected to have an impact on the people, buildings, or critical facilities located in the District.

The District has updated its flood hazard ranking from low to medium due to recent local flooding events that have landlocked communities and limited emergency response access. This change reflects a more accurate assessment of operational challenges and supports improved planning and mitigation efforts.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to SVFD. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the District. Table 18-14 summarizes additional risks specific to the District.

Table 18-14. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	The District is exposed to potential dam failure inundation, which could result in significant threats to life, property, and infrastructure. Notable dams that could affect the District include the Fern Lake and Suttonfield Lake dams, which are both high-hazard potential dams with mapped inundation areas that could impact the community of Eldridge in the event of a dam failure. This could impact SVFD Station #10 or limit access to the station. Another vulnerability of the District's infrastructure is the potential loss of surface waters that could be used in firefighting. SVFD's first responders who may be involved in rescue and emergency assistance may also be vulnerable during a dam failure event.
Drought	The District is susceptible to drought conditions that can significantly impact local water supply and agricultural activities. SVFD's fire-fighting activities and infrastructure depend on a sufficient supply of water. Drought can diminish the water available in the system. Populations most vulnerable to drought are people living in higher fire-risk areas, and people dependent on agricultural activities that dominate the land use in the district. In periods of extended drought, the many wineries in the District can be negatively impacted.
Earthquake	The District is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. The entire district is prone to earthquakes, being close to a fault. NEHRP Class D soils are common in the central part of the District, including areas surrounding Highway 12, making this major evacuation route vulnerable to earthquake. Especially vulnerable populations include people living in older homes that are not retrofitted to withstand earthquakes, or travelers along Highway 12. First responders from SVFD may also be vulnerable while responding to an earthquake.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the District's population and infrastructure. Elderly populations in SVFD are more vulnerable to extreme cold than the general populace, as are people living alone or in remote areas. Emergency shelters and fire stations in the District can be vulnerable to extreme cold, especially if the event coincides with a power outage.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Elderly populations in SVFD are more vulnerable to extreme heat than the general populace, as are people living alone or in remote areas. Emergency shelters and fire stations in the District can be vulnerable to extreme heat, especially if the event coincides with a power outage.
Extreme Wind	The District may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Transportation along Highway 12 can be disrupted when high winds down trees over the road, potentially impacting SVFD's ability to respond to fires, which can be exacerbated by high winds. Especially vulnerable populations include those living in mobile homes and older houses. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.

Hazard	Qualitative Local Impacts
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. People living in low-lying areas can be vulnerable to flooding. Tourists and travelers may be unaware of flooding risks as well, especially in areas such as the Sonoma Creek valley, where numerous wineries are located. This can also endanger SVFD's first responders performing rescues. Highway 12 crosses SFHAs at various points in the District, making this road vulnerable to flooding. Heavy winter rains can contribute to downed trees and power line hazards that can impact travel.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. Most areas of SVFD, outside of lower, flatter parts of the valley, are rated as having high or very high landslide susceptibility. Several SVFD stations (#4, #8, and #9) are in areas that are more susceptible, potentially impacting the stations and their ability to access people in need. Populations vulnerable to landslides include residents of high-landslide susceptibility areas or moderate wildfire risk areas, those near the fault zone, and travelers and visitors unaware of risks. People in areas with limited communication options, such as remote areas or steeper terrain, can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	Per the above risk assessment findings, sea level rise is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Tsunami	Per the above risk assessment findings, tsunami is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Wildfire	The District faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. Most of SVFD has a high or very fire severity risk, with higher risk on the District's eastern side, where smaller roads are the primary evacuation routes for the area and may not be sufficient for District equipment to navigate during a wildfire. These roads are thus vulnerable to being overwhelmed during wildfires and possibly damaged with heavy use. People that are impacted most are likely to be low-income people living in remote, rural locations where it can be difficult to access or provide sufficient warning in a hazard event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation. The District's fire fighters are especially vulnerable when responding to wildfires.

18.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Sonoma Valley Fire District identified the following risk-related issues for the community:

- Wildfire risk is increasing due to prolonged drought, excessive dry fuels, and expanding wildland-urban interface development. Many properties lack defensible space, and overgrown vegetation poses a significant hazard. In addition, dead and downed fuels resulting from disease, prior fire events, and other factors are significantly increasing wildfire risk.
- Critical facilities inclusive of fire stations need to be resilient to damage from earthquakes and wildfire. It is essential that these facilities maintain operation to protect the community.
- Heavy rainfall events are overwhelming existing drainage systems, leading to road closures, property damage, and limited access for emergency vehicles. Certain areas within the SVFD are prone to this, and issues arise, including the need for victim rescue.

- Extended drought conditions are reducing available water supplies for firefighting, agricultural use, and community consumption. The depletion of reservoirs and groundwater sources threatens the District's ability to maintain fire suppression efforts, particularly in wildland-urban interface areas.
- Extreme weather events—including heat waves, cold snaps, and high-wind storms—are becoming more frequent and severe due to climate change. Vulnerable populations, such as people over 65, low-income residents, and individuals with medical conditions, face increased health risks. Additionally, extreme weather can cause power outages, impacting heating and cooling access, and increasing emergency medical responses.
- Evacuation routes in high-risk wildfire zones are vulnerable to road obstructions, downed power lines, and congestion. Many routes lack proper fire-resistant buffers, increasing the risk of road closures during a major fire event.
- Many residents are unaware of the full scope of hazards that pose a risk to the Sonoma Valley community, as well as the necessary preparedness and response measures. Without proper education, individuals may not take proactive steps to reduce their risks, leading to increased damage and potential loss of life during disasters. Vulnerable populations, such as people over 65, low-income families, and non-English-speaking communities, may face additional barriers to accessing life-saving information.
- The efficacy of the hazard mitigation plan is directly connected to consistent and active participation in its maintenance protocols, as outlined in Volume I.
- Despite critical recommendations in the Sonoma County CWPP, insufficient participation in the fuel reduction projects along major transportation evacuation corridors in the Sonoma Valley Fire District directly increases the risk of these vital routes becoming impassable during wildfires.
- Addressing escalating climate risks effectively requires coordinated, regional strategies. Without active participation in regional groups, the District could become more vulnerable to hazard events such as dam failure, flooding, landslide, and wildfire.
- The SVFD does not have a dedicated GIS specialist but leverages County GIS support and field-based tools like Tablet Command and Intterra to access real-time data for wildfire planning and incident management. While these systems enable timely, data-driven decisions, expanding internal GIS training would further strengthen the District's operational capabilities.
- SVFD currently does not have a comprehensive education and outreach program about climate change. There is a need to educate residents and businesses about mitigating the effects of climate change.
- Mitigation planning in SVFD is often a separate effort from many other types of planning within the District. Disregarding mitigation considerations may cause gaps in the ability to fully prepare for hazard events.
- SVFD currently does not have a comprehensive education and outreach program about landslide hazards. There is a need to educate residents and businesses about landslide hazards and appropriate risk reduction alternatives.

18.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

18.10.1 Past Mitigation Action Status

Table 18-15 indicates progress on the District's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 18-15. Status of 2021 Mitigation Actions for Sonoma Valley Fire District

Mitigation Actions	Status
Project Number	SVF-1
Hazards Addressed	Earthquake, wildfire
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Provide earthquake retrofitting for hardening and to build resilience to critical infrastructure within the Sonoma Valley Fire District, specifically Sta.5.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	Completed through the use of reserve budget funds
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed
Project Number	SVF-2
Hazards Addressed	All hazards
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Actively participate in the plan maintenance protocols outlined in Volume I of this hazard mitigation plan.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Continued active engagement in the process.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SVF-3
Hazards Addressed	Wildfire
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Participate in hazard fuel reduction projects based on the findings of the Sonoma County CWPP and along major transportation and evacuation corridors within the SVFD
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The SVFD continues to work with the County and other partners to reduce hazardous fuels in these areas by prescribed burning and mechanical removal.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SVF-4
Hazards Addressed	Wildfire, flooding, landslide, seal level rise, dam failure
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Participation in regional groups addressing climate risks.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Continued active engagement and participation in local groups addressing these issues (e.g., Sonoma Ecology Center, Sonoma County Agricultural Preservation & Open Space District)
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SVF-5
Hazards Addressed	Wildfire, flooding, landslide, sea level rise, dam failure
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Provide training to SVFD staff and secure necessary equipment and resources to have the ability to provide internal GIS functions.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Fire prevention staff and operational staff members have begun training in this area. Additional training is needed and this is a continued goal.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SVF-6
Hazards Addressed	All Hazards
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Provide training to SVFD in website development.
Status	Complete
Narrative describing progress or obstacles that have prevented implementation	-
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not Applicable
If discontinue, explain why	This action has been completed
Project Number	SVF-7
Hazards Addressed	Landslide, sea level rise, flooding, damn failure
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Actively engage the community within the District on practices designed to mitigate the effects of climate change.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The SVFD has expanded its public outreach through defensible space campaigns, parcel inspections, and partnerships for fuel reduction projects such as prescribed burns and shaded fuel breaks. These efforts are supported by enforcement programs and an online portal promoting fire-adapted practices. However, challenges remain, including absentee property owners, limited resources, mixed public perception of prescribed fire, and jurisdictional coordination issues that hinder broader mitigation and climate resilience efforts.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SVF-8
Hazards Addressed	Wildfire, flooding, landslide, sea level rise, dam failure, earthquake
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Sonoma County CWPP and other SVFD plans.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The SVFD can do a better job at a direct integration between its existing plans, rewrites of many plans are needed.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SVF-9
Hazards Addressed	Landslide
Lead Agency	Sonoma Valley Fire District
Mitigation Action Description	Educate the public on the landslide hazard and appropriate risk reduction alternatives.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	The SVFD caters messaging to the community based on climatic conditions. The District focuses on these areas as needed and this should continue to be included in the HMP.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable

18.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 18-15, Sonoma Valley Fire District completed the following mitigation efforts since the last HMP:

- Earthquake retrofit completed at SVFD Station 5 (Glen Ellen)
- Chipper program equipment purchase and implementation
- Increased defensible space and vegetation management compliance inspections
- Increased education in wildfire prevention and mitigation strategies
- Prescribed fire projects George Ranch, Glen Ellen, and Montini
- Purchased land for a new fire station facility
- Generator repair/replacement at SVFD fire stations
- Increased training and equipment capacity in swift water rescue
- Created a community example for wildfire defensible space and zone 0 landscaping at SVFD Station 1
- Structural and vegetation hardening completed at SVFD Station 8
- Implemented a county wide incident management software (Tablet Command)
- Implemented a county wide pre-incident planning mapping solution to share critical information among all fire agencies; this focuses on both structural and wildfire pre-incident fire / emergency planning (Intterra)
- Applied for and received listing with Board of Forestry as a Fire Risk Reduction Community
- Attended meetings with local stakeholders, community groups, and City of Sonoma, and collaborated on issues of homelessness and response to extreme weather
- Collaboration with County DEM on storm response and sand bag locations
- Participated in the development of Community Wildfire Protection Plans (CWPP) in the Springs and Glen Ellen and Kenwood.

- Attended and participated in community group meetings with both the Springs and North Valley Municipal Advisory Committees
- Passed Measure H tax measure supporting fire service in Sonoma County
- Hired the County's first Measure H vegetation management / defensible space coordinator for Zone 3
- Initiated a pilot program with private company and DHS on early wildfire detection system, ongoing
- Worked to establish Firewise Communities in the SVFD
- Conducted and attended multiple community events engaging with the public and providing fire safety, fire prevention, wildfire preparedness and other extreme weather safety information

Since the adoption of the County's first HMP, Sonoma Valley Fire District has made significant mitigation progress in the following areas:

- Roadside vegetation projects

18.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Sonoma Valley Fire District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Sonoma Valley Fire District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 18-16 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 18-17 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 18-16. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	-	-	X	X	-	X	-	-	-
Drought	X	X	X	X	X	X	X	-	-	-
Earthquake	X	X	-	X	X	X	X	-	-	X
Extreme Cold	X	X	-	X	X	X	X	-	-	-
Extreme Heat	X	X	-	X	X	X	X	-	-	-
Extreme Wind	X	X	-	X	X	X	X	-	-	-
Flood	X	X	X	X	X	X	X	X	X	-
Landslide	X	-	-	X	X	-	X	-	-	-
Wildfire	X	X	X	X	X	X	X	X	-	X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Table 18-17. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Fuel Reduction Projects	Medium	High	7	1-5 years	7.539	High
HMP Maintenance	Low	Medium	5	1-5 years	7.385	High
HMP Integration	Low	Low	13	1-5 years	7.001	High
Preparedness Education	Medium	Medium	7	1-5 years	6.539	Medium
Vegetation Management	High	High	6	1-5 years	6.462	Medium
Participation in Regional Groups	Low	Low	6	1-5 years	6.462	Medium
Climate Change Outreach	Low	Low	4	1-5 years	6.308	Medium
Landslide Outreach	Low	Low	4	1-5 years	6.308	Medium
GIS Capabilities	Low	Low	1	1-5 years	6.077	Medium
Stormwater Management Improvements	High	High	7	1-10 years	5.539	Medium
Fire Station Protection	High	High	6	1-10 years	5.462	Medium
Evacuation Routes	High	High	4	1-10 years	5.308	Medium
Warming/Cooling Centers	High	Medium	6	1-10 years	4.462	Low
Water Supply Enhancements	High	Medium	3	1-10 years	4.231	Low

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-SVFD-01. Vegetation Management

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	Sonoma County, Fire Safe Sonoma, CAL FIRE, City of Sonoma, Measure H Fuels Crew, Local partners to include but not limited to Sonoma Resource Conservation District, Sonoma Ag and Open Space, Sonoma Ecology Center, Sonoma Land Trust, Private land owners, land stewards, Fire Safe Councils, Firewise Communities, and other NGOs to be determined
Hazards of Concern:	Wildfire
Description of the Problem:	Wildfire risk is increasing due to prolonged drought, excessive dry fuels, and expanding wildland-urban interface development. Many properties lack defensible space, and overgrown vegetation poses a significant hazard. In addition, dead and downed fuels due to disease, prior fire events, and other factors are significantly increasing wildfire risk.
Description of the Solution:	Wildfire risk reduction through enhanced vegetation management
Estimated Cost:	High
Potential Funding Sources:	Measure H tax assessment, FEMA Hazard Mitigation Grant Program (HMGP), CAL FIRE Fire Prevention Grants
Implementation Timeline:	1-5 Years
Objectives Met:	1,2,3,6,9,11
Benefits:	Reduced wildfire risk, safer evacuations, improved emergency response
Impact on Socially Vulnerable Populations:	Provides protection for vulnerable communities in fire-prone areas
Impact on Future Development:	Requires updates to building codes and landscaping regulations
Impact on Critical Facilities/Lifelines:	Protects hospitals, fire stations, and local government resources, including utility infrastructure, evacuation routes, local economy
Impact on Capabilities:	Strengthens regional wildfire response and preparedness
Climate Change Considerations:	Addresses increased fire frequency due to hotter, drier and windier conditions. Reduces incidence of large-scale fire events, reducing smoke pollution and carbon emissions
Mitigation Category	Local Plans and Regulations (LPR), Natural Systems Protection (NSP)
CRS Category	Preventative Measures (PR), Property Protection (PP)
Priority	Medium

Action 2026-SVFD-02. Fire Station Protection

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	City of Sonoma, Kenwood Fire Protection District
Hazards of Concern:	Earthquake, Wildfire
Description of the Problem:	Critical facilities inclusive of fire station need to be resilient to the damage from earthquakes and wildfire. It is essential that these facilities maintain operation to protect the community.
Description of the Solution:	Conduct seismic, vegetation and defensible space, and fire hardening assessments of fire stations; ensure apparatus, personnel, and equipment are serviceable during and after seismic events; install gas shutoff valves as needed.
Estimated Cost:	High
Potential Funding Sources:	FEMA Pre-Disaster Mitigation (PDM) Grants, State Seismic Safety Commission Grants, FEMA Hazard Mitigation Grant Program (HMGP), CAL FIRE Prevention Grants
Implementation Timeline:	1-10 Years
Objectives Met:	1,2,3,6,9,11
Benefits:	Ensures emergency services remain operational after a quake and remain functional in the face of wildfire threats
Impact on Socially Vulnerable Populations:	Moderate—ensures emergency response capability in disadvantaged communities
Impact on Future Development:	Enhances disaster response effectiveness
Impact on Critical Facilities/Lifelines:	High—keeps emergency services functional
Impact on Capabilities:	Enhances disaster response effectiveness
Climate Change Considerations:	NA
Mitigation Category	Structure and Infrastructure Project (SIP)
CRS Category	Preventative Measures (PR), Property Protection (PP), Emergency Services (ES)
Priority	Medium

Action 2026-SVFD-03. Stormwater Management Improvements

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	Sonoma Water, Sonoma County Public Works, Sonoma County Department of Emergency Management
Hazards of Concern:	Flood
Description of the Problem:	Heavy rainfall events are overwhelming existing drainage systems, leading to road closures, property damage, and limited access for emergency vehicles. Certain areas within the SVFD are prone to this, and issues arise including the need for victim rescue.
Description of the Solution:	Flood mitigation through stormwater management improvements
Estimated Cost:	High
Potential Funding Sources:	FEMA Flood Mitigation Assistance (FMA), State Water Resources Control Board Grants
Implementation Timeline:	1-10 years
Objectives Met:	1,2,3,6,8,9,10
Benefits:	Less property damage, safer roads, faster response times, decrease in calls for service
Impact on Socially Vulnerable Populations:	High—reduces risk in low-income flood-prone areas
Impact on Future Development:	May require zoning adjustments
Impact on Critical Facilities/Lifelines:	Prevents flooding at fire stations and evacuation routes
Impact on Capabilities:	Strengthens local flood response
Climate Change Considerations:	Prepares for more frequent heavy rainfall events
Mitigation Category	Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP)
CRS Category	Natural Resource Protection (NR), Structural Flood Control Projects (SP)
Priority	Medium

Action 2026-SVFD-04.Water Supply Enhancements

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	Sonoma Water, Local Municipal Water Districts, CAL FIRE
Hazards of Concern:	Drought
Description of the Problem:	Extended drought conditions are reducing available water supplies for firefighting, agricultural use, and community consumption. The depletion of reservoirs and groundwater sources threatens the district's ability to maintain fire suppression efforts, particularly in wildland-urban interface areas.
Description of the Solution:	Drought resilience through water supply enhancements
Estimated Cost:	High
Potential Funding Sources:	State Water Resources Control Board Grants, FEMA BRIC (Building Resilient Infrastructure and Communities), USDA Water Infrastructure Grants
Implementation Timeline:	1-10 Years
Objectives Met:	3,6,10
Benefits:	Ensures water availability for fire suppression, reduces reliance on stressed reservoirs, promotes long-term sustainability
Impact on Socially Vulnerable Populations:	Moderate—helps communities in drought-prone areas maintain water access
Impact on Future Development:	May require updated water use policies and conservation measures
Impact on Critical Facilities/Lifelines:	High—ensures continued fire suppression capability
Impact on Capabilities:	Strengthens regional water management and emergency response
Climate Change Considerations:	Addresses prolonged dry periods and reduced rainfall
Mitigation Category	Structure and Infrastructure Project (SIP), Natural Systems Protection (NSP)
CRS Category	Property Protection (PP)
Priority	Low

Action 2026-SVFD-05. Warming/Cooling Centers

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	Sonoma County, City of Sonoma, Sonoma County Department of Emergency Management, Sonoma County Health Services, Local Government Agencies, Nonprofits
Hazards of Concern:	Extreme Cold, Extreme Heat, Extreme Wind, Flood, Wildfire
Description of the Problem:	Extreme weather events—including heatwaves, cold snaps, and high-wind storms—are becoming more frequent and severe due to climate change. Vulnerable populations, such as the elderly, low-income residents, and individuals with medical conditions, face increased health risks. Additionally, extreme weather can cause power outages, impacting heating and cooling access, and increasing emergency medical responses.
Description of the Solution:	**Extreme Weather Resilience – Community Cooling, Warming, and Shelter Centers** Establish permanent and mobile climate resilience centers that function as cooling, warming, and emergency shelter spaces during extreme weather events, and emergencies. Retrofit community centers, libraries, and other spaces with backup generators, efficient HVAC systems, and insulated spaces to provide refuge during extreme heat, cold, and wind events. Enhance a community outreach and transportation program to assist at-risk individuals in accessing climate resilience centers. Expand tree planting and urban greening programs to reduce urban heat and wind exposure. Provide home resilience incentives such as energy-efficient cooling/heating units, weatherproofing assistance, and wind-resistant roofing support.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program (HMGP), State Climate Resilience Funds, Local Health & Safety Funds, USDA Community Resilience Grants
Implementation Timeline:	1-10 Years
Objectives Met:	1,2,4,10,12,13
Benefits:	Protects vulnerable populations from life-threatening weather conditions Reduces emergency medical incidents related to heatstroke, hypothermia, and wind-related injuries Improves community preparedness and resilience against extreme weather events Strengthens local emergency response coordination
Impact on Socially Vulnerable Populations:	High—directly benefits low-income individuals, elderly populations, and medically fragile residents
Impact on Future Development:	Encourages climate-resilient infrastructure and building standards
Impact on Critical Facilities/Lifelines:	Ensures continued operation of emergency response and public services
Impact on Capabilities:	Expands fire district and emergency management preparedness for extreme weather events
Climate Change Considerations:	Addresses increasing temperature fluctuations, extreme weather patterns, and energy reliability concerns
Mitigation Category	Structure and Infrastructure Project (SIP), Education and Awareness Programs (EAP)
CRS Category	Property Protection (PP), Public Information (PI)
Priority	Low

Action 2026-SVFD-06. Evacuation Routes

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	CAL FIRE, Sonoma County Roads / Public Works, Public Utilities, Law Partners
Hazards of Concern:	Wildfire
Description of the Problem:	Evacuation routes in high-risk wildfire zones are vulnerable to road obstructions, downed power lines, and congestion. Many routes lack proper fire-resistant buffers, increasing the risk of road closures during a major fire event.
Description of the Solution:	**Emergency Evacuation Route Hardening & Wildfire Safety Enhancements** Widen and clear key evacuation corridors to improve traffic flow. Underground power lines along major evacuation routes to reduce fire risks. Install fire-resistant road barriers and safety signage. Expand intelligent traffic management systems for real-time evacuation guidance.
Estimated Cost:	High
Potential Funding Sources:	FEMA Pre-Disaster Mitigation (PDM), Federal Highway Administration Grants, State Fire Prevention Funds
Implementation Timeline:	1-10 Years
Objectives Met:	1,2,5,6
Benefits:	Faster and safer evacuations, reduced road closures, improved emergency response
Impact on Socially Vulnerable Populations:	High—ensures all residents have access to safe evacuation routes
Impact on Future Development:	Underscores the needs for current road design standards and community planning.
Impact on Critical Facilities/Lifelines:	Keeps emergency responders and supply chains moving during disasters
Impact on Capabilities:	Enhances fire district coordination with law enforcement for evacuations
Climate Change Considerations:	Addresses increased wildfire severity due to warming climate
Mitigation Category	Structure and Infrastructure Project (SIP)
CRS Category	Preventative Measures (PR), Property Protection (PP), Emergency Services (ES)
Priority	Medium

Action 2026-SVFD-07. Preparedness Education

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	City of Sonoma, Sonoma County Emergency Management, Local Schools, Community Organizations, Media Outlets
Hazards of Concern:	Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Many residents are unaware of the full scope of hazards that pose a risk to the Sonoma Valley community, as well as the necessary preparedness and response measures. Without proper education, individuals may not take proactive steps to reduce their risks, leading to increased damage and potential loss of life during disasters. Vulnerable populations, such as seniors, low-income families, and non-English-speaking communities, may face additional barriers to accessing life-saving information.
Description of the Solution:	**Community Hazard Awareness & Preparedness Education Program** To enhance community preparedness and resilience, a multi-hazard public education and outreach program will be implemented, focusing on wildfire preparedness, earthquake safety, flood protection, and extreme weather resilience. This initiative will include community workshops and training sessions to educate residents on best practices for hazard mitigation and emergency response. A "Know Your Risk" campaign will be launched, utilizing both digital and printed materials to inform the public about local hazards and effective mitigation actions. To ensure accessibility, evacuation preparedness guides will be distributed in multiple languages, reaching diverse populations. Annual preparedness fairs will be organized, featuring interactive demonstrations, emergency kit giveaways, and opportunities for residents to engage directly with first responders. To build long-term awareness, partnerships with local schools will integrate hazard education into curriculum-based learning, fostering a culture of preparedness among students. The program will leverage social media and text alert systems to provide real-time hazard warnings and practical safety tips. Recognizing the importance of inclusive outreach, collaborations with faith-based and community groups will ensure that information reaches all demographics, including vulnerable populations. Through these comprehensive efforts, the program will equip residents with the knowledge and resources necessary to respond effectively to a range of hazards.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program (HMGP), Community Resilience Grants, Private Sector Sponsorships, Local Government Funds
Implementation Timeline:	1-5 Years
Objectives Met:	2,4,5,6,10,12,13
Benefits:	Reduces loss of life and property damage by ensuring residents understand risks and take proactive steps Engages historically underserved communities with accessible, multilingual resources Strengthens partnerships between emergency services and the public Supports local businesses and organizations in developing their own preparedness plans
Impact on Socially Vulnerable Populations:	High—ensures outreach to non-English speakers, elderly populations, and low-income communities

Impact on Future Development:	Creates a culture of preparedness in the community
Impact on Critical Facilities/Lifelines:	Helps businesses, schools, and essential services plan for hazard events
Impact on Capabilities:	Enhances emergency response effectiveness through community participation
Climate Change Considerations:	Addresses increasing hazard severity and frequency due to climate change
Mitigation Category	Local Plans and Regulations (LPR), Education and Awareness Programs (EAP)
CRS Category	Preventative Measures (PR), Public Information (PI)
Priority	Medium

Action 2026-SVFD-08. HMP Maintenance

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	The efficacy of the hazard mitigation plan is directly tired to consistent and active participation in its maintenance protocols, as outlined in Volume I.
Description of the Solution:	Actively participate in the plan maintenance protocols outlined in Volume I of this hazard mitigation plan.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-term
Objectives Met:	1,2,4,8,9,
Benefits:	Prevents the plan from becoming obsolete.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	Improved decision-making on land use, build codes, and infrastructure projects.
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	This action helps identify and implement cost saving measures.
Climate Change Considerations:	As environmental conditions change due to climate change, the plan can be adjusted to account for new or increasing hazards.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	High

Action 2026-SVFD-09. Fuel Reduction Projects

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	CAL FIRE, Sonoma County, City of Sonoma, Fire Safe Sonoma, Local Fire Safe Councils
Hazards of Concern:	Wildfire
Description of the Problem:	Despite critical recommendations in the Sonoma County CWPP, insufficient participation in the fuel reduction projects along major transportation evacuation corridors in the Sonoma Valley Fire District directly increases the risk of these vital routes becoming impassable during wildfires.
Description of the Solution:	Participate in hazard fuel reduction projects based on the findings of the Sonoma County CWPP and along major transportation and evacuation corridors within the SVFD. Work with Fire Safe Sonoma and the Sonoma County Fire Chief's Association to implement Measure H funds and crews to reduce risk.
Estimated Cost:	Medium
Potential Funding Sources:	Measure H Funds, FEMA HMGP, PDM, Private Funding, Private Grants
Implementation Timeline:	Short-term
Objectives Met:	1,2,4,6,9,12,13
Benefits:	Improve wildfire safety and reduce risk of loss of life and property.
Impact on Socially Vulnerable Populations:	This action will provide more reliable evacuation routes.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Fuel reduction around critical facility corridors can protect these essential services from wildfire damage, ensuring continuity of operations.
Impact on Capabilities:	This action will help preserve essential capabilities during and after a disaster.
Climate Change Considerations:	Climate change can lead to hotter temperatures, causing vegetation to dry out and leading to flammable fuel.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Emergency Services
Priority	High

Action 2026-SVFD-10. Participation in Regional Groups

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Flood, Landslide, Wildfire
Description of the Problem:	Addressing escalating climate risks effectively requires coordinated, regional strategies. Without active participation in regional groups, this District could become more vulnerable to hazard events such as dam failure, flooding, landslide, and wildfire.
Description of the Solution:	Participation in regional groups addressing climate risks.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-term
Objectives Met:	1,2,4,6,9,12
Benefits:	Enhance resilience and preparedness against the escalating impacts of climate change.
Impact on Socially Vulnerable Populations:	Regional groups can identify vulnerable areas.
Impact on Future Development:	This action will ensure informed decisions are made toward future development.
Impact on Critical Facilities/Lifelines:	This will ensure coordinated efforts to protect critical infrastructure and ensure their continuity of operation.
Impact on Capabilities:	Can enhance the District’s capabilities.
Climate Change Considerations:	Climate change is leading to more frequent and intense weather events.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SVFD-11. GIS Capabilities

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Flood, Landslide, Wildfire
Description of the Problem:	While the SVFD does not have a dedicated GIS specialist, it actively collaborates with Sonoma County GIS and has implemented platforms such as Tablet Command and Intterra to provide real-time access to maps and operational data in the field. These tools support timely, data-driven decision-making for wildfire planning and incident management. However, the District recognizes the need to build internal GIS capacity through targeted training to further enhance its ability to manage and utilize geospatial information independently.
Description of the Solution:	Provide training to SVFD staff and secure necessary equipment and resources to have the ability to provide internal GIS functions.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-Term
Objectives Met:	6
Benefits:	This action ensures faster, more informed, and data-driven decisions.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will allow SVFD to accurately map and layer critical facilities with fire hazard data.
Impact on Capabilities:	Ensures a common operating picture.
Climate Change Considerations:	Climate change is leading to hotter and drier temperatures; GIS is essential for modeling and understanding these new conditions.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SVFD-12. Climate Change Outreach

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Flood, Landslide
Description of the Problem:	SVFD currently does not have a comprehensive education and outreach program about climate change. There is a need to educate residents and businesses about mitigating the effects of climate change.
Description of the Solution:	Actively engage the community within the District on practices designed to mitigate the effects of climate change.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-Term
Objectives Met:	1,2,4,13
Benefits:	This action will improve the current public education and outreach programs in the SVFD.
Impact on Socially Vulnerable Populations:	Socially vulnerable populations will learn how to prepare for and mitigate the effects of climate change that may impact them in the District.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Businesses, which may be considered critical facilities or lifelines, would be more informed on how to prepare for emergency events and mitigate the risks of climate change. With these businesses becoming more resilient, this action would contribute to their continuity of operations.
Impact on Capabilities:	This action would build upon the District's already existing public education and outreach program.
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate-related disaster events. This action will inform residents and business owners of how to reduce risk from hazards and how climate change may exacerbate those risks.
Mitigation Category	Education and Awareness Program
CRS Category	Public Information
Priority	Medium

Action 2026-SVFD-13. HMP Integration

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Flood, Landslide, Wildfire
Description of the Problem:	Mitigation planning in SVFD is often a separate effort from many other types of planning within the District. Disregarding mitigation considerations may cause gaps in the ability to fully prepare for hazard events.
Description of the Solution:	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Sonoma County CWPP and other SVFD Plans.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-Term
Objectives Met:	1,2,4,5,6,8,9,10,11,12,13
Benefits:	Provides an opportunity for coordination among agencies and their planning efforts to improve the overall ability to prepare for, respond to, and recover from events.
Impact on Socially Vulnerable Populations:	Communities that collaborate and coordinate their planning efforts are more likely to have identified ways to best work with vulnerable populations to increase their level of preparedness.
Impact on Future Development:	Coordinated planning efforts provide an opportunity for efficient and safe growth and development.
Impact on Critical Facilities/Lifelines:	Integrating mitigation into building and zoning protects existing infrastructure and guides the safe development of new construction.
Impact on Capabilities:	A consolidated planning process brings together the capabilities of agencies and departments and better identifies what resources are available at any given point in time and where they are needed most.
Climate Change Considerations:	As the climate changes, planning processes will require a more intense focus on plan maintenance and gathering of the best data to remain current and accurate over time.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	High

Action 2026-SVFD-14. Landslide Outreach

Lead Agency:	Sonoma Valley Fire District Fire Chief
Supporting Agencies:	-
Hazards of Concern:	Landslide
Description of the Problem:	SVFD currently does not have a comprehensive education and outreach program about landslide hazards. There is a need to educate residents and businesses about landslide hazards and appropriate risk reduction alternatives.
Description of the Solution:	Educate the public on the landslide hazard and appropriate risk reduction alternatives.
Estimated Cost:	Low
Potential Funding Sources:	Staff Time, General Funds
Implementation Timeline:	Short-Term
Objectives Met:	1,2,4,13
Benefits:	This action will improve the current public education and outreach programs in the SVFD.
Impact on Socially Vulnerable Populations:	Socially vulnerable populations will learn how to prepare for and mitigate the effects of landslides that may impact them in the District.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Businesses, which may be considered critical facilities or lifelines, would be more informed on how to prepare for emergency events and mitigate the risks of landslides. With these businesses becoming more resilient, this action would contribute to their continuity of operations.
Impact on Capabilities:	This action would build upon the District's already existing public education and outreach program.
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate-related disaster events. This action will inform residents and business owners of how to reduce risk from hazards and how climate change may exacerbate those risks.
Mitigation Category	Education and Awareness Program
CRS Category	Public Information
Priority	Medium

19. TIMBER COVE FIRE PROTECTION DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the Timber Cove Fire Protection District (TCFPD) with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of TCFPD, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

19.1 HAZARD MITIGATION PLANNING TEAM

The Timber Cove Fire Protection District identified primary and alternate HMP points of contact and developed this plan over the course of several months. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below and shown in Table 19-1. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Heidi Horvitz, Battalion Chief, Admin

Address:30800 Seaview Rd, Cazadero, CA 95421

Phone Number: 707-847-3299

Email: heidi.horvitz@timbercovefire.org

Table 19-1. Additional Contributors

Name	Department	Position	HMP Contribution
Heidi Horvitz	Timber Cove Fire	Battalion Chief	Provided information on required worksheets, reviewed drafts, and participated in the planning process.
Jason Warner	Timber Cove Fire	Chief	Participated in the planning process.
Sharon Lynn	Timber Cove Fire	Admin Assistant	Participated in the planning process.

19.2 COMMUNITY PROFILE

TCFPD is a special district located along the central coast of Sonoma County. Established in 1996, it evolved from a volunteer fire department originally operating within County Service Area 40. The

community first organized a benefit district in 1988 to fund the construction of the current firehouse through a Mello-Roos assessment.

TCFPD serves 48 square miles of rugged, coastal terrain, stretching along an 18-mile segment of U.S. Highway 1 and extending inland to Bohan Dillon Road. The district includes a mix of public lands, residential subdivisions, commercial vineyards, ranches, restaurants, and lodging establishments. Nearly half of the district is public land, and travel times within the district can exceed 45 minutes due to steep terrain and limited access.

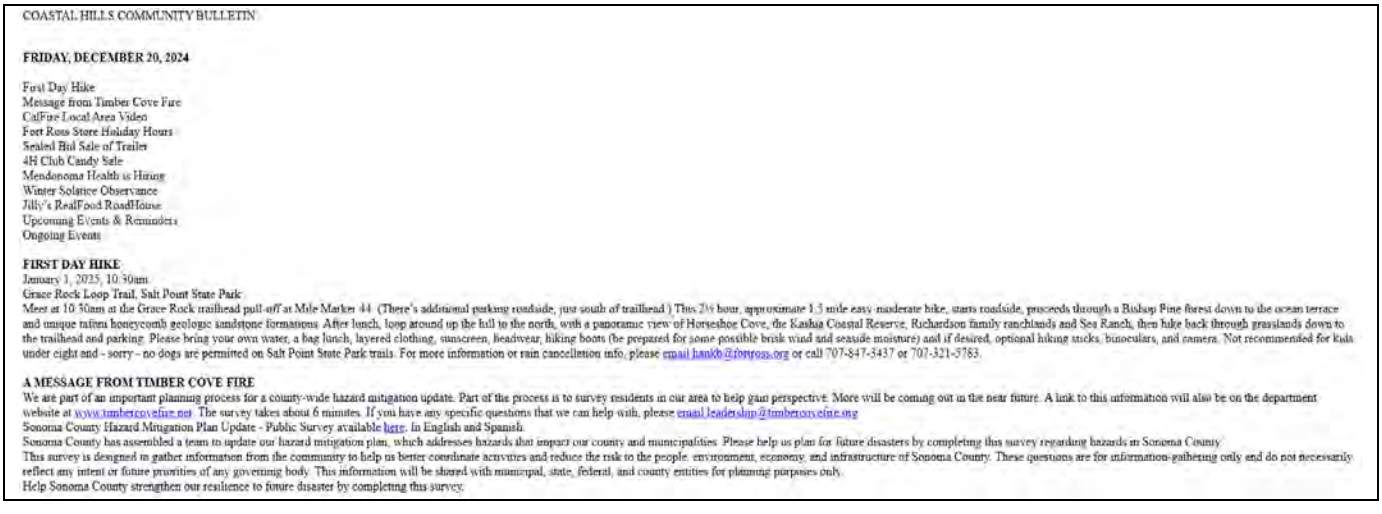
TCFPD provides fire suppression, emergency medical services, ocean rescue, and mutual aid to neighboring jurisdictions and state and county parks. Governed by a three-member elected Board of Directors, the District operates in a climate influenced by coastal conditions, with high winds, low humidity, and heavy winter rains that contribute to frequent downed trees, power line hazards, and debris flows.

19.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, TCFPD completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

In December 2024, TCFPD shared a message with the community through the Timber Cove Bulletin, its primary means of communication in the rural area, reaching over 600 emails. The message highlighted TCFPD's participation in a county-wide initiative to update the Sonoma County HMP, emphasizing the importance of community involvement in this critical planning effort. The bulletin was posted three times in December (See Figure 19-1).

Figure 19-1. Community Bulletin – Email



COASTAL HILLS COMMUNITY BULLETIN

FRIDAY, DECEMBER 20, 2024

First Day Hike
Message from Timber Cove Fire
CalFire Local Area Video
Fort Ross Store Holiday Hours
Sealed Bid Sale of Trailer
4H Club Candy Sale
Mendonoma Health is Hiring
Winter Solstice Observance
Jilly's RealFood RoadHouse
Upcoming Events & Reminders
Ongoing Events

FIRST DAY HIKE
January 1, 2025, 10:30am
Grace Rock Loop Trail, Salt Point State Park
Meet at 10:30am at the Grace Rock trailhead pull-off at Mile Marker 44. (There's additional parking roadside, just south of trailhead.) This 2½ hour, approximate 1.3 mile easy-moderate hike, starts roadside, proceeds through a Bishop Pine forest down to the ocean terrace and unique tafoni honeycomb geologic sandstone formations. After lunch, loop around up the hill to the north, with a panoramic view of Horseshoe Cove, the Kashia Coastal Reserve, Richardson family ranchlands and Sea Ranch, then hike back through grasslands down to the trailhead and parking. Please bring your own water, a bag lunch, layered clothing, sunscreen, headwear, hiking boots (be prepared for some possible brisk wind and seaside moisture) and if desired, optional hiking sticks, binoculars, and camera. Not recommended for kids under eight and - sorry – no dogs are permitted on Salt Point State Park trails. For more information or rain cancellation info, please email hankb@fortross.org or call 707-847-3437 or 707-321-5783.

A MESSAGE FROM TIMBER COVE FIRE
We are part of an important planning process for a county-wide hazard mitigation update. Part of the process is to survey residents in our area to help gain perspective. More will be coming out in the near future. A link to this information will also be on the department website at www.timbercovefire.net. The survey takes about 6 minutes. If you have any specific questions that we can help with, please email leadership@timbercovefire.org
Sonoma County Hazard Mitigation Plan Update - Public Survey available here. In English and Spanish.
Sonoma County has assembled a team to update our hazard mitigation plan, which addresses hazards that impact our county and municipalities. Please help us plan for future disasters by completing this survey regarding hazards in Sonoma County.
This survey is designed to gather information from the community to help us better coordinate activities and reduce the risk to the people, environment, economy, and infrastructure of Sonoma County. These questions are for information-gathering only and do not necessarily reflect any intent or future priorities of any governing body. This information will be shared with municipal, state, federal, and county entities for planning purposes only.
Help Sonoma County strengthen our resilience to future disaster by completing this survey.

Targeted outreach was made to the following underserved communities and vulnerable populations:

- Seniors
- Non-English speakers

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to TCFPD was contributed through community engagement activities.

19.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, TCFPD invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

19.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

Local and state agencies involved in emergency response, transportation, and park management were invited to contribute to the County's HMP update. Their participation reflects the critical role these organizations play in identifying risks and enhancing regional resilience.

- CAL FIRE
- Caltrans
- California State Parks
- Sonoma County Regional Parks
- Timber Cove Fire Protection District

19.4.2 Agencies that Have the Authority to Regulate Development

Permit Sonoma holds the authority to regulate development within the area, ensuring that land use aligns with established planning, safety, and environmental standards.

19.4.3 Neighboring Communities

As part of the hazard mitigation planning process, outreach was conducted to neighboring service providers and emergency response agencies to inform them of the effort and invite their participation. Communication included sharing the planning timeline and opportunities to provide input on regional hazard vulnerabilities and potential mitigation strategies.

- North Sonoma Coast Fire Protection District
- Gold Ridge Fire Protection District
- Timber Cove Water District
- Sonoma County Fire District
- Coast Life Support District

19.4.4 Representatives of Business, Academia, and Other Private Organizations

TCFPD engaged local school district representatives by notifying the Fort Ross School District about the HMP update. The District was encouraged to share the survey and planning information with its members and provide feedback on community vulnerabilities and resilience priorities.

19.4.5 Nonprofit Organizations and Community-Based Organizations

Coordination with local community organizations supported broader engagement in the hazard mitigation planning process. These groups were invited to review draft materials and share feedback based on their local knowledge and experience in emergency preparedness, helping to ensure that community perspectives were reflected in the final plan.

- Central Sonoma Coast Firewise Community
- Mendonoma Health
- Timber Cove Fire Volunteer Firefighter Association
- Coast Ridge Community Forest

19.4.6 Other Stakeholders

Community groups and local stakeholders can support the hazard mitigation planning process by sharing local knowledge, promoting public engagement, and helping identify vulnerable assets.

- Coastal Hills Community Project

19.5 CHANGES IN COMMUNITY PRIORITIES

There have been no changes in TCFPD’s priorities since the 2021 HMP update.

19.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Timber Cove Fire Protection District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for TCFPD to identify opportunities for integrating mitigation concepts into ongoing District procedures.

19.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, the Timber Cove Fire Protection District does not possess planning or regulatory authority, including the development or enforcement of codes, ordinances, regulations, or formal planning and emergency response documents. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 19-2 summarizes the codes, ordinances, and regulations for the District.

Planning Documents

There are currently no planning capabilities provided by the District. Creating, maintaining, and implementing plans that can support mitigation efforts, such as a Disaster Preparedness Plan, is an opportunity for the District to expand and improve its capabilities.

Table 19-2. Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building Codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Fire Code	The California Fire Code supports the goals of the HMP by establishing fire prevention standards that reduce the risk of wildfire and structural fires. It includes requirements for defensible space, fire-resistant materials, and emergency access, all of which are critical for protecting people, property, and infrastructure in fire-prone areas.	State CA Fire Code, 2022, amended State code	County of Sonoma
Health and Safety Code	Outlines the organizations, powers, and responsibilities of fire protection districts throughout the state.	State California Code, Health and Safety Code - HSC § 13800	County of Sonoma

19.6.2 Integration

Actions in the District's mitigation strategy requiring funding can be integrated into its annual budget where possible. While the District currently does not have formal planning mechanisms in place, future development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans or annex updates
- Using hazard-specific information, such as drought data, to inform updates to policies and operational practices
- Incorporating hazard analyses into the development of new plans or district annexation efforts

Information from the 2021 HMP has not been integrated into any planning mechanisms, because no mechanisms exist yet. The previous HMP included actions that would have created planning mechanisms that include hazard mitigation, but those efforts are still ongoing due to a lack of capacity.

19.6.3 Development and Permitting Capability

TCFPD is a special district subject to the Sonoma County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Sonoma County. Therefore, building code, land use, and development capabilities are not applicable to the District.

19.6.4 Administrative and Technical Capability

Table 19-3 summarizes the administrative bodies and programs available to support mitigation initiatives in the District.

Table 19-3. Administrative Capabilities

Resources	Available?	Comment
Planning Board	No	-
Zoning Board of Adjustment	No	-
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	No	-
Construction/Building/Code Enforcement Department	No	-
Emergency Management/Public Safety Department	Yes	Respond to emergencies within TCF District
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	-
Mutual aid agreements	No	-
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-

Table 19-4 summarizes technical staff available to the District and their current responsibilities that contribute to hazard mitigation.

Table 19-4. Technical Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	No	-
Planners or engineers with an understanding of natural hazards	No	-
Staff with expertise or training in benefit/cost analysis	No	-
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazus applications	No	-
Staff that work with socially vulnerable populations or underserved communities	No	-
Environmental scientists familiar with natural hazards	No	-

Resources	Available ?	Comment
Surveyors	No	-
Emergency manager	No	-
Grant writers	No	-
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-

19.6.5 Fiscal Capability

Table 19-5 summarizes financial resources available to Timber Cove Fire Protection District. TCFPD has the ability to expand its fiscal capabilities by levying taxes and incurring debt through bonds, but there are local considerations that can make this infeasible.

Table 19-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes – Parcel Tax
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	

19.6.6 Education and Outreach Capability

Table 19-6 summarizes the education and outreach resources available to Timber Cove Fire Protection District.

Table 19-6. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	PIO for incidents
Personnel skilled or trained in website development	No	-
Hazard mitigation information available on your website	No	But links provided to county info
Social media for hazard mitigation education and outreach	No	But links provided to county info
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	High/Low from Emergency Apparatus
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	-
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Website and community markets

19.6.7 Community Classifications

Table 19-7 summarizes classifications for community programs available to Timber Cove Fire Protection District.

Table 19-7. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	6	
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	Yes	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

19.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 19-8 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.

- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 19-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flooding	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

19.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, TCFPD is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within the District's jurisdiction can be found in the annex for Sonoma County.

19.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the TCFPD's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction is included in the Sonoma County annex. Overall, development within the district has been minimal and TCFPD's hazard vulnerability has stayed the same.

19.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Timber Cove Fire Protection District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

19.9.1 Hazard Area

Maps of the probable hazard areas within the District are shown in Figure 19-2 and Figure 19-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Timber Cove Fire Protection District has significant exposure.

Figure 19-2. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

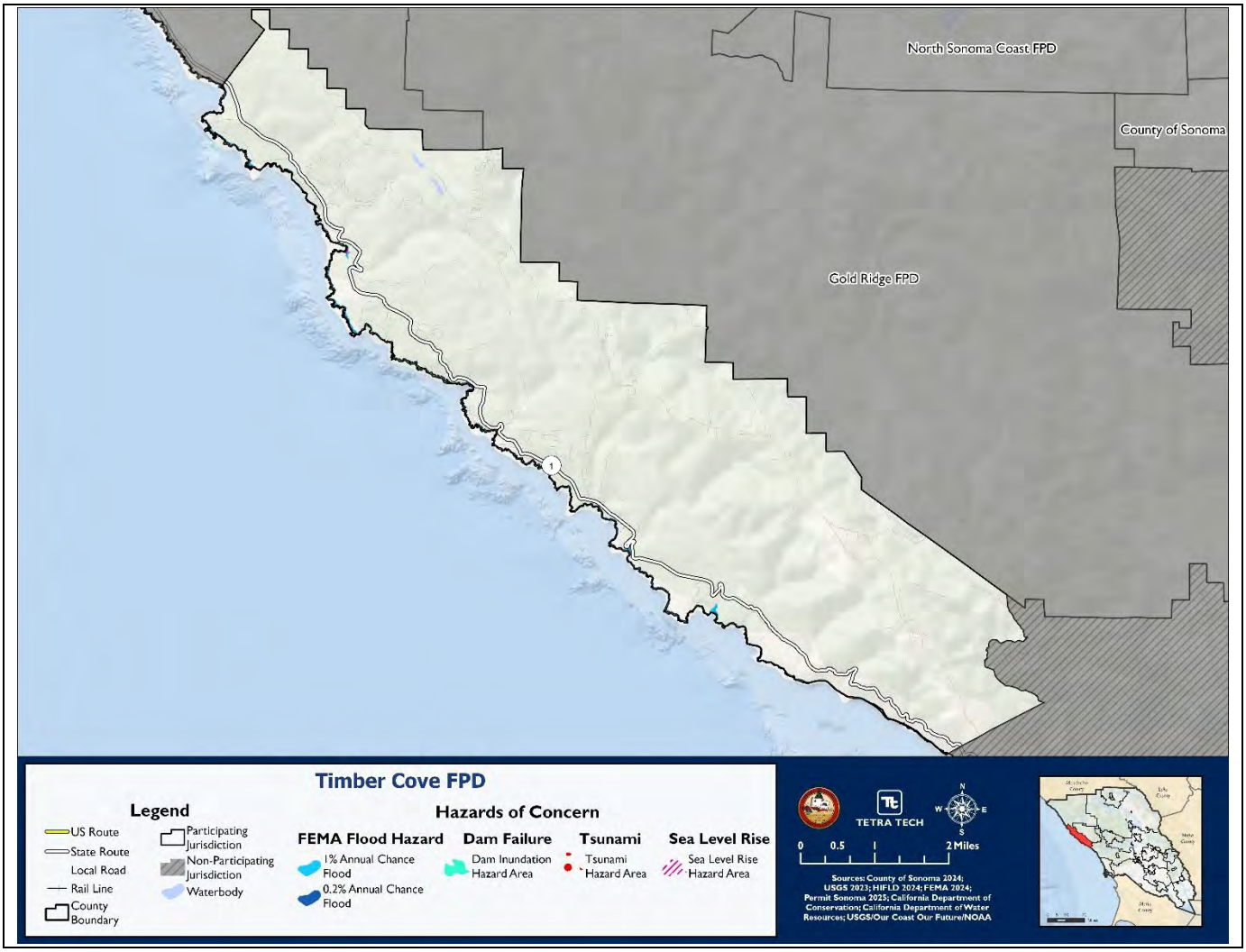
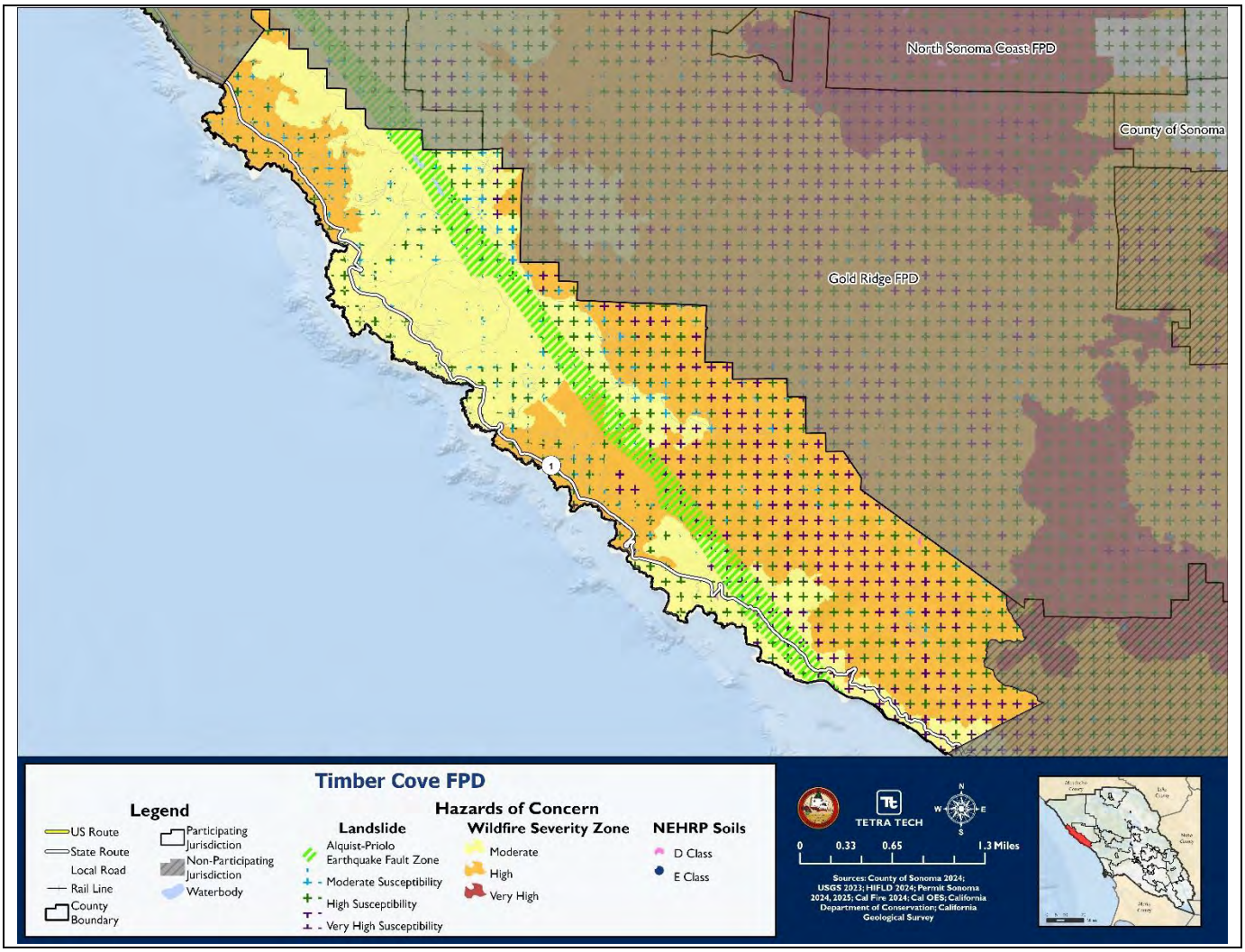


Figure 19-3. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



19.9.2 Hazard Event History

The history of natural and non-natural hazard events in Timber Cove Fire Protection District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 19-9 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 19-9. Hazard Event History in Timber Cove Fire Protection District, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in the District
January 26-29, 2021	Flood and Debris Flow	N/A	A plume of moisture from the tropical Pacific brought an Atmospheric River to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	Mudslides and trees down blocking roads within the district prompting emergency response.
November 8, 2021	Flood	N/A	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	Mudslides and trees down blocking roads within the district prompting emergency response.
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton. A 43-year old woman from Ukiah was recovered on the 10th after her car got stuck in floodwaters.	Major wind/rain event with Mudslides and trees down blocking roads within the district prompting emergency response. Power, phone and internet are affected in many areas.
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	No effect
January 21-22, 2024	Flood	N/A	A series of frontal systems with a weak subtropical tap led to widespread rainfall and nuisance flooding across the Bay Area. Westbound California Route 116 at Travis Road was reported flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road offramp from UIS Highway 101 Northbound was closed due to standing water on the roadway. The Arata Lane offramp from US Highway 101 Northbound was closed due to standing water on the roadway. Localized flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; three inches of water flooded a trailer in less than 20 minutes.	Major wind/rain event with Mudslides and trees down blocking roads within the district prompting emergency response. Power, phone and internet are affected in many areas.

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in the District
February 4, 2024	Flood	N/A	A quickly-moving cold front came through the region on the 17th, causing minor nuisance flooding and gusty winds. A second, deeper but slower moving, system followed the next day with widespread rain and gusty winds. A warm front associated with this low came through the region late on Sunday the 18th, followed by the associated cold front and associated thunderstorms on Monday the 19th. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two different spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road before and after Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound California Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. California Route 12 was closed until 8 AM due to flooding from Fremont Drive to Watmaugh Road. Creek flowing over Mark West Station Road after heavy rainfall. Mud, dirt, and rock blocking Los Alamos Road.	Major wind/rain event with Mudslides and trees down blocking roads within the district prompting emergency response. Power, phone and internet are affected in many areas.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)

19.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Timber Cove Fire Protection District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Table 19-10 shows Timber Cove Fire Protection District's final hazard rankings for the identified planning area hazards of concern. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment,

and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 19-10. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	Medium
Landslide	Medium
Sea Level Rise	Low
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to TCFPD. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the District. Table 19-11 summarizes additional risks specific to the District.

Table 19-11. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts and Vulnerabilities
Dam Failure	Timber Cove may face risks from dam failure at nearby reservoirs, which could lead to flooding in certain areas of the district. Nearby dams include Russian River No. 1, King Ridge Road, and the Richardson Dam at Hedgpeth Lake, which are low, low, and significant hazard potential dams, respectively. The populations most vulnerable to these hazards are those recreating on or near the reservoirs, those traveling across or near the dams, and TCFPD's first responders who may be involved in rescue and emergency assistance.
Drought	The district is susceptible to drought conditions that can impact local water supply and agricultural activities. TCFPD's fire-fighting activities and infrastructure depend on a sufficient supply of water. Drought can diminish the water available in the system. Populations most vulnerable to drought are those living in higher fire-risk areas, and those dependent on agricultural activities. In periods of extended drought, wineries in the District can be negatively impacted.
Earthquake	The district is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. Any critical infrastructure in TCFPD could be vulnerable to an earthquake, including the fire station, water tanks, and roads. Populations especially vulnerable to earthquakes include children, such as at Fort Ross School, community members with disabilities or who live alone or in remote areas, and those living or working in unreinforced structures, such as mobile homes.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the district's population and infrastructure. Elderly populations in TCFPD are more vulnerable to extreme cold than the general populace, especially those living in remote areas. TCFPD's emergency shelters and Fort Ross School can be vulnerable to extreme cold, especially if the event coincides with a power outage.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Elderly populations in TCFPD are more vulnerable to extreme heat than the general populace, especially those living in remote areas. Highway 1 can be vulnerable to extreme heat, as heat can impact road integrity. TCFPD's emergency shelters and Fort Ross School can be vulnerable to extreme heat, especially if the event coincides with a power outage.
Extreme Wind	Timber Cove FPD may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Transportation along Highway 1 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses.
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. People living in low-lying areas can be vulnerable to flooding. Visitors to the coast may be unaware of flooding risks as well, especially in areas that are within the SFHA. Flooding can also endanger TCFPD's first responders performing ocean rescues. Highway 1 is not in any SFHAs, but heavy winter rains can contribute to frequent downed trees, power line hazards, and debris flows that can impact travel. The coast is a valuable natural resource for TCFPD, and can be threatened by coastal flooding, which can cause erosion and direct damage.

Hazard	Qualitative Local Impacts and Vulnerabilities
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. Stretches of Highway 1 going through the southern end of TCFPD are rated as having very high landslide susceptibility, and are also along the fault zone, making the road vulnerable to landslides. Populations vulnerable to landslides include residents in high-landslide susceptibility areas, moderate wildfire risk areas, and those near the fault zone, as well as travelers and visitors. People in areas with limited communication options can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	The district is susceptible to sea level rise; however, the impact will mainly be to uninhabited coastline. People that are impacted most are likely to be low-income people living in remote, rural locations that can be difficult to access in a hazard event. As sea level rise changes the rate of erosion on sea cliffs, homes and roads could be impacted, such as Highway 1.
Tsunami	The district is susceptible to tsunamis; however, the impact will mainly be to sea cliffs and uninhabited coastline. People that are impacted most are likely to be low-income people living in remote, rural locations that can be difficult to access or provide sufficient warning to during a hazard event. Tsunamis with enough height and force can erode or surmount sea cliffs, causing damage to homes and roads, such as Highway 1.
Wildfire	The district faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. People that are impacted most are likely to be low-income people living in remote, rural locations that can be difficult to access or provide sufficient warning to during a hazard event. Stretches of TCFPD have a moderate severity fire risk, including areas surrounding Highway 1, which is a major evacuation route for the area.

19.9.4 Identified Issues

After review of Timber Cove Fire Protection District's hazard event history, hazard rankings, hazard location, and current capabilities, Timber Cove Fire Protection District identified the following risk-related issues for the community:

- The Timber Cove Fire Protection District is located directly on the San Andreas Fault, making it highly vulnerable to earthquakes.
- Historic occurrence of severe storm related issues has closed highways, such as Highway 1, and county roadways on numerous occasions. Landslides and toppled trees are the primary concerns.
- Due to historic high fuel loading, and unconventional weather patterns as well as additional structures built in the wildland urban interface, the threat of catastrophic wildfires is high. Permitting obstacles have reduced homeowners' capabilities of reducing fuel load – especially in California Coastal Zone.
- The wildland urban interface in Sonoma County faces persistent wildfire risk due to high fuel loads, limited visibility on evacuation routes, and a lack of designated safety zones. While initial fuel reduction efforts were completed using grant funding, ongoing vegetation management is essential. Permitting challenges in the California Coastal Zone have historically limited fuel reduction efforts, though recent approvals now allow for expanded work. Continued progress is hindered by the need for sustained funding and community engagement.

- The Timber Cove Fire Protection District is vulnerable to multiple hazards, including wildfire, earthquake, flood, dam failure, landslide, tsunami, and severe weather events. Despite these risks, the District lacks a fully updated Disaster Preparedness Plan and has limited evacuation planning and staging area development. Current efforts rely heavily on the Sonoma County Sheriff's Office for evacuation coordination, and while some community outreach has occurred, such as a Safety Fair in October 2024, progress has stalled due to a lack of funding and volunteer capacity.
- The region faces increasing wildfire risk, yet many residents lack the knowledge and tools needed to reduce hazards around their homes and neighborhoods. Without a clear assessment and educational strategy, opportunities to improve community preparedness and resilience may be missed.

19.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

19.10.1 Past Mitigation Action Status

Table 19-12 indicates progress on the County’s mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 19-12. Status of 2021 Mitigation Actions for Timber Cove Fire Protection District

Mitigation Actions	Status
Project Number	TIM-1
Hazards Addressed	Wildfire, Earthquake, Severe Weather
Lead Agency	Timber Cove Fire Protection District
Mitigation Action Description	Develop community chipping program to reduce fuel load in the wildland urban interface, increase visibility on roadways for incoming fire personnel and outgoing evacuees, and create safety/evacuation zones.
Status	Complete; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Completed initial work using funds provided through a grant. Ongoing - Seeking additional funding to continue the fuel reduction.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	There will always be vegetation management needs. Sonoma County has sought after and been approved for permits to reduce fuel in the coastal zone which will allow TCF to continue fuel reduction once funding is found. We are also working with Coast Ridge Forest Council
If discontinue, explain why	Not Applicable
Project Number	TIM-2
Hazards Addressed	Wildfire, Earthquake, Flood, Dam Failure, Landslide, Tsunami, Severe Weather
Lead Agency	Timber Cove Fire Protection District
Mitigation Action Description	Develop evacuation plans and staging areas for implementation in a disaster, educate and post out to community.
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	We are dependent on the Sonoma County Sheriff's Office for evacuation. We do provide information on our website by linking to county programs already in place. We also had a Safety Fair/Open House in October, 2024 with good visitation. This activity goes with TIM-3 and is looking for funding and personnel to complete.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	The process of evacuations and developing staging areas is ongoing. No update needed.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	TIM-3
Hazards Addressed	Wildfire, Earthquake, Flood, Dam Failure, Landslide, Tsunami, Severe Weather
Lead Agency	Timber Cove Fire Protection District
Mitigation Action Description	Update existing Disaster Preparedness plan
Status	No progress
Narrative describing progress or obstacles that have prevented implementation	No funding or volunteer energy to complete the plan
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Looking for funding and will merge with TIM-2.
If discontinue, explain why	Merging with action TIM-2.
Project Number	TIM-4
Hazards Addressed	Wildfire
Lead Agency	Timber Cove Fire Protection District
Mitigation Action Description	Develop an assessment and Fire Mitigation educational plan
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ongoing Capability – working with newly formed Central Sonoma Coast Firewise Community (newly developed)
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Firewise Community formed in 2024
If discontinue, explain why	Not Applicable
Project Number	TIM-5
Hazards Addressed	Wildfire, Earthquake, Flood, Dam Failure, Landslide, Tsunami, Severe Weather
Lead Agency	Timber Cove Fire Protection District
Mitigation Action Description	Purchase a communication trailer to provide internet, radio, and phone in a disaster
Status	Completed
Narrative describing progress or obstacles that have prevented implementation	Trailer purchased
Include in the 2026 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	Not applicable
If discontinue, explain why	This action has been completed

19.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 19-12, Timber Cove Fire Protection District identified the following mitigation effort completed since the last HMP:

- The community has created an Aging in Community group and has monthly meetings to discuss issues and opportunities to assist the aging community. This is supported by the Sonoma County Board of Supervisors.

19.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Timber Cove Fire Protection District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that TCFPD would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 19-13 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 19-14 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 19-13. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	-	-	X	X	-	X	-	-	X
Drought	X	-	-	X	X	-	-	-	-	-
Earthquake	X	-	X	X	X	-	X	-	-	X
Extreme Cold	X	-	-	X	X	-	X	-	-	X
Extreme Heat	X	-	X	X	X	-	X	-	-	X
Extreme Wind	X	X	X	X	X	-	X	-	-	X
Flood	X	-	-	X	X	-	X	-	-	X
Landslide	X	X	-	X	X	-	X	-	-	X
Sea Level Rise	X	-	-	X	X	-	-	-	-	-
Tsunami	X	-	-	X	X	-	X	-	-	X
Wildfire	X	X	X	X	X	X	X	X	-	X

Note: Mitigation category codes as follows (see Appendix D): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Table 19-14. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Disaster Preparedness Planning & Outreach	Low	Medium	8	1-5 years	7.616	High
Fire Mitigation Plan	Low	Medium	7	1-5 years	7.539	High
Community Chipping Program	Medium	Medium	7	1-5 years	6.539	Medium
Community Outreach	High	Medium	8	1-5 years	5.616	Medium
Earthquake Awareness	High	Medium	8	1-5 years	5.616	Medium
Vegetation Management	High	Medium	4	1-5 years	5.308	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-TCFPD-01. Earthquake Awareness

Lead Agency:	Timber Cover Fire Protection District Board of Directors
Supporting Agencies:	Sonoma DEM
Hazards of Concern:	Earthquake
Description of the Problem:	The Timber Cove Fire Protection District is located directly on the San Andreas Fault, making it highly vulnerable to earthquakes.
Description of the Solution:	To address this risk, the district will implement continuous preparedness, planning, and response initiatives. This includes training residents and visitors and enhancing emergency response capabilities.
Estimated Cost:	High
Potential Funding Sources:	CAL FIRE; Cal OES, SAFER, HMA
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,5,6,8,11,13
Benefits:	Train residents and visitors to plan and prepare
Impact on Socially Vulnerable Populations:	Severe as most do not have capacity to fund items necessary
Impact on Future Development:	Extreme
Impact on Critical Facilities/Lifelines:	Extreme as Coast Highway 1 and our few county roads that allow for main flows of traffic could be impacted
Impact on Capabilities:	Could be devastating if roads are impassable
Climate Change Considerations:	Unknown
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Emergency Services
Priority	Medium

Action 2026-TCFPD-02. Vegetation Management

Lead Agency:	Timber Cove Fire Protection District Board of Directors
Supporting Agencies:	Caltrans, District, PGE, County Roads; Sonoma County Department of Emergency Management
Hazards of Concern:	Extreme Wind, Landslide
Description of the Problem:	Historic occurrence of severe storm related issues has closed the highways county roadways on numerous occasions. Landslides and toppled trees are the primary concerns.
Description of the Solution:	Caltrans, County Roads and PGE have worked to clear dead and dying trees from the roads edge and maintained vegetation clearance as well as addressing known landslide issues in preparation for severe storm. More work is always needed.
Estimated Cost:	High
Potential Funding Sources:	PGE Sources, Federal Road Grants
Implementation Timeline:	1-5 years, ongoing
Objectives Met:	2,6,11,13
Benefits:	Safety of resident and transitory population, reduced traffic interruption
Impact on Socially Vulnerable Populations:	Highway 1 and the few county roads in the Timber Cove Fire District are the only corridors for vulnerable people to travel, including health care.
Impact on Future Development:	By reducing the risk of road closures and landslides, the action makes surrounding areas more viable for future development.
Impact on Critical Facilities/Lifelines:	Keeping roads clear ensures that emergency responders can reach critical facilities like hospitals, fire stations, and shelters.
Impact on Capabilities:	Regular maintenance and hazard mitigation improve the ability of agencies to respond quickly and effectively to emergencies.
Climate Change Considerations:	Storms are becoming more severe with higher sustained winds and increased rainfall in short periods of time (17” over 5 days, etc.)
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	Medium

Action 2026-TCFPD-03. Community Outreach

Lead Agency:	Timber Cove Fire Protection District Board of Directors
Supporting Agencies:	CAL FIRE
Hazard(s) of Concern:	Wildfire
Description of the Problem:	Due to historic high fuel loading, and unconventional weather patterns as well as additional structures built in the wildland urban interface, the thread for catastrophic wildfires has never been hire. Permitting obstacles have reduced homeowners' capabilities of reducing fuel load – especially in California Coastal Zone.
Description of the Solution:	Community education in regards to defensible space and home hardening, aggressive fuel management program to implement shaded fuel breaks in strategic locations, increase in funding and capabilities for fire response. Also, realistic and achievable process to obtain fuel reduction permits.
Estimated Cost:	High
Potential Funding Sources:	County, State and Federal funding and grants
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,5,6,11,12,13
Benefits:	Reduce likelihood of catastrophic wildfires.
Impact on Socially Vulnerable Populations:	Detrimental impact to all populations
Impact on Future Development:	Decreased home values and ability to get fire insurance to protect the home
Impact on Critical Facilities/Lifelines:	Wildfires do not discriminate between live trees and power/phone poles. As we have experienced, any wooden barricades (guard rails) on highways also can burn. Water and communication systems can also sustain critical impact.
Impact on Capabilities:	Severe
Climate Change Considerations:	Climate change is exacerbating the issue.
Mitigation Category	Local Plans and Regulations, Structure and Infrastructure Project, Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Property Protection, Public Information, Natural Resource Protection, Emergency Services
Priority	Medium

Action 2026-TCFPD-04. Community Chipping Program

Lead Agency:	Timber Cove Fire Protection District Board of Directors
Supporting Agencies:	Sonoma County, Coast Ridge Forest Council
Hazard(s) of Concern:	Earthquake, Extreme Heat, Extreme Wind, Wildfire
Description of the Problem:	The wildland urban interface in Sonoma County faces persistent wildfire risk due to high fuel loads, limited visibility on evacuation routes, and a lack of designated safety zones. While initial fuel reduction efforts were completed using grant funding, ongoing vegetation management is essential. Permitting challenges in the California Coastal Zone have historically limited fuel reduction efforts, though recent approvals now allow for expanded work. Continued progress is hindered by the need for sustained funding and community engagement.
Description of the Solution:	To address ongoing wildfire risk in the wildland urban interface, a community chipping program has been developed to reduce hazardous vegetation, improve roadway visibility for both emergency responders and evacuees, and establish safer evacuation zones. Initial work was successfully completed using grant funding, but continued fuel reduction is essential due to the persistent nature of vegetation growth. Sonoma County has recently secured permits to conduct fuel reduction in the California Coastal Zone, enabling the Timber Cove Fire Protection District to expand its efforts once additional funding is secured. The program also benefits from collaboration with partners such as the Coast Ridge Forest Council, enhancing its reach and effectiveness. Sustained investment in this initiative will significantly improve community safety and wildfire resilience.
Estimated Cost:	Medium
Potential Funding Sources:	HMGP, PDM, HMA
Implementation Timeline:	1-5 years, ongoing
Objectives Met:	1,2,4,6,11,12,13
Benefits:	Reduces wildfire risk, improves evacuation safety, and strengthens community preparedness.
Impact on Socially Vulnerable Populations:	Helps residents who may not have the resources to manage vegetation on their own.
Impact on Future Development:	Makes the area safer and more suitable for future homes and infrastructure.
Impact on Critical Facilities/Lifelines:	Keeps roads clear for emergency responders and safe evacuation.
Impact on Capabilities:	Enhances local ability to manage wildfire risk and respond quickly.
Climate Change Considerations:	Supports adaptation to increased wildfire threats due to changing weather patterns.
Mitigation Category	Natural Systems Protection, Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Emergency Services
Priority	Medium

Action 2026-TCFPD-05. Disaster Preparedness Planning & Outreach

Lead Agency:	Timber Cove Fire Protection District Board of Directors
Supporting Agencies:	Sonoma County Sheriff's Office
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami
Description of the Problem:	The Timber Cove Fire Protection District is vulnerable to multiple hazards, including wildfire, earthquake, flood, dam failure, landslide, tsunami, and severe weather events. Despite these risks, the District lacks a fully updated Disaster Preparedness Plan and has limited evacuation planning and staging area development. Current efforts rely heavily on the Sonoma County Sheriff's Office for evacuation coordination, and while some community outreach has occurred, such as a Safety Fair in October 2024, progress has stalled due to a lack of funding and volunteer capacity.
Description of the Solution:	To enhance community safety and resilience, the Timber Cove Fire Protection District will update its Disaster Preparedness Plan and develop detailed evacuation plans and staging areas. The District will further reduce risk by disseminating the resulting plans and relevant information to the public to encourage household preparedness for the various hazards affecting the District. A hazard-informed public will be better able to reduce its exposure to hazards. This project includes identifying safe zones, coordinating with County agencies, and expanding public education through events and online resources. The District will continue to link to County programs and seek funding and personnel to complete these efforts. Partnerships with local organizations and ongoing community engagement will be key to ensuring the plans are actionable and inclusive.
Estimated Cost:	Low
Potential Funding Sources:	FEMA HMGP, EMPG, Cal OES
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,5,6,8,11,12
Benefits:	Helps the community prepare for disasters and evacuate safely.
Impact on Socially Vulnerable Populations:	Makes sure everyone, including those with fewer resources, knows what to do and where to go in an emergency.
Impact on Future Development:	Guides safer development by identifying hazard zones and planning for emergencies.
Impact on Critical Facilities/Lifelines:	Ensures emergency routes and services stay accessible during disasters.
Impact on Capabilities:	Improves the district's ability to respond quickly and effectively to emergencies.
Climate Change Considerations:	Helps the community adapt to more frequent and severe weather events caused by climate change.
Mitigation Category	Local Plans and Regulations, Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Emergency Services
Priority	High

Action 2026-TCFPD-06. Fire Mitigation Plan

Lead Agency:	Timber Cover Fire Protection District Board of Directors
Supporting Agencies:	-
Hazard(s) of Concern:	Wildfire
Description of the Problem:	The region faces increasing wildfire risk, yet many residents lack the knowledge and tools needed to reduce hazards around their homes and neighborhoods. Without a clear assessment and educational strategy, opportunities to improve community preparedness and resilience may be missed.
Description of the Solution:	To address this, the Timber Cove Fire Protection District is working with the newly formed Central Sonoma Coast Firewise Community to develop a fire risk assessment and educational plan. This ongoing effort will provide residents with practical guidance on defensible space, home hardening, and fire-safe landscaping, helping to reduce wildfire risk and build a more informed and resilient community.
Estimated Cost:	Low
Potential Funding Sources:	PG&E Preparedness Grants; Safer Grants
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,5,8,12,13
Benefits:	Helps residents understand wildfire risks and take action to protect their homes and neighborhoods.
Impact on Socially Vulnerable Populations:	Provides accessible information and support to those who may lack resources or knowledge to prepare for wildfires.
Impact on Future Development:	Encourages safer building practices and land use planning in fire-prone areas.
Impact on Critical Facilities/Lifelines:	Reduces wildfire risk near key roads and infrastructure, helping keep them operational during emergencies.
Impact on Capabilities:	Strengthens the community’s ability to prevent, respond to, and recover from wildfire events.
Climate Change Considerations:	Prepares the community for more frequent and intense wildfires driven by changing climate conditions.
Mitigation Category	Education and Awareness Program
CRS Category	Public Information
Priority	High

20. BODEGA BAY PUBLIC UTILITY DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist customers and managers of Bodega Bay Public Utility District (BBPUD) with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of the District. The annex presents a general overview of Bodega Bay Public Utility District, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient district.

20.1 HAZARD MITIGATION PLANNING TEAM

Bodega Bay Public Utility District identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many stakeholders. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below and shown in Table 20-1. Additional documentation of the planning activities through Planning Partnership meetings is included in Volume 1.

Primary Point of Contact: Jenny Melman, District Engineer

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Title: General Manager

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Table 20-1. Additional Contributors

Name	Department	Position	HMP Contribution
Jan Ames	Management	General Manager	Guidance and review
Jenny Melman	Engineering	District Engineer	Engineering assessment and document preparation
Garett Watts	Operations	Operator	Operations assessment and review

20.2 COMMUNITY PROFILE

Bodega Bay Public Utility District was formed in 1948 (Pursuant to Section 9 of "The Public Utility District Act"), for the purpose of furnishing potable water within the District boundaries. In 1975, the District acquired the wastewater treatment plant and treats effluent to secondary/tertiary standards. BBPUD is located in the western coastal portion of Sonoma County and serves the unincorporated community of Bodega Bay. The District currently has 1,058 water connections and 1,006 sewer connections, serving a population of 2,625. The District currently employs 10 persons and is governed by a publicly elected five-member Board of Directors.

Major activities include the production of groundwater and the delivery of water to domestic and commercial accounts. BBPUD operates water treatment facilities and maintains over 21 miles of water mains. The other major activities include the collection, storage, treatment, and disposal of wastewater. The District operates the wastewater treatment facility, holding ponds, and eight lift stations, maintains over 15 miles of effluent lines, and provides secondary/tertiary wastewater for irrigation to the Bodega Harbour golf course and to the North Disposal Site owned by BBPUD.

20.3 PUBLIC ENGAGEMENT

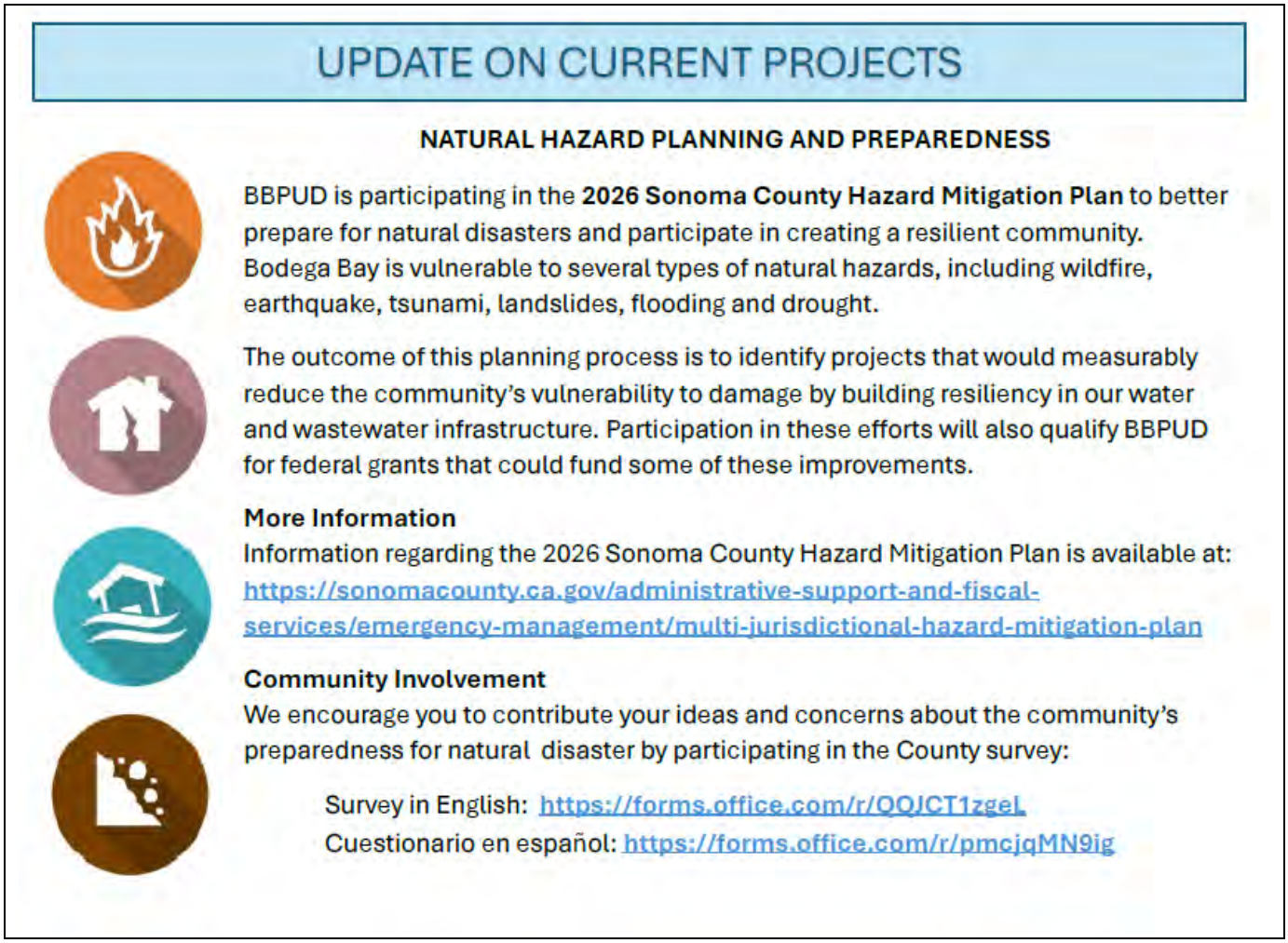
Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, BBPUD completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

The District conducted public outreach to engage the community in disaster preparedness planning. The outreach aimed to raise awareness about local vulnerabilities such as wildfires, earthquakes, tsunamis, landslides, flooding, and drought, and to gather input on how to strengthen the resilience of water and wastewater infrastructure.

BBPUD used an online survey as the primary mechanism for public engagement. The survey, available in both English and Spanish, allowed residents to share their concerns and ideas about natural hazard preparedness. Additionally, BBPUD provided background information and resources through the Sonoma County Emergency Management website, helping the public understand the planning process

and its benefits, including eligibility for federal mitigation funding. These efforts are shown in Figure 20-1.

Figure 20-1. BBPUD Public Outreach



The following targeted outreach was made to underserved communities and vulnerable populations:

- Low-Income and Elderly Populations: BBPUD reached out to low-income and elderly populations within the District by including a mailer in the billings to all customers notifying them of the District's participation in the Sonoma County HMP and inviting them to participate in the planning process by completing the County survey.
- Spanish-Speaking Populations: The notice has been placed on the District website and includes access to the County survey written in Spanish (Notice of Natural Hazard Planning and Preparedness with Survey Link)

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to BBPUD was contributed through community engagement activities.

20.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, BBPUD invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

20.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The Sonoma County Fire District was invited to participate in the planning process due to its critical role in emergency response and hazard mitigation. BBPUD staff met with fire district staff to collaborate on goals and action items for hazard mitigation and emergency preparedness. The Sonoma County Fire District conducted a site visit to the BBPUD office, wastewater treatment plant, and all critical infrastructure sites to identify any recommended hazard mitigation measures.

20.4.2 Agencies that Have the Authority to Regulate Development

BBPUD provides water and wastewater treatment services only and has no role in planning, building or development. Permit Sonoma participated in HMP planning efforts, ensuring that land use aligns with established planning, safety, and environmental standards

20.4.3 Neighboring Communities

BBPUD reached out to the Bodega Water Company, a neighboring water service provider, to inform them of the HMP planning process and invite their participation. Communication included sharing the planning timeline and opportunities to provide input on regional hazard vulnerabilities and potential mitigation strategies.

20.4.4 Representatives of Business, Academia, and Other Private Organizations

BBPUD engaged local business and community representatives by notifying the Bodega Bay Chamber of Commerce and the Bodega Harbour Homeowners Association about the HMP update. These organizations were encouraged to share the survey and planning information with their members and provide feedback on community vulnerabilities and resilience priorities.

20.4.5 Nonprofit Organizations and Community-Based Organizations

BBPUD coordinated with the Bodega Bay Community Emergency Response Team (CERT) to support community-level engagement in the HMP process. CERT members were invited to review and comment on the draft annex and to provide insights based on their emergency preparedness activities and local knowledge. Their involvement ensures that community-based perspectives are reflected in the final plan.

20.5 CHANGES IN COMMUNITY PRIORITIES

BBPUD did not participate in the 2021 HMP update; therefore, the community's identified priorities remain unchanged.

20.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Bodega Bay Public Utility District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Bodega Bay Public Utility District to identify opportunities for integrating mitigation concepts into ongoing procedures.

20.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, Bodega Bay Public Utility District possesses

capabilities that are different from those of local municipal governments. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 20-2 summarizes the codes, ordinances, and regulations available to BBPUD.

Table 20-2 BBPUD Codes, Ordinances, Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Water Service Rates, Rules, and Regulations	This established rates, rules and regulations for water service by BBPUD	Local Ordinance No. 40	Board of Directors
Sewer Service Rates, Rules, and Regulations	This regulates the use of public and private sewers, the installation and connection of building sewers, the installation of sewer laterals and public sewer main extensions, providing for employment of a manager and district inspector, providing permits and fixing fees for the installation and connection of sanitary sewers, regulating the discharge of waters and wastes into the public sewer system, and providing penalties for the violation of the provisions.	Local Ordinance No. 50	Board of Directors
Sewer Service Rates and Charges	Amending the rates and charges for sanitary sewer services and facilities to add a capital surcharge to fund costs associated with the 2022 sewer rehabilitation project and rescinding Ordinance No. 182.	Local Ordinance No. 190	Board of Directors
Building Codes	Building codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Water Code	Water rights and usage, water quality and treatment standards, infrastructure development and maintenance, groundwater management and conservation	State California Water Code	California State, Board of Directors
	From source to storage, from treatment to distribution, AWWA Standards cover the products and processes related to all areas of water treatment and supply. These documents reflect the state of the industry. As new technologies emerge, new standards are developed. These AWWA Standards address all facets of water treatment and delivery.	National American Water Works Association Standards	Board of Directors / Committees
Health and Safety Code	Safe drinking water standards, public health protections related to wastewater and sanitation	State California Health and Safety Code	California State, Board of Directors

Planning Documents

Table 20-3 summarizes the planning documents available to BBPUD.

Table 20-3. BBPUD Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
General/ Master Plan	These documents identify capital improvements that are needed to maintain water and sewer service to customers. Proper maintenance and replacement of key infrastructure is essential to system resiliency in hazard conditions.	Local Master Water Plan – August 2007; Master Plan for Wastewater Treatment, Storage and Disposal-1994; Master Sewer Plan - 1998	Board of Directors
Capital Improvement Plan	BBPUD's water and sewer utilities rely upon complex and expensive infrastructure to deliver safe, reliable, and affordable water and sewer services. Proper operation, maintenance, and capital replacement of infrastructure is the most cost-effective and reliable way to operate utilities. Capital Improvement Plans are one key tool.	Local 5-Year CIP – January 2024	Board of Directors

Response and Recovery Planning Documents

Table 20-4 summarizes the response and recovery planning documents available to BBPUD.

Table 20-4. BBPUD Response/Recovery Planning Documents

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	The "Policy and Procedure for Cleanup and Abatement of Accidental Discharges" establishes protocols for responding to a sanitary sewer overflow, which will reduce and/or mitigate impacts to the community and environment after a spill. The WWTP O&M Manual includes procedures for each treatment process for how to respond to emergency situations. Some of these sections are outdated and need expansion. An Emergency Response Plan is needed for addressing hazards (earthquake, tsunami, wildfire) related to the water system, including water main breaks or rupture of water tanks, and the sewer collection system, including the lift stations.	Local Policy and Procedure for Cleanup and Abatement of Accidental Discharges – 2023; WWTP O&M Manual – 2022, Chapter 30 - Disasters	Board of Directors

20.6.2 Integration

Table 20-2 and Table 20-4 list local planning mechanisms for Bodega Bay Public Utility District. They provide valuable information on how the mechanisms can be utilized for future integration. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings include the following:

- **Master Water Plan**: These plans identify critical infrastructure improvements needed to maintain service reliability. Future updates can incorporate hazard risk data from the HMP such as flood, earthquake, and wildfire vulnerability to prioritize projects that also serve as mitigation measures.
- **Capital Improvement Plan (CIP)**: The CIP is a key tool for funding infrastructure upgrades. By aligning CIP priorities with the HMP's mitigation actions, BBPUD can ensure that capital projects also reduce hazard exposure. The HMP can guide the timing and location of investments, especially in areas identified as vulnerable to natural hazards.

- **Emergency Operations and Response Plans**: These documents provide protocols for responding to system failures and environmental emergencies. While they address immediate response, future updates should incorporate hazard-specific scenarios identified in the HMP such as wildfire-related power outages or tsunami impacts on coastal infrastructure. Developing a comprehensive Emergency Response Plan for the water and sewer systems would further strengthen preparedness and align with HMP goals.

By integrating these planning mechanisms with the HMP, BBPUD can create a more cohesive and proactive approach to hazard mitigation. This alignment ensures that infrastructure planning, emergency response, and capital investment decisions are informed by the latest risk assessments and resilience strategies, ultimately protecting public health, the environment, and critical services.

20.6.3 Development and Permitting Capability

BBPUD is a special district located in unincorporated Sonoma County. The District is subject to the Sonoma County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the BBPUD's jurisdiction are issued through Sonoma County. Therefore, building code, land use, and development capabilities are not applicable to the District.

20.6.4 Administrative and Technical Capability

Table 20-5 summarizes the administrative bodies and programs available to support mitigation initiatives in the District.

Table 20-5. Administrative Capabilities

Resources	Available?	Comment
Planning Board	N/A	-
Zoning Board of Adjustment	N/A	-
Planning Department	N/A	-
Mitigation Planning Committee	N/A	-
Environmental Board/Commission	N/A	-
Open Space Board/Committee	N/A	-
Economic Development Commission/Committee	N/A	-
Public Works/Highway Department	N/A	-
Construction/Building/Code Enforcement Department	N/A	-
Emergency Management/Public Safety Department	N/A	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	District staff conducts facility maintenance including tree trimming as needed.
Mutual aid agreements	No	-

Resources	Available?	Comment
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Job descriptions of staff operators and mechanics include performance of emergency repairs as needed.
Other	N/A	-

Table 20-6 summarizes technical staff and personnel resources available to the District and their current responsibilities that contribute to hazard mitigation.

Table 20-6. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	No	-
Engineers or professionals trained in building or infrastructure construction practices	Yes	District staff designs, operates, and maintains sewer and water infrastructure.
Planners or engineers with an understanding of natural hazards	Yes	District staff designs, operates, and maintains sewer and water infrastructure. This includes an understanding of natural hazards.
Staff with expertise or training in benefit/cost analysis	Yes	District staff designs, operates, and maintains sewer and water infrastructure. This includes expertise or training in benefit/cost analysis.
Professionals trained in conducting damage assessments	No	-
Personnel skilled or trained in GIS and/or Hazus applications	No	-
Staff that work with socially vulnerable populations or underserved communities	No	-
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	No	-
Grant writers	Yes	District staff has some availability to write grants or support grant writing efforts.
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

20.6.5 Fiscal Capability

Table 20-7 summarizes financial resources available to Bodega Bay Public Utility District.

Table 20-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	N/A
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	N/A
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	N/A
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

20.6.6 Education and Outreach Capability

Table 20-8 summarizes the education and outreach resources available to Bodega Bay Public Utility District. The District currently has limited resources for rapid and thorough communication with its customers or the public. There is currently not a cohesive plan for sending out emergency information to customers during an emergency, for instance if a “Boil Water” or “Emergency Water Rationing” notice were to go into effect.

The District currently communicates with its customers through its mailed billings and through its website. The mailings reach 100 percent of District customers but are not a rapid means of communication, because billings are mailed every other month.

This presents an opportunity for the District to expand and improve its capabilities, possibly by working with the county and other jurisdictions to develop plans and methods for rapid outreach.

Table 20-8. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	No	-
Personnel skilled or trained in website development	Yes	The District has staff that can create web pages that can be used for public outreach and education about hazard preparedness and emergency response.
Hazard mitigation information available on your website	No	-
Social media for hazard mitigation education and outreach	No	-

Outreach Resources	Available?	Comment
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	No	-
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	-
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Nixle Alerts

20.6.7 Community Classifications

Table 20-9 summarizes classifications for community programs available to Bodega Bay Public Utility District.

Table 20-9. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	N/A	-	-
Building Code Effectiveness Grading Schedule	N/A	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	N/A	-	-
National Weather Service StormReady Certification	N/A	-	-
Firewise Communities Classification	N/A	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	No	-	-

N/A = Not applicable; — = Unavailable

20.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 20-10 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.

- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 20-10. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

20.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, BBPUD is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within the District's jurisdiction can be found in the annex for Sonoma County.

20.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the BBPUD's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction is included in the Sonoma County annex.

20.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Bodega Bay Public Utility District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

20.9.1 Hazard Area

Maps of probable hazard areas within the District are shown in Figure 20-2 through Figure 20-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Bodega Bay Public Utility District has significant exposure.

Figure 20-2. Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

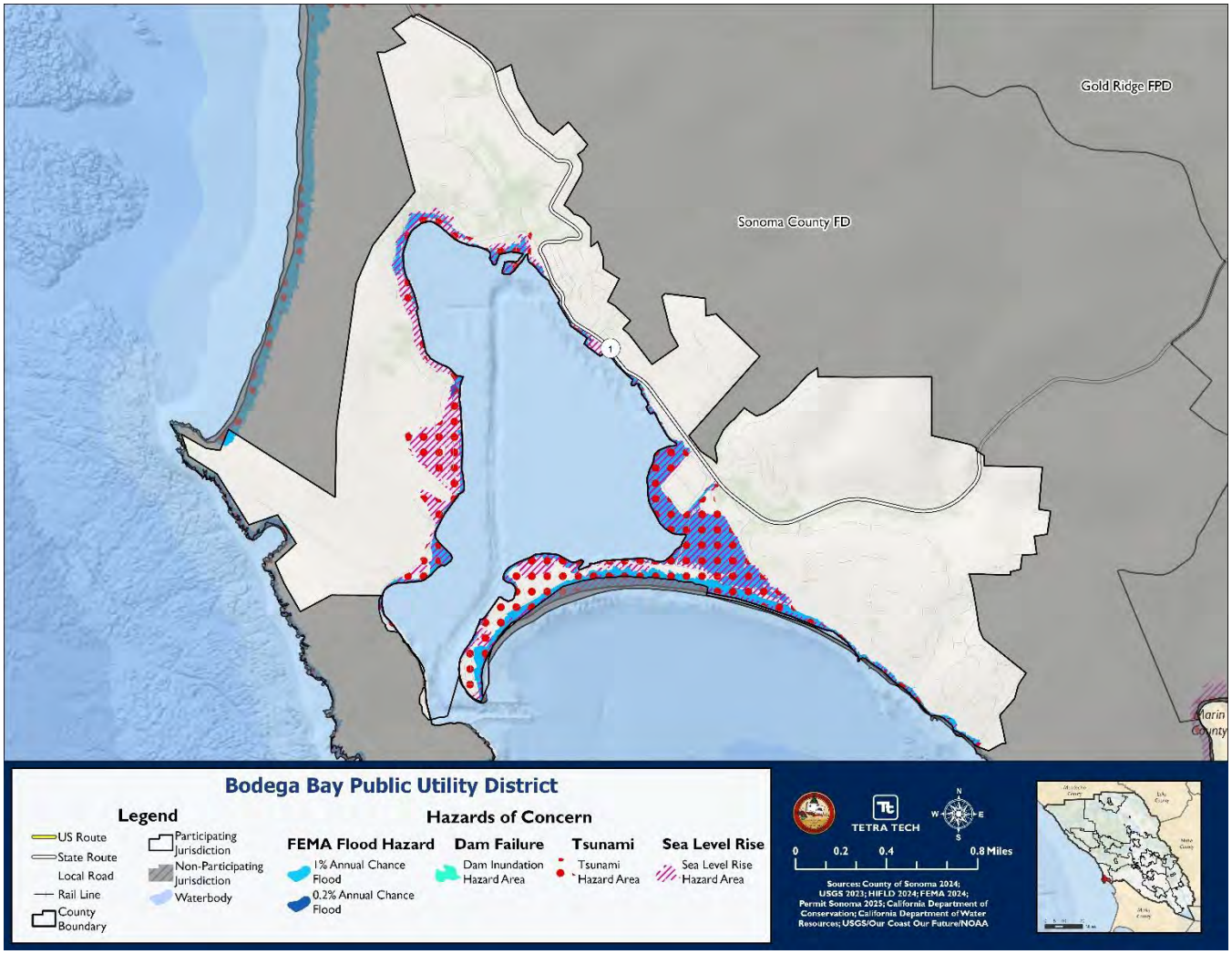
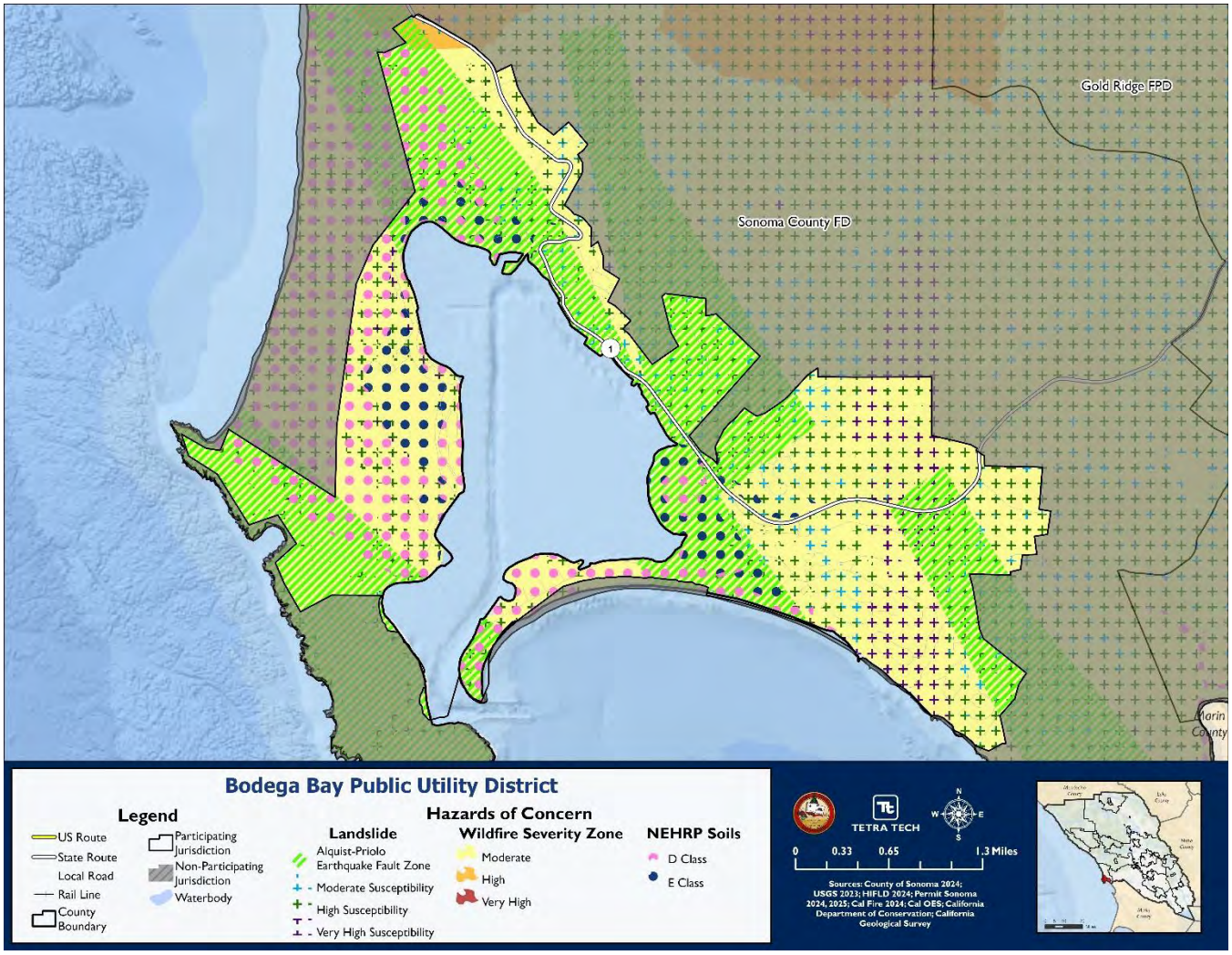


Figure 20-3. Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



20.9.2 Hazard Event History

The history of natural and non-natural hazard events in Bodega Bay Public Utility District is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 20-11 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 20-11. Hazard Event History in Bodega Bay Public Utility District, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Bodega Bay Public Utility District
January 26-29, 2021	Flood and Debris Flow	N/A	A plume of moisture from the tropical Pacific brought an Atmospheric River to the Bay Area, roadway flooding at US-101 N and E Washington St on ramp, and a mudslide on SR-1 and Fort Ross Rd.	$507 in overtime expenses (power outages)
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast.	$1,621 in overtime expenses (power outages)
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast.	None
February 4, 2024	Flood	N/A	Two cold fronts caused minor nuisance flooding gusty winds, and widespread rain. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road near Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. Route 12 was closed due to flooding from Fremont Drive to Watmaugh Road. A creek flowed over Mark West Station Road. Mud, dirt, and rock blocked Los Alamos Road.	$2,227 in overtime expenses (power outages)

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

20.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Bodega Bay Public Utility District.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Bodega Bay Public Utility District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. Table 20-12 shows Bodega Bay Public Utility District's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk. Hazards ranked as "No exposure" are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 20-12. Hazard Ranking

Hazard	Rank
Dam Failure	No exposure to this hazard
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flood	Medium
Landslide	High
Sea Level Rise	High
Tsunami	High
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

The dam failure inundation area for high and very high hazard dams does not occur within the District's boundaries; therefore, there is no exposure to the dam failure hazard.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets and potential impacts on them for the hazards of local concern to BBPUD. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to BBPUD. Table 20-13 summarizes additional risks specific to BBPUD.

Table 20-13. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	Per the above risk assessment findings, dam failure is not expected to have an impact on the people, buildings, or critical facilities located in the District.
Drought	BBPUD is susceptible to drought conditions that can significantly impact local water supply and agricultural activities. The District's water infrastructure is especially vulnerable to drought. Decreased water availability limits the ability of the wastewater treatment plant to dilute effluents to safe levels, and pollutants in the environment may be more concentrated in the District's water wells when water levels drop. Populations most vulnerable to drought are those living in higher fire-risk areas, and those dependent on agricultural activities. Additionally, if water supplies are insufficient to supply the community, the District's isolated location makes it more difficult to get supplies from outside the community.
Earthquake	BBPUD is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. With faults running through the district, any critical infrastructure in BBPUD could be vulnerable to an earthquake, including water pipes, the wastewater treatment plant, and roads such as Highway 1. Five of the District's six water storage tanks are completely un-anchored or inadequately anchored to their foundations, making them vulnerable to earthquakes. Especially vulnerable populations include people living in mobile or older homes that are not retrofitted to withstand earthquakes, campers, those staying at the RV Park, or travelers along Highway 1.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the District's population and infrastructure. Elderly populations in BBPUD are more vulnerable to extreme cold than the general populace, as are people living alone. Because of BBPUD's coastal location and moderate temperatures, District infrastructure is not vulnerable to extreme cold. However, because of the rarity of freezing temperatures, residents are not typically prepared, and if a freeze event were to occur, pipes could freeze or burst.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Elderly populations in BBPUD are more vulnerable to extreme heat than the general populace, as are people living alone. Highway 1 can be vulnerable to extreme heat, as heat can impact road integrity. If extreme heat causes a public safety power shutoff, District facilities such as wells can be vulnerable to disruptions.
Extreme Wind	BBPUD may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Transportation along Highway 1 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses. Boaters are at elevated risk during extreme wind events. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.
Flood	Flooding is a concern due to the proximity to local rivers and heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. BBPUD's offices are adjacent to a 0.2-percent annual chance flood hazard area, which is also noted as an area vulnerable to sea level rise. As sea levels rise, the annual chance of flooding at BBPUD's facilities increases.

Hazard	Qualitative Local Impacts
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. The primary roads leading to Bodega Bay are Highway 1, Highway 116 and Highway 12, all two-lane roads that are prone to landslides (there are currently landslide repairs underway on Highway 116 and Highway1 between Bodega Bay and Sebastopol/Santa Rosa). In an emergency, all roads into Bodega Bay are likely to be blocked, either by road failures or by vehicles seeking to escape.
Sea Level Rise	Being a coastal community, BBPUD is at risk from sea level rise. BBPUD's offices are adjacent to an area vulnerable to sea level rise. As sea levels rise, the annual chance of flooding at BBPUD's facilities increases. The most vulnerable populations will be people recreating or living along the coast.
Tsunami	Being a coastal community, BBPUD is at risk from tsunamis. BBPUD's offices are adjacent to a tsunami hazard area and are thus vulnerable to tsunamis. People impacted most are likely to be residents with limited mobility or people living in mobile homes or RVs. Visitors at beaches in the District can also be vulnerable to tsunamis that allow little warning time. People living in areas with limited escape routes are especially vulnerable. Tsunamis can erode beaches and cliffs, causing damage to homes and roads, such as Highway 1, and shifting hazard areas for future flooding and tsunamis.
Wildfire	The District faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. Longterm power disruption is a likely outcome of downed power lines caused by wildfires or PG&E public safety power shutoff events caused by various hazards. All of the District's critical infrastructure sites rely on emergency generators to maintain service during power disruptions. Most of these sites currently do not have onsite permanent generators equipped with automatic transfer switches. Portable emergency generators need to be driven from the treatment plant to the various sites to be put into use. Because firefighting activities require water resources, District facilities may be strained to meet demand during a wildfire. People impacted most are likely to be low-income people living in isolated locations where it can be difficult to access or provide sufficient warning in a hazard event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation.

20.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Bodega Bay Public Utility District identified the following risk-related issues for the community.

Isolation

Bodega Bay (population 1,116) is an isolated, unincorporated community located over 15 miles from the nearest incorporated city, Sebastopol (population 7,380), and over 22 miles from Santa Rosa (population 176,000), the nearest larger city and source for emergency equipment and materials. The primary roads leading to Bodega Bay are Highway 1, Highway 116 and Highway 12, all two-lane roads that are prone to landslides (there are currently landslide repairs underway on Highway 116 and Highway1 between Bodega Bay and Sebastopol/Santa Rosa). In an emergency, all roads into Bodega Bay are likely to be blocked, either by road failures or by vehicles seeking to escape.

Many of the District's staff live outside of Bodega Bay. In the event of blocked roadways, staff may be delayed in reporting for service in an emergency. Staff currently do not have Essential Service Worker

Badges that would allow them to get through a roadblock controlled by the sheriff or the National Guard.

For these reasons, Bodega Bay is likely to be isolated and without rapid or substantial assistance from outside emergency responders in the event of an earthquake, flood, landslide, tsunami, wildfire, or extreme wind event. Due to its isolation, BBPUD needs a higher degree of emergency preparation, mitigation and planning in order to maintain water supply for use in fire protection and emergency response, as well as to maintain services for the community.

Communication

The District currently has limited resources for rapid and thorough communication with its customers or the public. There is currently not a cohesive plan for sending out emergency information to customers during an emergency, for instance if a “Boil Water” or “Emergency Water Rationing” notice were to go into effect.

The District currently communicates with its customers through its mailed billings and through its website. The mailings reach 100 percent of District customers but is not a rapid means of communication, because billings are mailed every other month.

Because Bodega Bay is an isolated community, the public may be without substantial assistance for several days in the event of a major emergency. The District’s website (Home - Bodega Bay Public Utility District) currently does not contain public education information on emergency preparedness.

Water Tank and Booster Station Resilience

Maintaining a functional water supply is the District’s highest priority in any emergency, not only to avoid or minimize water service disruption to its customers, but also to maintain adequate water for fire suppression activities that may be needed due to wildfire or as a consequence of other natural hazards, including drought, earthquake, extreme wind, and landslides.

According to the District’s Seismic Hazard Assessment (2024), the infrastructure with the highest vulnerability and highest consequence of failure from an earthquake are five unanchored water tanks, followed by the two booster pump stations.

Five of the District’s six water storage tanks are completely un-anchored or inadequately anchored to their foundations. In the event of strong ground shaking from an earthquake, the tanks are likely to shift off their foundations and be destroyed. The loss of certain tanks would cause immediate and long-term loss of water supply for customers and fire suppression activities.

The District’s two water booster pump stations are critical for supplying water to the District’s upper pressure zone. A seismic retrofit is needed at each pump station to install flexible joints where water piping transitions from aboveground to belowground.

Water Main Resilience

According to the District's Seismic Hazard Assessment (2024), water main piping located within fault rupture zones (within the band of multiple traces of the San Andreas Fault as mapped by USGS) or within high soil liquefaction potential zones is at high risk of rupture or failure during a seismic event. The existing water mains are constructed of asbestos-cement pipe, which are brittle and subject to breakage from bending, or longitudinal or lateral stresses.

The BBPUD water service area straddles both sides of the San Andreas Fault. All five of our active wells and all six of our water storage tanks are located on opposite sides of the fault, making our water piping that crosses the fault lines highly likely to catastrophically disrupt our water supply following an earthquake.

The District seeks to either reduce the risk of pipe rupture from an earthquake by replacing the vulnerable asbestos-cement pipe with flexible PVC or HDPE pipe, or to reduce the duration of water service disruption by providing means to rapidly bypass around water main breaks.

Backup Power Requirements

Longterm power disruption is a likely outcome of downed power lines caused by earthquake, extreme wind, extreme cold, tsunami, flood or wildfire, or due to PG&E public safety power shutoff events caused by extreme heat combined with extreme wind.

All of the District's critical infrastructure sites rely on emergency generators to maintain service during power disruptions. Most of these sites currently do not have onsite permanent generators equipped with automatic transfer switches. Portable emergency generators need to be driven from the treatment plant to the various sites to be put into use.

The District has only 12 staff members, and most live outside the area. Due to the isolated nature of the community, and the high risk of road closures due to landslides, washouts, downed trees, or roads blocked by vehicles trying to leave the area, there is a real risk of staff not being able to rapidly move generators to the needed locations during an emergency.

Permanent emergency generators with an enclosure and automatic transfer switch are needed at each critical infrastructure site (wells, booster pump stations and sewer lift stations) to avoid foreseeable delays in implementing the current system that could result in sewer overflows or an interruption of water supply.

Climate Change

Extreme weather events and sea level rise are projected to intensify due to climate change and have significant implications for wastewater treatment and operations. The District's wastewater treatment plant (WWTP) is located in a coastal area at an elevation of 10 feet. An assessment is warranted to assess the foreseeable impacts of projected sea level rise on the WWTP within the next 50 years.

20.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

20.10.1 Past Mitigation Action Status

Bodega Bay Public Utility District did not participate in the 2021 HMP Update and has no prior mitigation actions.

20.10.2 Additional Mitigation Efforts

Bodega Bay Public Utility District completed the following mitigation efforts since the last HMP:

- The District completed a Seismic Hazard Assessment in 2024 that evaluated all District infrastructure for its vulnerability to damage from a seismic event. Projects, including capital improvements as well as planning and preparedness tasks were identified and prioritized.
- The District is in construction for the Chlorine Conversion Project, which was the highest priority project identified by the Seismic Hazard Assessment. The Chlorine Conversion Project will eliminate the District's use of chlorine gas in the disinfection process at the wastewater treatment plant. The new disinfecting agent, sodium hypochlorite solution (liquid bleach), is a much less hazardous substance and is easier to control than chlorine gas in the event of an accidental release.
- In April 2025, the District conducted a tour of critical infrastructure with Sonoma County Fire District to obtain any suggested improvements to make the sites more defensible during a fire and to allow the Fire Department to update its Emergency Response Mapping to include District critical facilities.
- The District conducts regular vegetation management, including tree pruning and weed abatement, to minimize the risk of damage to critical facilities from a wildfire.

20.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Bodega Bay Public Utility District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Bodega Bay Public Utility District would like to pursue in the future to reduce the effects of hazards. The actions are

dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 20-14 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 20-14. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Drought	-	-	-	X	-	-	X	-	-	X
Earthquake	X	X	-	X	X	-	X	-	-	X
Extreme Cold	-	X	-	-	X	-	-	-	-	X
Extreme Heat	-	X	-	-	X	-	-	-	-	X
Extreme Wind	X	X	-	X	X	-	X	-	-	X
Flooding	X	X	-	X	X	-	X	-	-	X
Landslide	X	X	-	X	X	-	X	-	-	X
Sea Level Rise	X		-	-	-	X	-	-	-	
Tsunami	X	X	-	X	X	X	X	-	-	X
Wildfire	X	X	-	X	X	-	X	-	-	X

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 20-15 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 20-15. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Community Outreach Network	Low	High	6	1-5 years	8.462	High
Expand ERP	Low	Medium	8	1-5 years	7.616	High
Disaster Preparedness Assessment	Low	Medium	7	1-5 years	7.539	High
Generator Installation	Medium	High	6	1-5 years	7.462	High
Seismic Retrofit – Booster Pump Station	High	High	7	1-10 years	5.539	Medium
Seismic Retrofit – Water Main	High	High	6	1-10 years	5.462	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-BBPUD-01. Expand the Emergency Response Plan and Provide Staff Training

Lead Agency:	Bodega Bay Public Utility District Board of Directors
Supporting Agencies:	Sonoma County Fire Department
Hazards of Concern:	Earthquake, Extreme Wind, Flood, Landslide, Tsunami, Wildfire
Description of the Problem:	Bodega Bay (population 1,116) is an isolated, unincorporated community located over 15 miles from the nearest incorporated city, Sebastopol (population 7,380), and over 22 miles away from Santa Rosa (population 176,000), the nearest larger city and source for emergency equipment and materials. The primary roads leading to Bodega Bay are Highway 1, Highway 116 and Highway 12, all two-lane roads that are prone to landslides (there are currently landslides repairs underway on Highway 116 and Highway1 between Bodega Bay and Sebastopol/Santa Rosa). In an emergency, all roads into Bodega Bay are likely to be blocked, either by road failures or by vehicles seeking to escape. Many of the District's staff live outside of Bodega Bay. In the event of blocked roadways, staff may be delayed in reporting for service in an emergency. Staff currently do not have Essential Service Worker Badges that would allow them to get through a roadblock controlled by the Sheriff or the National Guard. The BBPUD service area straddles both sides of the San Andreas Fault, making its water and wastewater systems extremely vulnerable to damage and disruption from seismic events. In fact, all five active wells and all six water storage tanks are located on opposite sides of the fault, making the water system highly likely to be disrupted during an earthquake. For these reasons, Bodega Bay is likely to be isolated and without rapid or substantial assistance from outside emergency responders in the event of an earthquake, flood, landslide, tsunami, wildfire, or extreme wind event. Due to its isolation, BBPUD needs a higher degree of emergency preparation, mitigation and planning in order to maintain water supply for use in fire protection and emergency response, as well as to maintain services for the community.

Description of the Solution:	**Expand the District's Emergency Response Plan (ERP) and Provide Training to Staff** The proposed Emergency Response Plan will be prepared with input from Sonoma County Fire Department and the adjacent communities of Bodega and Jenner. The ERP will be expanded to include the following: • Emergency response checklists that are specific to different hazards (earthquake, wildfire, tsunami, landslide, flood, or extreme wind). • Added layers in the District GIS system for critical facilities that may need to be operated in an emergency (tank isolation valves, reservoir gate valves, back-up generators). • Instruction cards for starting up onsite emergency generators at lift stations and booster pump stations. Staff training will include the following elements: • Obtain Essential Service Worker Badges for staff. • Train more staff to take emergency actions such as isolating tanks or starting-up emergency generators. • Conduct emergency response field exercises with Sonoma County Fire Department. • Train critical staff in the Incident Command System, establish roles, and conduct table-top or field exercises.
Estimated Cost:	Low (<$50,000)
Potential Funding Sources:	BBPUD Water System Reserve Fund, FEMA HMGP
Implementation Timeline:	1-3 years
Objectives Met:	1,2,4,5,6,11,12,13
Benefits:	This initiative will ensure that staff are well-equipped with the necessary knowledge and information to respond effectively to emergencies, thereby improving response times and minimizing disruptions to utility services.
Impact on Socially Vulnerable Populations:	Consistent and reliable utility services during emergencies ensure that vulnerable groups have access to essential resources like water and sewer, which are critical for their well-being.
Impact on Future Development:	A well-prepared staff can better manage and mitigate the impacts of emergencies, leading to more resilient infrastructure that supports future development.
Impact on Critical Facilities/Lifelines:	Training ensures that critical lifelines such as water and sewer remain operational during emergencies, minimizing disruptions to essential services.
Impact on Capabilities:	The project builds a culture of preparedness and resilience within BBPUD, ensuring that the organization is better equipped to handle future emergencies.
Climate Change Considerations:	Climate change is leading to more frequent and severe weather events such as storms, floods, and wildfires. This increases the likelihood of emergencies that BBPUD staff will need to respond to, making the training even more critical.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures, Emergency Services
Priority	High

Action 2026-BBPUD-02. Improve Public Education and Community Outreach Network

Lead Agency:	Bodega Bay Public Utility District Board of Directors
Supporting Agencies:	Sonoma County Fire Department and local community organizations
Hazards of Concern:	Drought, Earthquake, Extreme Wind, Flood, Landslide, Tsunami, Wildfire
Description of the Problem:	The District currently has limited resources for rapid and thorough communication with its customers or the public. There is currently not a cohesive plan for sending out emergency information to customers during an emergency, for instance if a “Boil Water” or “Emergency Water Rationing” notice were to go into effect. The District currently communicates with its customers through its mailed billings and through its website. The mailings reach 100% of District customers but is not a rapid means of communication, because billings are mailed every other month. Because Bodega Bay is an isolated community, the public may be without substantial assistance for several days in the event of a major emergency. The District’s website (Home - Bodega Bay Public Utility District) currently does not contain public education information on Emergency Preparedness.
Description of the Solution:	**Improve Public Education and Community Outreach Network** The District aims to improve its public education and community outreach program to help make the community more resilient during an emergency. The anticipated mitigations will include: • Expand the District website to include a page for “Emergency Preparedness” that provides guidance for the public to prepare themselves for an emergency (such as Earthquake plan Red Cross.pdf and What to do after an Earthquake.pdf). In order to reach vulnerable Spanish-speaking communities, the information will be provided in both English and Spanish. • Expand the District website to include a webpage that provides guidance for reducing water use during times of drought, in both English and Spanish. The District intends to develop a Community Outreach Network for rapid, over-lapping dispersal of public information in an emergency. Develop relationships with community hubs serving various sectors of the community to create an over-lapping network of communication. These community hubs, such as Bodega Bay School, Bodega Bay Church, Bodega Bay Chamber of Commerce, Bodega Harbour HOA, Sonoma County Fire Department and Waves of Compassion (local non-profit serving low-income families), would help disseminate critical information, such as a ”Boil Water” or “Emergency Water Conservation” notices in an emergency.
Estimated Cost:	Low (<$50,000)
Potential Funding Sources:	Water and Sewer System Reserve Fund, HMGP
Implementation Timeline:	1-2 years
Objectives Met:	1,2,5,6,10,13
Benefits:	This project will enhance the District’s ability to communicate with its customers and will help provide the public with the information they need to keep themselves safe and to understand what actions to take to minimize service disruptions. An informed public is critical to helping the community recover rapidly from an emergency and with the least disruption.

Impact on Socially Vulnerable Populations:	Socially vulnerable populations may need more assistance or resources from the community in order to stay safe during an emergency. By providing useful emergency information through multiple, over-lapping community hubs, vulnerable populations will have greater access to community support if needed. By posting emergency preparedness information on the District website, socially vulnerable populations can be better prepared and more resilient during an emergency.
Impact on Future Development:	An informed and well-prepared community can better manage and mitigate the impacts of emergencies, leading to a more resilient community that supports future development.
Impact on Critical Facilities/Lifelines:	Efficient communication with the public during an emergency supports the public in being part of the solution by reducing water consumption or wastewater production if the systems are damaged or temporarily disrupted.
Impact on Capabilities:	Having a strategic public outreach plan in place will make the District more responsive and better equipped to handle future emergencies.
Climate Change Considerations:	Climate change is leading to more frequent and severe weather events such as storms, floods, and wildfires. This increases the likelihood of emergencies that BBPUD staff will need to respond to, making a public outreach plan even more critical.
Mitigation Category	Education and Awareness Programs
CRS Category	Preventative Measures, Public Information, Emergency Services
Priority	High

Action 2026-BBPUD-03. Water Tank and Booster Pump Station Seismic Retrofit Project

Lead Agency:	Bodega Bay Public Utility District Board of Directors
Supporting Agencies:	None
Hazard(s) of Concern:	Earthquake
Description of the Problem:	Maintaining a functional water supply is the District's highest priority in any emergency, not only to avoid or minimize water service disruption to its customers, but also to maintain adequate water for fire suppression activities that may be needed due to wildfire or as a consequence of other natural hazards including drought, earthquake, extreme wind, and landslides. According to the District's Seismic Hazard Assessment (2024), the infrastructure with the highest vulnerability and highest consequence of failure from an earthquake consists of five unanchored water tanks, followed by the two booster pump stations. Five of the District's six water storage tanks are completely un-anchored or inadequately anchored to their foundations. In the event of strong ground shaking from an earthquake, the tanks are likely to shift off their foundations and be destroyed. The loss of certain tanks would cause immediate and long-term loss of water supply for customers and fire suppression activities. The District's two water booster pump stations are critical for supplying water to the District's upper pressure zone. A seismic retrofit is needed at each pump station to install flexible joints where water piping transitions from aboveground to belowground.
Description of the Solution:	**Water Tank and Booster Pump Station Seismic Retrofit Project** This Project includes the following elements: • Seismically retrofit five water supply tanks to provide anchorage to the foundation according to Building Code. • Seismically retrofit two water booster pump stations to install flexible joints where water piping transitions from above ground to below ground..
Estimated Cost:	High (>$1,000,000)
Potential Funding Sources:	Water System Reserve Fund, HMGP
Implementation Timeline:	3-10 years
Objectives Met:	1,2,3,4,6,11,13
Benefits:	By reinforcing vulnerable facilities, the project ensures that BBPUD's infrastructure can withstand seismic events, reducing the risk of damage and service disruptions.
Impact on Socially Vulnerable Populations:	By reinforcing facilities, the project helps protect socially vulnerable populations who may be disproportionately affected by service disruptions and safety hazards during earthquakes.
Impact on Future Development:	A resilient infrastructure supports future residential and commercial development by ensuring that new areas are well-protected against seismic risks.
Impact on Critical Facilities/Lifelines:	Strengthening BBPUD facilities ensures that the impacts on critical services, such as the fire department and school, are minimized during and after earthquakes.

Impact on Capabilities:	By implementing targeted mitigation measures, BBPUD builds a culture of preparedness and resilience, ensuring that the organization is better equipped to handle future earthquakes.
Climate Change Considerations:	Extreme weather conditions can weaken infrastructure over time, making it more susceptible to damage during seismic events. This increases the necessity for mitigation measures to ensure facilities can withstand earthquakes.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-BBPUD-04. Water Main Seismic Retrofit Project

Lead Agency:	Bodega Bay Public Utility District Board of Directors
Supporting Agencies:	None
Hazard(s) of Concern:	Earthquake
Description of the Problem:	Maintaining a functional water supply is the District's highest priority in any emergency, not only to avoid or minimize water service disruption to its customers, but to maintain adequate water for fire suppression activities that may be needed due to wildfire or as a consequence of other natural hazards including drought, earthquake, extreme wind, and landslides. According to the District's Seismic Hazard Assessment (2024), water main piping located within fault rupture zones (within the band of multiple traces of the San Andreas Fault as mapped by USGS) or within high soil liquefaction potential zones are at high risk of rupture or failure during a seismic event. The existing water mains are constructed of asbestos-cement pipe, which are brittle and subject to breakage from bending, or longitudinal or lateral stresses. The BBPUD water service area straddles both sides of the San Andreas Fault. All five of our active wells and all six of our water storage tanks are located on opposite sides of the fault, making our water piping that crosses the fault lines highly likely to catastrophically disrupt our water supply following an earthquake. The District seeks to either reduce the risk of pipe rupture from an earthquake by replacing the vulnerable asbestos-cement pipe with flexible PVC or HDPE pipe, or to reduce the duration of water service disruption by providing means to rapidly bypass around water main breaks.
Description of the Solution:	**Water Main Seismic Retrofit Project** This Project will entail one of two possible mitigations for approximately 11,500 linear feet of water mains located in the fault rupture zone or high soil liquefaction zone: • Replace the existing brittle asbestos-cement water main with flexible PVC or HDPE pipe. Install water valves or either side of mapped fault crossings to allow for system isolation. Install hydrants and main-line water valves at either side of mapped fault crossings to allow for rapid bypass around breaks to re-establish water supply connection between wells and storage tanks. This option includes purchase of relay pumps and hose, and installation of 20,000 gallon equalization tank to be located near wells.
Estimated Cost:	High (>$1,000,000)
Potential Funding Sources:	Water System Reserve Fund, BRIC, HMGP
Implementation Timeline:	3-10 years
Objectives Met:	2,3,4,6,11,13
Benefits:	By replacing or mitigating vulnerable water mains, the project ensures that BBPUD's infrastructure can withstand seismic events, reducing the risk of damage and service disruptions.
Impact on Socially Vulnerable Populations:	By replacing or mitigating vulnerable water mains, the project helps protect socially vulnerable populations who may be disproportionately affected by service disruptions and safety hazards during earthquakes.

Impact on Future Development:	A resilient infrastructure supports future residential and commercial development by ensuring that new areas are well-protected against seismic risks.
Impact on Critical Facilities/Lifelines:	Strengthening BBPUD facilities ensures that the impacts to critical services, such as the fire department and school, are minimized during and after earthquakes.
Impact on Capabilities:	By implementing targeted mitigation measures, BBPUD builds a culture of preparedness and resilience, ensuring that the organization is better equipped to handle future earthquakes.
Climate Change Considerations:	Extreme weather conditions can weaken infrastructure over time, making it more susceptible to damage during seismic events. This increases the necessity for mitigation measures to ensure facilities can withstand earthquakes.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures
Priority	Medium

Action 2026-BBPUD-05. Permanent Emergency Generator Project

Lead Agency:	Bodega Bay Public Utility District Board of Directors
Supporting Agencies:	None
Hazard(s) of Concern:	Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Tsunami, Wildfire
Description of the Problem:	Maintaining a functional water supply is the District's highest priority in any emergency, not only to avoid or minimize water service disruption to its customers, but to maintain adequate water for fire suppression activities, if needed. Longterm power disruption is a likely outcome of downed power lines caused by earthquake, extreme wind, extreme cold, tsunami, flood or wildfire, or due to PG&E public safety power shutoff events caused by extreme heat combined with extreme wind. All of the District's critical infrastructure sites rely on emergency generators to maintain service during power disruptions. Most of these sites currently do not have onsite permanent generators equipped with automatic transfer switches. Portable emergency generators need to be driven from the treatment plant to the various sites to be put into use. The District has only 12 staff members, and most live outside the area. Due to the isolated nature of the community, and the high risk of road closures due to landslides, washouts, downed trees, or roads blocked by vehicles trying to leave the area, there is a real risk of staff not being able to rapidly move generators to the needed locations during an emergency. Permanent emergency generators with an enclosure and automatic transfer switch are needed at each critical infrastructure site (wells, booster pump stations and sewer lift stations) to avoid foreseeable delays in implementing the current system that could result in sewer overflows or an interruption of water supply.
Description of the Solution:	**Permanent Emergency Generator Project** This project will consist of the installation of permanent emergency generators at eight sites, including two sewer lift stations, three well field sites, two water booster pump stations, and one recycled water booster pump station. The permanent (stationary) emergency generators will be equipped with automatic transfer switches, enclosures and exclusion fencing.
Estimated Cost:	Moderate (>$300,000)
Potential Funding Sources:	Water System Reserve Fund, HMGP
Implementation Timeline:	3-10 years
Objectives Met:	2,4,5,6,11,13
Benefits:	By upgrading the emergency generators for critical infrastructure, the project ensures that BBPUD's water and sewer systems can maintain service without operator assistance through power outages.
Impact on Socially Vulnerable Populations:	By eliminating the need for staff to spend time moving portable emergency generators, hooking them up and getting them started during an emergency, this project frees staff to take other essential actions to reduce service disruptions. This helps protect socially vulnerable populations who may be disproportionately affected by service disruptions during emergencies.

Impact on Future Development:	A resilient infrastructure supports future residential and commercial development by ensuring that new areas are minimally impacted by service disruptions caused by power outages.
Impact on Critical Facilities/Lifelines:	Increasing resiliency in BBPUD facilities during power outages ensures that the impacts to critical services, such as the fire department building and schools, are minimized during emergencies.
Impact on Capabilities:	By increasing resiliency in their infrastructure, BBPUD builds a culture of preparedness and resilience, ensuring that the organization is better equipped to handle future emergencies.
Climate Change Considerations:	Extreme weather conditions are likely to cause power outages, the need for resilient backup power more critical. This project ensures that water and sewer facilities can maintain service during natural hazards.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Emergency Services
Priority	High

Action 2026-BBPUD-06. Sea Level Rise and Disaster Preparedness Assessment

Lead Agency:	Bodega Bay Public Utility District Board of Directors
Supporting Agencies:	State Water Quality Control Board
Hazard(s) of Concern:	Sea Level Rise, Tsunami
Description of the Problem:	Extreme weather events and sea level rise are projected to intensify due to climate change and have significant implications for wastewater treatment and operations. The District's wastewater treatment plant (WWTP) is located in a coastal area at an elevation of 10 feet. An assessment is warranted to assess the foreseeable impacts of projected sea level rise on the WWTP within the next 50 years.
Description of the Solution:	**Sea Level Rise and Disaster Preparedness Assessment** The District will conduct an assessment of the WWTP operations to (1) determine areas of short and long-term vulnerabilities related to extreme weather and sea level rise, and (2) identify control measures needed to protect, improve, and maintain wastewater infrastructure and waste discharge compliance.
Estimated Cost:	Low (<$50,000)
Potential Funding Sources:	Sewer System Reserve Fund
Implementation Timeline:	1-2 years
Objectives Met:	1,4,6,8,9,11,13
Benefits:	By identifying the control measures needed to protect wastewater from vulnerabilities related to sea level rise and tsunami, BBPUD is better prepared to fund and strategically implement them.
Impact on Socially Vulnerable Populations:	Through strategic assessment and planning, BBPUD will be better prepared to address foreseeable impacts in a cost-effective manner, which will provide long-term cost savings and reduce impacts on socially vulnerable populations.
Impact on Future Development:	A proactive approach to sea level rise can make the area more attractive to new residents and businesses, fostering economic growth and development.
Impact on Critical Facilities/Lifelines:	Through strategic assessment and planning, BBPUD is better prepared to implement measures to avoid catastrophic damage from sea level rise and extreme weather that may imperil critical facilities.
Impact on Capabilities:	The project builds a culture of resilience within BDPUD, equipping the organization to handle future climate-related challenges more effectively.
Climate Change Considerations:	Climate change is projected to intensify extreme weather events and sea level which will have significant implications for BBPUD's low-lying, coastal wastewater treatment. This project will provide critical information for BBPUD's use in the future implementation of control measures.
Mitigation Category	Local Plans and Regulations
CRS Category	Property Protection
Priority	High

21. SONOMA WATER

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist customers and managers of Sonoma Water with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of Sonoma County. The annex presents a general overview of Sonoma Water, describes who participated in the planning process, assesses Sonoma Water's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient district.

21.1 HAZARD MITIGATION PLANNING TEAM

Sonoma Water identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many stakeholders. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The officials who participated in the development of the annex are listed below and shown in Table 21-1. Additional documentation of the planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Michelle Maxwell, Emergency Management Coordinator

Address: 404 Aviation Blvd, Santa Rosa, CA, 95403

Phone Number: 707-975-5614

Email: Michelle.Maxwell@scwa.ca.gov

Alternate Point of Contact: Steven Hancock, Emergency Management and Security Manager

Address: 404 Aviation Blvd, Santa Rosa, CA, 95403

Phone Number: 707-292-6091

Email: steven.hancock@scwa.ca.gov

Note: The working group below contributed to the transferring of data from Sonoma Water's 2024 Local HMP and Sonoma Valley County Sanitation District's 2023 Local HMP to the 2026 Sonoma County HMP with minimal edits. A broader working group at Sonoma Water completed the initial data compilation and are not included in this plan but are identified in those earlier Local HMPs.

Table 21-1. Additional Contributors

Name	Department	Position	HMP Contribution
Steven Hancock	Emergency Management	Emergency Management & Security Manager	Worksheet Review & Action Item Compilation
Parastou Hooshialsadat	Engineering	Engineer III	Action Item Compilation
Mollie Asay	Technical Writing	Technical Writing Specialist	Consultant on Plan Development Based on Previous HMP Efforts
Nicole McGloin	Technical Writing	Technical Writing Specialist	Consultant on Plan Development Based on Previous HMP Efforts
Andrea Rodriguez	Communications	Principal Programs Specialist	Public Outreach of Survey and Meetings
Kent Gylfe	Engineering	Director of Engineering	Action Item Compilation & Final Plan Review

21.2 COMMUNITY PROFILE

Sonoma Water is a Special Act District created by the California Legislature and provides potable water for approximately 600,000 people in Sonoma and Northern Marin counties through its wholesale customers. These customers primarily include the eight prime water contractors of the cities of Cotati, Petaluma, Santa Rosa, Rohnert Park, and Sonoma, the Town of Windsor, and the Valley of the Moon and North Marin water districts. Additional customers include the Marin Municipal Water District and Russian River surplus water customers. Each customer is responsible for its own distribution systems to consumers within its service boundaries. Sonoma Water is a separate legal entity from the County of Sonoma, but the Sonoma County Board of Supervisors acts as Sonoma Water's Board of Directors.

Sonoma Water also owns eight county sanitation districts (CSD) and sanitation zones (SZ): Sonoma Valley CSD, Russian River CSD, Occidental CSD, Airport/Larkfield/Wikiup SZ, South Park CSD, Penngrove SZ, Geyserville SZ, and Sea Ranch SZ. However, only Sonoma Valley CSD, Russian River CSD, Occidental CSD, and Penngrove SZ, and Geyserville SZ are operated by Sonoma Water. Sonoma Water owns the assets within the sanitation zones, while the county sanitation districts are separate legal entities that own their own assets. The County Board of Supervisors serves as the Board of Directors for the districts and the zones, except for Sonoma Valley CSD, whose board consists of the County Board of Supervisor's Chair and Vice Chair and the Mayor of the City of Sonoma.

Sonoma Water manages flood protection projects, including channels and drainage systems, a fisheries enhancement program, a water conservation program, and a water education program.

21.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Sonoma Water completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a

virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

Figure 21-1 highlights various public outreach initiatives undertaken by Sonoma Water, utilizing platforms such as Nextdoor and Facebook. On January 15, 2025, Sonoma Water announced a public meeting via Nextdoor and Facebook to gather community feedback on updating the County's 2021 HMP. The District also placed flyers at the reception desk to promote the survey, as illustrated in Figure 21-2. Additional examples can be found in Appendix D (Outreach Documentation).

Figure 21-1. Sonoma Water Public Outreach Initiatives

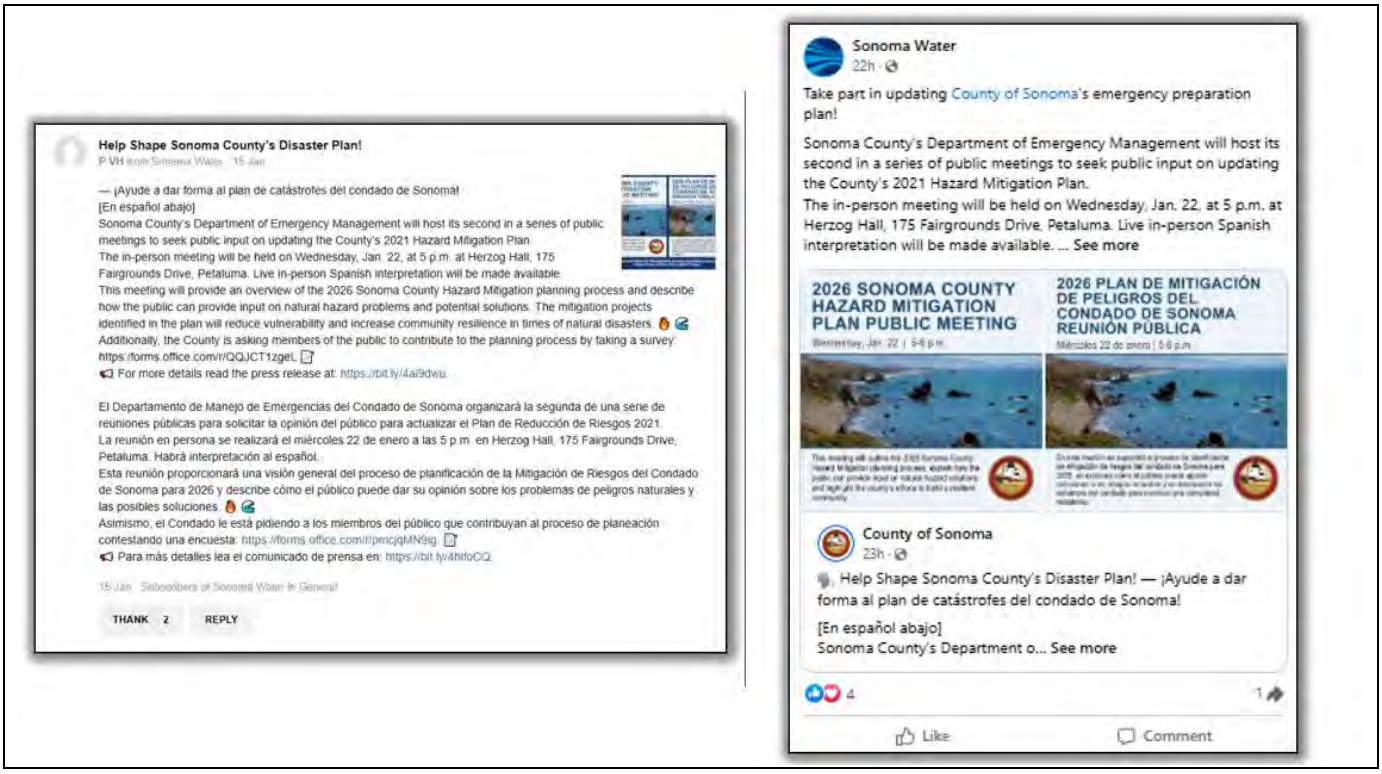


Figure 21-2. Flyers



During the public comment period for the Sonoma County HMP, several outreach activities were conducted to engage the community and encourage participation. These efforts included three social media posts shared on Facebook and Instagram in both English and Spanish, ensuring broad accessibility. Additionally, a printed flyer was prominently displayed at the reception area to provide in-person visibility for visitors.

Sonoma Water also hosted a public meeting, which featured a dedicated HMP presentation and was included on the official Water Advisory Committee (WAC) Technical Advisory Committee (TAC) agenda. These combined efforts reflect a multi-channel approach to informing stakeholders and the public about the plan and opportunities for feedback.

The following targeted outreach was made to underserved communities and vulnerable populations:

- Sonoma Water identified particularly vulnerable and socially underserved customers within its sanitation districts (particularly the Russian River County Sanitation District) and used Nextdoor and direct customer communication to invite customers to participate in the planning process by filling out the public survey and attending Public Meetings. All messaging was in English and Spanish.
- Sonoma Water included in the planning efforts non-profits and community-based organizations that provide support to underserved communities and vulnerable populations: American Red Cross of the North Bay, Friends of Rio Nido, LandPaths, and the Rotary Club of Russian River.
- Sonoma Water works very closely with its water contractors, which maintain a direct connection with residents and businesses that use water originating in Sonoma Water's system. Many of these contractors are departments of cities that are participating in the HMP. Still, the HMP

planning effort was communicated to the water contractors to encourage consideration for all underserved and vulnerable groups within the water system.

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to Sonoma Water was contributed through community engagement activities.

21.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Sonoma Water invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

21.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The stakeholders below were involved in the planning process focusing on developing action items that would impact their respective jurisdictions. Additionally, they conducted a final review of Sonoma Water's annex to the HMP.

- U.S. Geological Survey
- U.S. Army Corps of Engineers

21.4.2 Agencies that Have the Authority to Regulate Development

The following agencies assisted in the final review of Sonoma Water's Annex within the 2026 HMP.

- **Technical Advisory Committee (TAC)**—Water experts from each of the water contractors, as described in the next category, that guide technical decisions impacting Sonoma Water and all downstream partners
- **Water Advisory Committee (WAC)**—Elected officials that represent the cities and towns that the water contractors operate within and that guide high-level decisions impacting Sonoma Water and all downstream partners
- Note: the TAC meets monthly, and the WAC joins them on a quarterly basis. This meeting is open to the public.

21.4.3 Neighboring Communities

Sonoma Water’s water contractors from neighboring communities assisted with presentation of the planning process, developed action items, and presented the implementation schedule during

Emergency Coordination Subcommittee (a subcommittee of the TAC/WAC, which focuses on hazard mitigation and emergency preparedness):

- City of Santa Rosa
- City of Sonoma
- City of Petaluma
- Town of Windsor
- City of Rohnert Park
- City of Cotati
- Marin Municipal Water District
- North Marin Water District
- Valley of the Moon Water District

21.4.4 Representatives of Business, Academia, and Other Private Organizations

The stakeholders below were involved in the planning process and focused on developing action items that would impact their respective jurisdictions. Additionally, they conducted a final review of Sonoma Water's Annex within the 2026 HMP.

- Pacific Gas and Electric

21.4.5 Nonprofit Organizations and Community-Based Organizations

The following non-profit and community-based organizations assisted in the final review of Sonoma Water's annex to the 2026 HMP.

- American Red Cross of the North Bay
- Friends of Rio Nido
- LandPaths
- Rotary Club of Russian River

21.5 CHANGES IN COMMUNITY PRIORITIES

There have been no changes in priorities for Sonoma Water since the 2021 HMP update.

21.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Sonoma Water performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Sonoma Water to identify opportunities for integrating mitigation concepts into ongoing procedures.

21.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, Sonoma Water possesses capabilities that are unique and different from local government. Construction and development within the district are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume 1.

Codes, Ordinances, and Regulations

Table 21-2 summarizes the codes, ordinances, and regulations available to Sonoma Water.

Planning Documents

Table 21-3 summarizes the plans available to Sonoma Water.

Table 21-2. Codes, Ordinances, and Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building Codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Water Code	Water rights and usage, water quality and treatment standards, infrastructure development and maintenance, groundwater management and conservation	California Water Code	California State, Sonoma Water
Water Standards	From source to storage, from treatment to distribution, AWWA Standards cover the products and processes related to all areas of water treatment and supply. These documents reflect the state of the industry. As new technologies emerge, new standards are developed. These AWWA Standards address all facets of water treatment and delivery.	American Water Works Association Standards	Board of Directors, Committee
Health and Safety Code	Safe drinking water standards, public health protections related to wastewater and sanitation	California Health and Safety Code	California State, Sonoma Water

Table 21-3. Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Capital Improvement Plan	This plan outlines capital projects which have secured funding through 2028. Many of these projects have been inspired by previous HMP efforts and have direct impact on risk reduction across our systems. Additionally, these will be complementary to all new mitigation projects identified in this HMP.	Capital Improvement Plan 2023-2028	Sonoma Water
Floodplain Management or Watershed Plan	This has not been integrated with the HMP but is designed to support public agencies and private entities in planning for projects near waterways, channels, closed conduits, or culverts, preventing future flood risk to property developments or other endeavors.	Flood Management Design Manual, May 19. 2020	Sonoma Water
Stormwater Management Plan	This has not been integrated with the HMP but is designed to mitigate risk of stormwater's impact in the environment by prioritizing projects that capture, treat, or reuse stormwater runoff.	Senate Bill 985 - Stormwater Resource Plan - May 2019	Sonoma Water Storm Water Grant Program
Urban Water Management Plan	This has not been integrated with the HMP but is a comprehensive plan describing in detail Sonoma Water's system, demands, production, and water conservation activities, and reviews projected future water supplies and climate change impacts. All this data is helpful in prioritizing projects to reduce risk across the water system.	California Water Code §10608-10656 - Urban Water Management Plan - 2020	Sonoma Water
Climate Action/ Resilience/ Sustainability Plan	This has not been integrated with the HMP but describes Sonoma Water's risk to climate change and suggests adaptation strategies to help reduce this risk. This plan serves as a guide to prioritizing and allocating resources towards projects the improve resilience to climate change.	Climate Adaptation Plan, October 2021	Sonoma Water

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Other Plan	This has not been integrated with the HMP but provides an analysis of the current resilience of the water system at Sonoma Water against natural hazards and malevolent acts and outlines detailed projects the agency can do to reduce risk and become more resilient.	AWIA Section 2013/SDWA Section 1433, Risk & Resilience Plan, September 2020	Sonoma Water

Aside from plans and codes, Sonoma Water is also able to expand and improve its capabilities through construction standards. Current construction standards do not address seismic resilience, liquefaction potential, or increases in inflow and infiltration due to flood and sea level rise. Sonoma Water could update construction and operation standards to address seismic resilient measures, liquefaction potential, and increased inflow and infiltration for all collection systems, and develop standard project design criteria for new construction.

Response and Recovery Planning Documents

Table 21-4 summarizes the response and recovery plans available to Sonoma Water.

Table 21-4. Response and Recovery Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	This has not been integrated with the HMP. This plan is a foundational document, providing non-tactical information about the response and recovery processes at Sonoma Water, and it drives all other emergency response and recover endeavors, which in turn reduce risk.	Emergency Operations Plan, March 2024	Sonoma Water
Other Recovery and Response Plan	This has not been integrated with the HMP. This plan outlines geographic zones for initial damage assessment after a sudden-onset incident and provides a staffing and coordination structure to complete inspections. This reduces risk by increasing the efficiency and organization of initial response to field-based infrastructure and provides clear guidance to staff prior to the incident occurrence to reduce confusion.	Concept of Operations (CONOPS) for Initial Damage Assessment – October 2024	Sonoma Water

21.6.2 Integration

Table 21-3 and Table 21-4 list local planning mechanisms for Sonoma Water. They provide valuable information on how the mechanisms can be utilized for future integration. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings include the following:

- **Supporting Public Agencies and Private Entities:** These mechanisms can assist in planning for projects near waterways, channels, closed conduits, or culverts, thereby preventing future flood risks to property developments or other endeavors. By leveraging HMP hazard assessment data, public agencies and private entities can develop more robust emergency plans and response strategies, ensuring better preparedness and resilience against flooding.

- **Mitigating Stormwater Impact:** Prioritizing projects that capture, treat, or reuse stormwater runoff can significantly mitigate the risk of stormwater's impact on the environment. Integrating 2026 HMP findings into stormwater management plans can help identify critical areas for intervention, enhancing the effectiveness of stormwater mitigation efforts and protecting natural habitats.
- **Comprehensive Water System Planning:** Comprehensive data describing Sonoma Water's system, demands, production, and water conservation activities, along with reviews of projected future water supplies and climate change impacts, is essential. This data is invaluable for prioritizing projects that reduce risk across the water system. Incorporating HMP hazard analyses can ensure that water management strategies are aligned with broader risk reduction goals.
- **Resilience of Water System:** Analyzing the current resilience of the water system against natural hazards and malevolent acts is vital. Detailed projects outlined in this plan can help the agency reduce risk and become more resilient. Incorporating HMP findings can enhance the strength of these projects, ensuring that they address the most pressing vulnerabilities and threats.

By integrating these planning mechanisms with the HMP, Sonoma Water can enhance its overall risk management framework, ensuring that future updates to the HMP are informed by comprehensive, data-driven insights. This collaborative approach will not only improve the resilience of Sonoma Water's systems but also support broader community efforts to mitigate risks and adapt to changing environmental conditions.

21.6.3 Development and Permitting Capability

Sonoma Water is a special district located in unincorporated Sonoma County. Sonoma Water is subject to Sonoma County and State of California building codes and land use regulations. Sonoma Water does not permit or regulate development. Development permits within Sonoma Water's jurisdiction are issued through Sonoma County. Therefore, building code, land use, and development capabilities are not applicable to Sonoma Water.

That said, Sonoma Water plays an important advisory role in development-related matters. As a special district, it serves as a consultant on various development efforts, including 811 Dig notifications, flood zone advisories, and environmental compliance as it relates to impacts on waterways. This consultative function ensures that development activities within the Sonoma Water's service area are informed by technical expertise in water resource management and environmental protection.

21.6.4 Administrative and Technical Capability

Table 21-5 summarizes the administrative bodies and programs available to support mitigation initiatives in Sonoma Water.

Table 21-5. Administrative Capabilities

Resources	Available?	Comment
Planning Board	No	-
Zoning Board of Adjustment	No	-
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Operations & Maintenance Division at Sonoma Water 115 staff Responsible for operating and maintaining all water, wastewater, and flood control sites, facilities, and infrastructure and repairing issues as they arise. Additionally, this group supports hazard mitigation projects in the field.
Construction/Building/Code Enforcement Department	No	-
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	See “public works” above.
Mutual aid agreements	Yes	Cal WARN (California Water/Wastewater Agency Response Network) – a written agreement and contact list of all water and wastewater agencies around the state to share equipment and materials when issues arise
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other	N/A	-

Table 21-6 summarizes technical staff and personnel resources available to Sonoma Water and their current responsibilities that contribute to hazard mitigation.

Table 21-6. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering Division at Sonoma Water 80 staff Responsible for planning system improvements including those that impact owned land and land on easements. Most of these projects directly mitigate against hazards.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering Division at Sonoma Water 80 staff Responsible for planning system improvements and supervising construction projects, most of which directly mitigate against hazards.
Planners or engineers with an understanding of natural hazards	Yes	Engineering Division at Sonoma Water 80 staff Responsible for planning system improvements, many of which are a response to natural hazard mitigation recommendations.
Staff with expertise or training in benefit/cost analysis	Yes	All project managers around the agency are required to do cost/benefit analysis to all projects. In addition, most project go through an upper management approval process and many require approval by the Board of Directors.
Professionals trained in conducting damage assessments	Yes	A collection roughly 60 staff have training in initial damage assessments and Sonoma Water's Emergency Operations Center has a dedicated Damage Assessment unit.
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Drafting/GIS Section at Sonoma Water 8 staff Support project endeavors with CAD and GIS, including hazard analysis. Also supports GIS based information tracking in the Emergency Operations Center.
Staff that work with socially vulnerable populations or underserved communities	No	-
Environmental scientists familiar with natural hazards	Yes	Environmental Resources Division at Sonoma Water 30-40 staff Responsible for overseeing compliance-driven environmental research, reporting, and project work, much of which leads to mitigation of hazards impacts on local flora and fauna
Surveyors	Yes	Survey/Right-of-Way Section at Sonoma Water 5 staff Support engineering projects through completely surveys a needed and maintaining and negotiating right-of-way agreements.
Emergency manager	Yes	Emergency Management & Security Section at Sonoma a Water 5 staff Responsible for planning for emergencies and disasters and leading response and recovery efforts when incidents occur. Most projects administered by this group directly reduce risk to hazards by preparing facilities and people in their ability to support response.

Resources	Available?	Comment
Grant writers	Yes	Grants and Funded Projects Section at Sonoma Water 9 staff Identify, research, apply for, and manage grants and other funding for projects, including those identified in the HMP.
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

21.6.5 Fiscal Capability

Table 21-7 summarizes financial resources available to Sonoma Water.

Table 21-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

21.6.6 Education and Outreach Capability

Table 21-8 summarizes the education and outreach resources available to Sonoma Water.

Table 21-8. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Sonoma Water houses a Communications Section that supports media and public inquiries and PIO duties in emergencies.
Personnel skilled or trained in website development	Yes	Sonoma Water houses a Communications Section that administers the website and social media.
Hazard mitigation information available on your website	Yes	Sonoma Water maintains hazard mitigation and all related plans on the website.
Social media for hazard mitigation education and outreach	Yes	Sonoma Water maintains a daily social media presence and often educates on local and individual hazard mitigation.
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	Sonoma Water maintains an alert protocol with Russian River County Sanitation District customers during Sanitary Sewer Spills
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	All public-school students within Sonoma Water service areas receive Water Education training.
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Sonoma Water has a social media presence (Instagram, Facebook, and Nextdoor) where this information is shared with the public.

21.6.7 Community Classifications

Table 21-9 summarizes classifications for community programs available to Sonoma Water.

Table 21-9. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
National Weather Service StormReady Certification	Yes	-	-
Firewise Communities classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	-	-

N/A = Not applicable; — = Unavailable

21.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 21-10 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 21-10. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Strong
Extreme Heat	Strong
Extreme Wind	Moderate
Flooding	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Strong
Wildfire	Moderate

21.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

As a public utility district, Sonoma Water is not eligible for participation in the National Flood Insurance Program. The assessment of repetitive loss for NFIP-insured structures within the District’s jurisdiction can be found in the annex for Sonoma County.

21.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within the Sonoma Water's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within the District's jurisdiction are included in the Sonoma County annex.

As outlined in the annex for Sonoma County, some development in the district has slightly increased overall vulnerability to flood and wildfire. For other hazards, vulnerability has overall remained the same.

21.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Sonoma Water's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

21.9.1 Hazard Area

Maps of probable hazard areas within the District are shown in Figure 21-3 through Figure 21-4. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Sonoma Water has significant exposure.

Figure 21-3. Sonoma Water Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

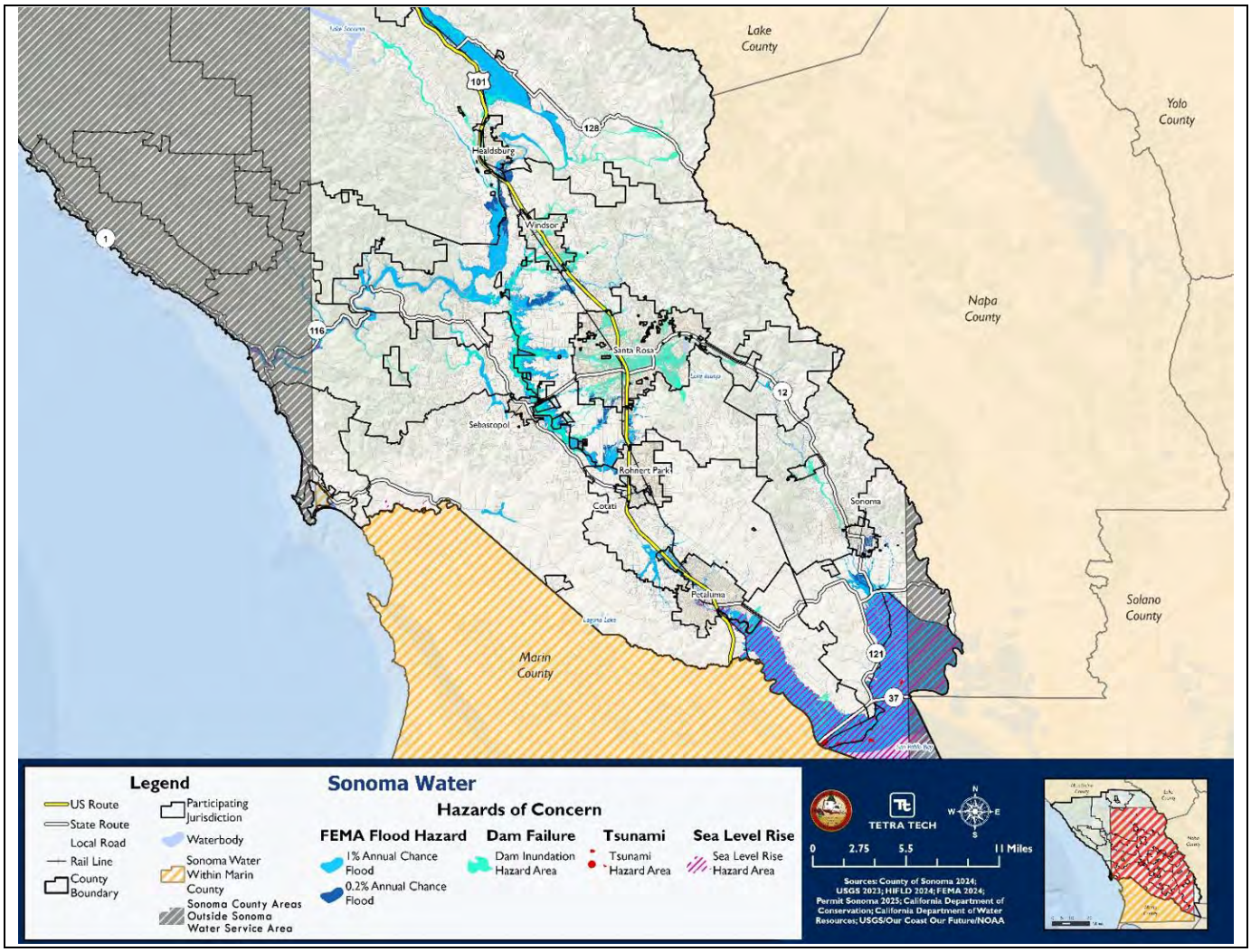
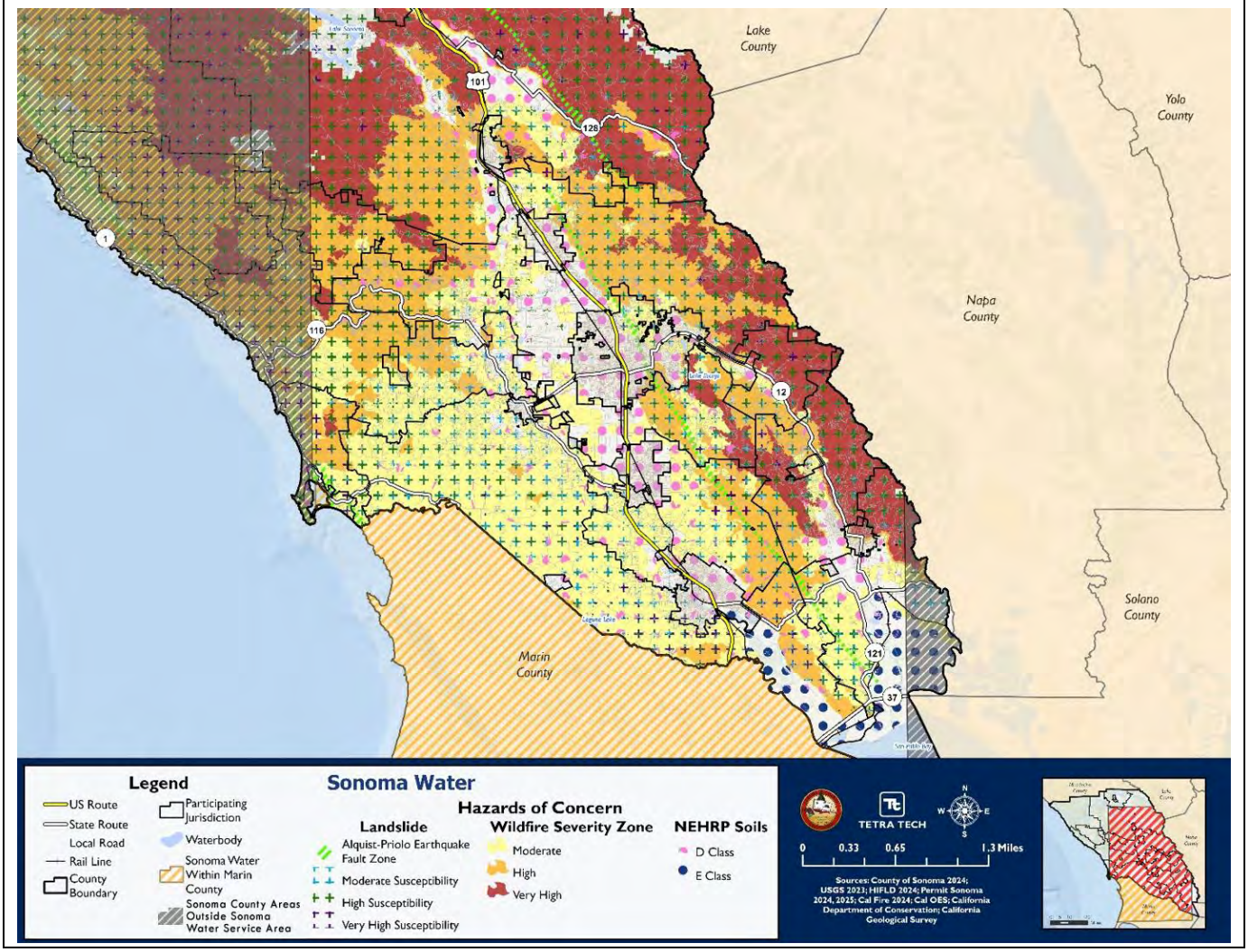


Figure 21-4. Sonoma Water WILDFIRE SEVERITY ZONE, NEHRP SOILS, AND LANDSLIDE HAZARD AREA



21.9.2 Hazard Event History

The history of natural and non-natural hazard events in Sonoma Water is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 21-11 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 21-11. Hazard Event History for Sonoma Water, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses to Sonoma Water
January 9, 2023	Flood	State and Federal DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton.	• Increased wastewater hauling from Occidental Treatment Plant and Penngrove Lift Station. • Four sanitary sewer spills in the Sonoma Valley County Sanitation District. • Increased chemical use at the Sonoma Valley Treatment Plant, leading to a shortage of a critical resource. • Temporary data communication loss due to damaged radio tower. • Overtime for 30-40 staff for 24/7 system operations, wastewater hauling, flood channel maintenance, response to wastewater treatment and collections issues, and general emergency response.
March 9, 2023	Flood	State and Federal DR-4699-CA EM-3592-CA CA23-3	Sub-tropical jet stream moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	None
November 19-25, 2024	Atmospheric River	N/A	A strong atmospheric river produced record rainfall and pushed the river at Guerneville to moderate flood stage.	• Increased wastewater hauling from Occidental Treatment Plant, Penngrove Lift Station, and Russian River Treatment Plant. • One sanitary sewer spill in the Russian River County Sanitation District. • Shutoff of the low-lying wastewater collections system in Russian River County Sanitation District. • Overtime for 20-30 staff for 24/7 system operations, wastewater hauling, response to wastewater treatment and collections issues, and general emergency response.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)

21.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Sonoma Water.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process

involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Table 21-12 shows Sonoma Water's final hazard rankings for the identified planning area hazards of concern. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.

Table 21-12. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	High
Earthquake	High
Extreme Cold	Low
Extreme Heat	Low
Extreme Wind	Medium
Flood	High
Landslide	Medium
Sea Level Rise	Low
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction.

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to Sonoma Water. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the District. Table 21-13 summarizes additional risks specific to the District.

Table 21-13. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	Sonoma Water faces potential localized flooding and property damage from dam failure at several reservoirs, which could threaten communities and infrastructure downstream. There are several dams within the Sonoma Water service area, including low-, significant-, and high-hazard dams. The Warm Springs Dam is especially noteworthy, as it maintains the reservoir at Lake Sonoma. A failure of this dam could lead to significant downstream flooding along Dry Creek and reduce the availability of water for the 600,000 people dependent on it. Several dams have mapped inundation areas that, in the event of failure, could impact Highway 101 and Highway 128, impacting both transportation infrastructure and the people who may be traveling at the time of failure. The populations most vulnerable to these hazards are those downstream of the reservoirs, including residents and tourists along the various waterways in the District, such as the Russian River
Drought	Drought conditions pose a significant risk to the County by reducing water supply for residents, agriculture, and natural ecosystems, while increasing wildfire potential. For Sonoma Water specifically, they can reduce revenue, require exceptional efforts in communicating water conservation requirements, and cause lasting effects on the natural waterways, which are an important part of Sonoma Water's natural infrastructure. Populations most at risk due to drought are people living in higher fire-risk areas, which includes most of the easternmost and westernmost parts of District, and people dependent on agricultural and forestry activities. In periods of extended drought, wineries in the area can be negatively impacted. Recreation near or on the Russian River or Laguna de Santa Rosa may also be vulnerable.
Earthquake	Located within an active seismic region, the County is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. Additionally, underground water and wastewater pipelines are especially vulnerable to breaks or leaks. Especially vulnerable populations include people living in mobile or older homes that are not retrofitted to withstand earthquakes, such as the numerous senior mobile home parks in the county, or travelers along Highway 101.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the County's population and infrastructure. Sonoma Water manages life safety interventions during extreme cold events, thus the risk of this hazard is low. Elderly populations and people experiencing homelessness in the area are more vulnerable to extreme cold than the general populace, as are people living alone. Because of Sonoma Water's coastal location and moderate temperatures, its infrastructure is not generally vulnerable to extreme cold. However, because of the rarity of freezing temperatures, residents may not be prepared, and if a freeze event were to occur, pipes could freeze or burst.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources across the County. Sonoma Water manages life safety interventions during extreme heat events, thus the risk of this hazard is low. Elderly populations in the service area are more vulnerable to extreme heat than the general populace, as are people living alone or in remote areas. Many senior mobile home parks exist in the area, which could be especially vulnerable. Heat events can increase evaporation from soil and surface water, as well as human and animal need for water, so demand for water can increase, especially during dry periods. This can strain water infrastructure if demand goes high enough. Transportation networks, such as Highway 101, can be vulnerable to extreme heat, as heat can impact road integrity. Emergency shelters and fire stations in the District can be vulnerable to extreme heat, especially if the event coincides with a power outage.

Hazard	Qualitative Local Impacts
Extreme Wind	The County may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Transportation networks, such as Highway 101, can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses, including the numerous senior mobile home parks in the area. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.
Flood	Flooding from heavy rainfall and river overflow is a concern throughout Sonoma County, potentially affecting homes, infrastructure, agriculture, and transportation networks. Sanitation systems are particularly vulnerable to overflowing during heavy rain and flood events. People living in low-lying areas can be vulnerable to flooding, along with people living in older houses that lack backflow prevention systems. Tourists and travelers may be unaware of flooding risks as well, especially in areas that are within the SFHA, such as the floodplain of the Russian River, where several wineries are in or near the SFHA. Highways 12, 37, 101, 116, and 128 cross SFHAs at various points in the service area, making these roads vulnerable to flooding. Heavy winter rains can contribute to downed trees and power line hazards that can impact travel.
Landslide	Areas with steep or unstable terrain across the County are susceptible to landslides, particularly following heavy rains or seismic events. Large portions of Sonoma Water's service area are rated as having high or very high landslide susceptibility, although this generally does not include the incorporated cities. Stretches of Highways 12, 116, and 128 going through the District are in areas rated as having high or very high landslide susceptibility, making the roads vulnerable to landslides. Lake Sonoma is also surrounded by areas susceptible to landslides, which over time can lead to sedimentation in the reservoir. Populations vulnerable to landslides include residents in high-landslide susceptibility areas, moderate wildfire risk areas, and those near the fault zone, as well as travelers and visitors unaware of risks. People in areas with limited communication options, such as remote or rugged terrain, can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	Coastal areas of Sonoma County may be impacted by sea level rise, increasing risks of flooding and erosion in low-lying communities and natural habitats. The wastewater treatment plant south of the City of Sonoma is near a sea level rise hazard area and could become vulnerable to flooding. As sea level rise changes the rate of erosion on beaches and sea cliffs, homes and roads could be impacted, such as Highways 1, 37, and 101. The most vulnerable populations will be people living, working, or recreating along the coast.
Tsunami	Coastal zones of Sonoma County face low but present tsunami risk, which could impact shoreline communities and infrastructure. The wastewater treatment plant south of the City of Sonoma is near a sea level rise hazard area and could become vulnerable to tsunamis as the sea comes closer. As sea level rise changes the rate of erosion on beaches and sea cliffs, homes and roads could be impacted, such as Highways 1, 37, and 101. The most vulnerable populations will be people living, working, or recreating along the coast.

Hazard	Qualitative Local Impacts
Wildfire	Wildfire presents a major threat throughout Sonoma County due to extensive vegetation, climate conditions, and topography, threatening life safety, property, air quality, and emergency response capabilities. Sonoma Water's water supply infrastructure – including wells, reservoirs, pumps, and lift stations – is a vital part of wildfire suppression, but if a public safety power shutoff or wildfire-caused power outage occurs, pumping systems are vulnerable to disruption and some water storage facilities could become vulnerable to depletion. People impacted most are likely to be low-income people and people living in isolated locations where it can be difficult to access or provide sufficient warning in a hazard event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation

21.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Sonoma Water identified the following risk-related issues within the community:

- The Sonoma Water service area is located on Class D and E soils, which may be prone to liquefaction. In addition, multiple fault lines cross the area.
- Power disruption can occur as a result of extreme wind events. Power outages during severe weather can last 48 to 72 hours.
- Localized flooding is often an issue during excessive rain events, such as atmospheric rivers.

21.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

21.10.1 Past Mitigation Action Status

Table 21-14 indicates progress on Sonoma Water's mitigation strategy identified in its 2024 Local HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 21-14. Status of 2024 Mitigation Actions

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
1.1.1	Continue to support Forecast Informed Reservoir Operations (FIRO) and its efforts to provide drought resilient planning.	Not Complete	Yes	
1.1.2	Develop a modified hydrologic index to improve management of river flows and system storage.	Not Complete	Yes	

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
1.1.3	Continue to support Advanced Quantitative Precipitation Initiative efforts to provide drought and flood resilient planning.	Not Complete	Yes	
1.1.4	Continue to research and pursue projects involved with aquifer storage and recovery.	Not Complete	Yes	
1.2.1	Develop and implement retrofit design for Collector 3 against liquefaction and lateral spread hazard.	Not Complete	Yes	Consolidated into 40 Collector Retrofit
1.2.2	Develop and implement retrofit design for Collector 5 against liquefaction and lateral spread hazard.	Not Complete	Yes	Consolidated into 40 Collector Retrofit
1.2.3	Develop and implement retrofit design for Collector 6 against liquefaction and lateral spread hazard.	Not Complete	Yes	Consolidated into 40 Collector Retrofit
1.2.4	Develop and implement design strategy to mitigate liquefaction and lateral spread hazard to the River Diversion Structure (RDS).	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.7.1	Develop and implement design or operational strategy to mitigate liquefaction, fire, and flood related damage to electric power lines feeding collectors and pump stations.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.7.2	Develop and implement a design or operational strategy to maintain communications and auxiliary power at all water supply tanks and booster stations in the event of power outage from wildfire damage.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.1.5	Provide operational capability to minimize uncontrolled release with automated valves on the Santa Rosa Aqueduct, Cotati intertie, and Wohler Forestville Intertie.	Not Complete	Yes	
1.3.12	Develop and implement design strategy to mitigate the liquefaction and lateral spread hazard at the Russian River crossing on the Wohler-Mirabel Intertie.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.3.13	Develop and implement design strategy to mitigate the liquefaction and lateral spread hazard at the Willow Brook Creek crossing of the Petaluma Aqueduct.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.2.8	Develop and implement retrofit design for Collector 1 ground shaking hazard.	Not Complete	Yes	Consolidated into 40 Collector Retrofit
1.2.9	Develop and implement retrofit design for Collector 2 for ground shaking hazard.	Not Complete	Yes	Consolidated into 40 Collector Retrofit
1.4.3	Develop and implement seismic retrofit design or replacement of the Wilfred booster station building.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.3.3	Develop and implement design strategy to mitigate the liquefaction and lateral spread hazard at the Santa Rosa Creek crossing.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.5.1	Perform piping retrofit by replacing existing rigid piping with piping with flexible joints at the storage reservoirs.	Not Complete	Yes	
1.3.4	Implement cathodic protection system improvements to the Santa Rosa and Russian River-Cotati Intertie aqueducts to mitigate corrosion hazard.	Not Complete	Yes	
1.8.5	Coordinate with Army Corps of Engineers to support its efforts to address operational reliability of the outlet works at Warm Springs Dam.	Not Complete	Yes	

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
1.6.4	Coordinate with PG&E to identify locations of buried electrical and high pressure gas lines overlap with water transmission system where post-disaster repairs could be delayed due to control of site considerations.	Not Complete	Yes	
1.3.14	Conduct site specific geotechnical assessment of the portions of the water transmission system that are within the mostly and many historic landslide occurrence zones.	Not Complete	Yes	
1.8.1	Design and implement mitigation schemes for reducing the pote	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.2.5	Develop a design strategy and operational plan to address flooding at the Mirabel facility.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.10.1	Work with the U.S. Army Corps of Engineers to expedite the earthquake safety assessment of Warm Springs and Coyote Valley dams; and reassessment of these under the revised Probable Maximum Flood conditions as impacted by the Probable Maximum Precipitation study.	Not Complete	Yes	
1.8.2	Conduct assessment of vegetation around Lake Sonoma and Lake Mendocino for potential vegetation management projects that will protect water quality and storage from fire.	Not Complete	Yes	
1.2.6	Develop and implement an operational and design strategy to mitigate against wildfire hazard at Mirabel and Wohler facilities. Include consideration of removing debris, trees, or other fire-hazard materials; installing fire resilient building materials.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.1.6	Develop a design or operational strategy to respond to unexpected pipeline damage within the Wohler-Mirabel area from liquefaction.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.3.5	Develop plans to relocate pipeline that crosses beneath the Spring Lake and the Spring Lake dam to mitigate against the seismic risk of failure.	Not Complete	Yes	
1.3.6	Develop and implement an operational or design strategy to mitigate fault rupture hazard to the aqueducts that cross the Bennett Valley fault.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.3.7	Develop and implement an operational or design strategy to mitigate the liquefaction and lateral spread hazard at the Petaluma River crossing.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.3.8	Develop and implement design strategy to mitigate the liquefaction and lateral spread hazard at the Calabasas Creek crossing.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.3.9	Develop and implement design strategy to mitigate the liquefaction and lateral spread hazard at the Lawndale and Madrone Road crossings of Sonoma Creek.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.3.10	Develop and implement design strategy to mitigate the liquefaction and lateral spread hazard at the Verano Avenue crossing of Sonoma Creek.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.5.2	Implement other retrofits such as removing overconstrained conditions.	Not Complete	Yes	

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
1.9.1	Conduct a detailed seismic vulnerability assessment of structural and non-structural elements of the Sonoma Water's administrative facilities.	Not Complete	Yes	Consolidated into 10 Seismic Vulnerability Assessments
1.7.5	Design and construct a new 12-kV electrical feeder for the Mirabel facilities to reduce risk due to seismic, fire and flood hazards.	Not Complete	Yes	
1.8.3	Assess potential damage to Sonoma Water infrastructure in the event of Warm Springs and/or Coyote dam failure.	Not Complete	Yes	
1.1.8	Improve secondary water quality in the Todd Road, Sebastopol, and Occidental Wells to provide additional water supply in the event that one or more of the Caissons is damaged by flood or earthquake.	Not Complete	Yes	
1.3.11	Develop a long term strategy to address lower probability damage to transmission system pipelines against all hazards.	Not Complete	Yes	Consolidated into 10 Seismic Vulnerability Assessments
1.1.10	Work with the United States Geological Survey (USGS) to design and conduct a detailed geologic study of Bennett Valley and Rodgers Creek faults to more accurately define the fault activity, paleoseismic history, rupture zone, and extent of surface rupture.	Not Complete	Yes	
1.7.4	Assess sufficiency of standby power at administrative buildings and Sonoma Water EOC, and develop design strategy to ensure core functions are maintained in the event of a power failure.	Not Complete	Yes	
1.6.1	Conduct first responder training of a broad pool of Sonoma Water personnel to respond in an emergency.	Not Complete	No	Completed in 2024/2025
1.1.11	Provide seismic restraints to electrical and communication equipment at various facilities.	Not Complete	Yes	
1.5.4	Conduct updated seismic vulnerability assessments at storage reservoirs and tanks pursuant to revised standards.	Not Complete	Yes	Consolidated into 10 Seismic Vulnerability Assessments
1.8.4	Assess vulnerability of Russian River supply upstream of the Russian River aquifer to contamination from earthquake and non-earthquake induced landslides, wildland fire, and resulting post-fire erosion, especially to Lake Sonoma and Lake Mendocino water supply sources.	Not Complete	Yes	
1.10.2	Conduct a detailed seismic vulnerability assessment of electric power station at the Warm Springs dam.	Not Complete	Yes	Consolidated into 10 Seismic Vulnerability Assessments
1.9.3	Develop operational strategy to maintain water collection and pumping plant in the event that Wohler Bridge is damaged by earthquake, flood, or landslide.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.2.7	Develop and implement an operational and design strategy to mitigate against turbid water at Collector 5 from burn area runoff due to it being the only collector under the influence of surface water during certain flow levels.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
1.1.12	Plan, design and add redundant/emergency supply sources to minimize dependence on the Russian River aquifer as the main source of water supply against all hazards. Install new emergency ground water wells located strategically throughout the system (assumed three locations).	Not Complete	Yes	
1.1.13	Assess backwater culverts at Mirabel facility and consider remote operation of their valves during flood events.	Not Complete	Yes	
1.6.2	Procure, or contract for, a mobile EOC and Communication trailer to respond in an emergency.	Not Complete	Yes	
1.5.3	Develop larger and more redundant storage facilities to minimize future water supply issues due to increased variability in supply and likely increased demand, which may stress existing conveyance, pumping, and storage systems.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
1.1.14	Develop a GPS based system map with real-time monitoring at critical locations to assist in identifying the location of leaks or other system failures in timely fashion.	Not Complete	Yes	
1.1.15	Install manifolds at strategic locations to connect emergency hoses to booster stations.	Not Complete	Yes	
1.10.3	Develop standard project design criteria document for new construction.	Not Complete	Yes	Consolidated into 28 Construction and Operations Standards
2.2.1	Develop and implement operational or design strategy to mitigate the effects of flooding on percolation at the Geyserville SZ wastewater treatment plant.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.1	Update construction and operation standards to address seismic resilient measures for all collection systems.	Not Complete	Yes	Consolidated into 28 Construction and Operations Standards
2.1.3	Develop and implement an operational or design strategy to mitigate the debris hazard effects of high stream flows and wind on the exposed pipeline crossing the drainage in the vicinity of the Sea Ranch SZ treatment plant.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.3	Develop and implement an operational or design strategy to mitigate the effects of flooding on access to the Geyserville SZ wastewater treatment plant.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.13	Develop and implement operational or design strategy to mitigate the ground deformation effects of very high liquefaction hazard for the Geyserville SZ force main.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.32	Develop and implement operational or design strategy to mitigate the effects of flooding for portions of the RRCSD collection system subject to inflow within areas of recurrent inundation or located within the 1 percent annual chance floodplain of the Russian River.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.14	Update construction and operation standards to address inflow and infiltration for all collection systems.	Not Complete	Yes	Consolidated into 28 Construction and Operations Standards
2.2.7	Develop and implement an operational or design strategy to ensure auxiliary power reliability at the Sea Ranch SZ main lift station during storm events.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
2.3.1	Develop specific measures to include in an integrated Sonoma Water emergency response and recovery plan for sanitation operations.	Complete	No	Sanitation response operations is incorporated in the Emergency Response Concept of Operations, Emergency Operations Center, and Recovery Operations Center.
2.3.2	Enhance the reliability of SCADA operations by upgrading network hardware, computer hardware, and radio hardware to respond in an emergency.	Not Complete	Yes	Consolidated into 36 SCADA Operations
2.2.13	Seismically restrain/anchor the steel tertiary filter tanks at the RRCSD treatment plant.	Not Complete	Yes	
2.1.32	Develop and Implement a design strategy to mitigate the effects of wild-land fire on Russian River CSD critical facilities.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.14	Seismically restrain/anchor miscellaneous equipment at the RRCSD treatment plant.	Not Complete	Yes	
2.2.2	Develop and implement an operational or design strategy to mitigate the effects of flooding for Airport-Larkfield-Wikiup SZ treatment plant facilities that are subject to recurrent inundation or located within the 1 percent annual chance floodplain.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.5	Develop and implement an operational or design strategy to mitigate the bank erosion effects of flooding and/or high stream flows near the overflow tanks at the Sea Ranch SZ main lift station.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.6	Develop and implement an operational or design strategy to mitigate the erosive effects of high stream flows in Dutch Bill Creek adjacent to the Occidental CSD lift station.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.7	Develop and implement an operational or design strategy to mitigate the effects of fire at the Occidental CSD lift station.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.8	Develop and implement an operational or design strategy to mitigate the ground rupture effects of the Rodgers Creek Fault for portions of the Airport/Larkfield/Wikiup SZ collection system within the rupture zone.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.8	Develop and implement operational or design strategy to mitigate the ground deformation effects of very high liquefaction hazard at the Geyserville SZ treatment plant.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.9	Develop and implement an operational or design strategy to mitigate the ground deformation effects of very high liquefaction hazard for portions of the Airport/Larkfield/Wikiup SZ collection system crossing Mark West Creek.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
2.1.10	Develop and implement operational or design strategy to mitigate the effects of flooding for portions of the Geyserville SZ collection system subject to inflow within areas of recurrent inundation or located within the 1 percent annual chance floodplain of the Russian River.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.11	Develop and implement operational or design strategy to mitigate the ground deformation effects of high to very high liquefaction hazard for the Geyserville SZ collection system, particularly where it crosses and is adjacent to Wood Creek.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.12	Develop and implement an operational or design strategy to mitigate damaging effects of fault rupture on the Airport-Larkfield-Wikiup SZ trunk main.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.13	Develop and implement operational or design strategy to mitigate the effects of flooding at the Geyserville SZ lift station, including reliability of auxiliary power supply and erosion-induced exposure of manhole M10-1.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.14	Develop and implement operational or design strategy to mitigate the ground deformation effects of very high liquefaction hazard for portions of the Penngrove SZ collection system crossing and/or adjacent to Lichau Creek.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.15	Develop and implement operational or design strategy to mitigate the ground deformation effects of very high liquefaction hazard at the Geyserville SZ lift station.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.15	Seismically retrofit pipe connections/penetrations to various tanks, basins, buildings, and process units at all treatment plants to allow for differential movement.	Not Complete	Yes	
2.1.30	Replace power distribution system to lift stations located in Russian River CSD to respond in an emergency.	Not Complete	Yes	
2.1.31	Develop and implement a design strategy to replace the existing emergency backup power system at the Main Lift Station.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.25	Conduct vulnerability assessment of critical pipelines located in Russian River CSD during a flood event.	Not Complete	Yes	
2.1.23	Develop and implement a design strategy to mitigate the effects of liquefaction on the Russian River CSD collection system (including pump stations and related force mains) in areas that have very high and high liquefaction potential.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.18	Conduct geotechnical assessment of the slopes bordering the Northern boundary of the RRCSD treatment plant.	Not Complete	Yes	Consolidated into 09 Geotechnical Assessment
2.2.20	Conduct site specific geotechnical assessment of the portions of the RRCSD treatment plant that are within the very high or high liquefaction zone.	Not Complete	Yes	Consolidated into 09 Geotechnical Assessment
2.1.27	Develop and implement a design strategy to mitigate the effects of embankment failure/landslides on portions of the Russian River CSD collection system that are in close proximity to creeks, drainage channels or steep slopes.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
2.1.29	Develop and implement a design strategy to elevate and/or protect pump stations located in Russian River CSD from flood related damage.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.16	Develop and implement an operational or design strategy to mitigate the effects of flooding for portions of the Airport-Larkfield-Wikiup SZ collection system subject to infiltration within areas of recurrent inundation or located within the 1 percent annual chance floodplain.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.17	Develop and implement an operational or design strategy to mitigate the effects of wildfire at the Airport-Larkfield Wikiup SZ Lift Station.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.18	Conduct corrosion assessment of Airport-Larkfield Wikiup SZ, Penngrove SZ, and Occidental CSD facilities located within areas of moderate to high corrosive soil conditions.	Not Complete	Yes	
2.2.16	Seismically retrofit suspended ceiling over SCADA Control Room at RRCSD treatment plant.	Not Complete	Yes	
2.1.19	Develop and implement operational or design strategy to mitigate the ground deformation effects of moderate liquefaction hazard for portions of the Penngrove SZ collection system crossing and/or adjacent to Lichau Creek and Owens Creek.	Not Complete	Yes	Consolidated into 38 Seismic Retrofit
2.2.9	Develop and implement an operational or design strategy to mitigate the ground deformation effects of high to very high liquefaction hazard of portions of the Airport-Larkfield-Wikiup SZ recycled water system in the vicinity of the Mark West Creek and Woolsey Creek Crossing.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.10	Develop and implement an operational or design strategy to mitigate the ground deformation effects of high to very high liquefaction hazard for portions of the Airport-Larkfield-Wikiup SZ recycled water system in the vicinity of Windsor Creek crossing.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.11	Develop and implement an operational or design strategy to mitigate the ground deformation effects of moderate liquefaction hazard at the Airport-Larkfield-Wikiup SZ treatment plant.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.21	Develop and implement an operational or design strategy to mitigate the ground deformation effects of liquefaction for portions of the collection system (including lift stations and related force mains) subject to moderate liquefaction hazard.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.12	Develop and implement an operational or design strategy to mitigate the increased precipitation effects and fire risk from climate change in all sanitation areas.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.22	Assess the potential for ground rupture effects of the Alexander Fault on Geyserville SZ facilities.	Not Complete	Yes	
2.1.24	Develop and implement a design strategy to mitigate the effects of liquefaction on the Russian River CSD tertiary recycled water system.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.33	Study potential for vacuum system in RRCSD collection system	Not Complete	Yes	

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
2.1.28	Develop and implement a design strategy to mitigate the effects of high stream flows (e.g., erosion and debris flows) on portions of the Russian River CSD collection system at creek crossings where the burial depth is unknown and assumed shallow.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.17	Develop and implement a design strategy to provide additional storage capacity at the RRCSD treatment plant to enhance operational ability for storage during and after a natural disaster while repairs are made to restore treatment capabilities.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.21	Develop and implement a design strategy to upgrade the asphalt shingle/tar and gravel roofs at the RRCSD treatment plant to mitigate the effects of wild-land fire.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.19	Develop and implement a design strategy to mitigate the effects of landslides and debris flows at the RRCSD treatment plant.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.36	Enhance comprehensive infrastructure planning for sanitation facilities against all hazards.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.2.22	Establish long-term solution for Occidental CSD treatment plant to mitigate the effects of floods.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
2.1.37	Establish partnerships and ordinances to reduce sanitary sewer overflows	Not Complete	Yes	
2.2.23	Evaluate the feasibility of improving secondary accessibility to the RRCSD WWTP during natural hazards.	Not Complete	Yes	
2.2.24	Develop and implement a design strategy to mitigate the effects of fire hazard in the SCADA Control Room at RRCSD WWTP	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
3.1.1	Determine risk and develop an operational or design strategy to mitigate the ground rupture/deformation effects of the Spring Valley Fault/Bennett Valley Fault Zone and moderate to very high liquefaction hazard at and around the Spring Lake detention reservoir and associated flood protection elements (Spring Creek diversion, Santa Rosa Creek diversion, Vortex Tube).	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
3.2.1	Develop and implement operational or design strategy to mitigate the fault rupture and strong ground shaking effects of the Rodgers Creek Fault at the Piner Reservoir Dam.	Not Complete	Yes	Consolidated into 54 Operational/Design Strategies
3.1.2	Assess concrete structures deteriorating from erosive effects of high storm flows, flooding, and sediment transport to ensure sustained integrity and flood protection reliability.	Not Complete	Yes	Consolidated into 43 Assess and Remove Sediment
3.3.1	Restore flood protection capacity of SMP-managed channels by removing accumulated sediment and vegetation.	Not Complete	Yes	
3.1.3	Assess conditions at Flood Detention Reservoirs to determine whether sediment removal is needed to preserve flood protection capacity.	Not Complete	Yes	Consolidated into 43 Assess and Remove Sediment
3.1.4	Complete the assessment of design strategy options for addressing capacity deficiencies of the primary spillway at the Matanzas Dam and improve the flood protection function of the spillway structure.	Not Complete	Yes	

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
3.3.2	Participate with appropriate jurisdictional agencies and stakeholders to cooperatively develop operational or design strategies to mitigate the effects of flooding within the Petaluma River watershed resulting from alluvial fan avulsions of Copeland Creek and associated breakout flows.	Not Complete	Yes	
3.1.5	Continue to support Advanced Quantitative Precipitation Initiative efforts to provide drought and flood resilient planning.	Not Complete	Yes	
3.3.3	Increase the designed flow conveyance capacity for portions of Santa Rosa Creek flood control channel to convey the 1 percent annual chance flood event without overtopping.	Not Complete	Yes	
3.1.6	Assess the impacts of increased precipitation from climate change on engineered flood protection infrastructure.	Not Complete	Yes	
3.1.7	Continue to research and develop improved stormwater surface infiltration and recharge opportunities to reduce flooding impacts.	Not Complete	Yes	
3.3.10	Acquire flood easements from willing land owners in the Marin/Wilson/Wiggins Creek sub-watersheds of the Petaluma River watershed to preserve the benefits of existing downstream flood protection projects/improvements along the Petaluma River.	Not Complete	Yes	
3.2.4	Develop and implement operational or design strategy to mitigate against potential loss of tree canopy in the event of a fire near reservoirs or engineered channels.	Not Complete	Yes	
3.1.8	Assess the potential ground deformation effects of fault rupture and moderate liquefaction hazard on the Brookhill School, Brigham Avenue, Colgan Avenue, Santa Rosa-Bellevue Avenue, Cook Creek, and Steel Creek Conduits.	Not Complete	Yes	
3.1.9	Determine the highly vulnerable locations subject to ground deformation effects of liquefaction, where resulting lateral spread and/or sedimentation will decrease the level of flood protection provided by the Sonoma Water's engineered flood protection infrastructure (e.g. channels, conduits, or reservoirs).	Not Complete	Yes	
3.3.4	Develop and implement operational or design strategy to mitigate the ground deformation effects of moderate to very high liquefaction hazard at the Spring Creek Bypass Conduit.	Not Complete	Yes	Consolidated into 43 Assess and Remove Sediment
3.3.5	Develop and implement operational or design strategy to mitigate the ground deformation effects of very high liquefaction hazard at the Brigham Avenue Conduit.	Not Complete	Yes	Consolidated into 43 Assess and Remove Sediment
3.3.6	Develop and implement operational or design strategy to mitigate the ground deformation effects of moderate to very high liquefaction hazard at the Santa Rosa Creek Triple Box Culvert.	Not Complete	Yes	Consolidated into 43 Assess and Remove Sediment
3.3.7	Develop and implement operational and/or design strategy to mitigate the seismic effects of strong to very strong ground shaking (PGA = 0.4 to 0.6g) on flood control conduits.	Not Complete	Yes	Consolidated into 43 Assess and Remove Sediment
3.1.10	Conduct corrosion assessment of facilities located within areas of moderate to high corrosive soil conditions.	Not Complete	Yes	

Action Number	Description	Status	Include in 2026 HMP?	IF NO, explain why no longer relevant
3.2.2	Develop and implement an operational or design strategy to mitigate the erosive effects of fire, landslides, and floods in watershed areas where resulting increases in sedimentation, storm flows, landslides, and embankment failures will decrease the level of flood protection provided by Sonoma Water's engineered flood protection infrastructure (e.g. channels, conduits, or reservoirs).	Not Complete	Yes	Consolidated into 43 Assess and Remove Sediment
3.2.3	Develop and implement operational or design strategy to mitigate the ground deformation effects of landslides, where resulting ground deformation will damage Sonoma Water's flood protection infrastructure (e.g. channels, conduits, or reservoirs).	Not Complete	Yes	Consolidated into 43 Assess and Remove Sediment
3.3.8	Assess the potential ground deformation effects and develop and implement operational or design strategy to mitigate the moderate to high liquefaction hazard on the Cherry-Magnolia and Thompson Conduits.	Not Complete	Yes	Consolidated into 19 Assess Ground Deformation
3.3.9	Assess the potential ground deformation effects and develop and implement operational or design strategy to mitigate the moderate liquefaction hazard on the Kenwood Creek Bypass Conduit.	Not Complete	Yes	Consolidated into 19 Assess Ground Deformation
3.1.11	Identify critical watersheds or sub-watersheds that represent high fire risk and likely to represent high flood management impact (sediment) to agency's operations.	Not Complete	Yes	

21.10.2 Additional Mitigation Efforts

Sonoma Water identified the following mitigation efforts completed since the last HMP:

- Established a dedicated Emergency Management and Security section with a focus on preparing Sonoma Water staff, facilities, systems, equipment, and materials for emergencies
- Completed the Natural Hazard Reliability Assessment, an assessment of the vulnerability of water infrastructure and systems to natural hazards, particularly earthquake
- Completed the Climate Adaptation Plan, an assessment of potential future climate change-driven risk to infrastructure and systems
- Retrofitted the aqueduct (AQ) at the Russian River crossing to mitigate against liquefaction and lateral spread
- Retrofitted the AQ at the Mark West Creek crossing to mitigate against liquefaction and lateral spread
- Retrofitted the Ely Booster Station to mitigate against liquefaction, lateral spread, and 1 percent annual chance flood impacts
- Repaired slide on the Wohler access road, which grants the only access to one of two main pumping facilities.
- Installed flow measuring devices at key turnouts for real time monitoring of flows.
- Completed tank recoating across the water system to prevent further erosion to tanks.

Sonoma Water has not identified any significant mitigation progress since the adoption of the County's first HMP.

21.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Sonoma Water participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Sonoma Water would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 21-15 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 21-15. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X	-	-	X	X	-	X	X	-
Drought	X	X	X	-	X	X	-	X	-	-
Earthquake	X	X	X	-	X	X	-	X	X	-
Extreme Cold	X	X	-	-	X	X	-	X	-	-
Extreme Heat	X	X	-	-	X	X	-	X	-	-
Extreme Wind	X	X	-	-	X	X	-	X	-	-
Flooding	X	X	X	-	X	X	-	X	X	-
Landslide	X	X	X	-	X	X	-	X	-	-
Sea Level Rise	X	X	X	-	X	X	-	X	-	-
Tsunami	X	X	X	-	X	X	-	X	-	-
Wildfire	X	X	X	-	X	X	-	X	X	-

Note: Mitigation category codes as follows (see Appendix D): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation

criteria. Table 21-16 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 21-16. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Aquifer Storage	Low	High	1	1-5 years	8.077	High
Improve Stormwater Surface Infiltration	Low	High	1	1-5 years	8.077	High
Assess and Remove Sediment	Low	High	1	1-5 years	8.077	High
Critical Infrastructure Flooding Impact	Low	Medium	2	1-5 years	7.154	High
Gas and Water Line Intersections	Low	Medium	2	1-5 years	7.154	High
Geologic Assessment	Low	Medium	3	1-5 years	7.231	High
Impacts of Increased Precipitation	Low	Medium	2	1-5 years	7.154	High
Flood Easements	Low	Medium	3	1-5 years	7.231	High
Collection System Storage	Medium	High	1	1-5 years	7.077	High
Collectors Retrofit	Medium	High	1	1-5 years	7.077	High
Capacity Deficiencies - Matanzas Dam	Medium	High	2	1-5 years	7.154	High
Erosion Control of Concrete Structures	Medium	High	1	1-5 years	7.077	High
Corrosion Assessment	Low	High	1	1-5 years	8.077	High
WWTP Hydraulic Constraints	Medium	High	1	1-5 years	7.077	High
Reuse During Drought	Medium	High	1	1-5 years	7.077	High
Automated Valves	Medium	High	1	1-5 years	7.077	High
Seismic Retrofit	Medium	High	1	1-5 years	7.077	High
Seismic Restraints	Low	High	1	1-5 years	8.077	High
Piping Retrofit	Medium	High	1	1-5 years	7.077	High
Restrain/Anchor Tanks	Low	High	1	1-5 years	8.077	High
Retrofit for Ground Shaking	Medium	High	1	1-5 years	7.077	High
Secondary Water Quality	Medium	High	1	1-5 years	7.077	High
Hydrologic Index	Medium	High	1	1-5 years	7.077	High
Construction and Operation Standards	Low	High	2	1-5 years	8.154	High
Geotechnical Assessment	Medium	High	1	1-5 years	7.077	High
Site-Specific Assessments	Low	High	1	1-10 years	7.077	High
Cathodic Protection System	Medium	High	1	1-5 years	7.077	High
Sliding Restraints	Medium	High	1	1-5 years	7.077	High
Seismic Vulnerability Assessments	Medium	High	1	1-5 years	7.077	High
Emergency Response Equipment	Medium	High	1	1-5 years	7.077	High
SCADA Operations	Medium	High	1	1-5 years	7.077	High
Russian River Contamination Assessment	Low	Low	1	1-5 years	6.077	Medium
Establish Partnerships and Ordinances	Low	Medium	2	1-10 years	6.154	Medium
Secondary Accessibility Feasibility	Low	Low	1	1-10 years	5.077	Medium
Emergency On-Call Contracts	Low	Medium	1	1-10 years	6.077	Medium
Standby Power	Medium	Medium	1	1-5 years	6.077	Medium
Liquefaction Vulnerability Assessment	Low	Low	2	1-10 years	5.154	Medium

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Pipeline Vulnerability Assessment	Low	Low	2	1-10 years	5.154	Medium
Vegetation Assessment	Low	Low	1	1-10 years	5.077	Medium
Identify Critical Watersheds	Low	Low	1	1-10 years	5.077	Medium
Vacuum System Study	Low	Low	1	1-10 years	5.077	Medium
Ground Rupture Assessment	Low	Low	1	1-10 years	5.077	Medium
Backwater Culverts Assessment	Low	Low	1	1-10 years	5.077	Medium
Quantify Liquefaction Hazards	Low	Low	1	1-10 years	5.077	Medium
Assess Water Damage Source	Low	Low	1	1-10 years	5.077	Medium
Earthquake Safety Assessment	Low	Low	1	1-10 years	5.077	Medium
Pipeline Relocation	High	High	1	1-10 years	5.077	Medium
Operational/Design Strategies	Medium	Medium	1	1-5 years	6.077	Medium
Forecast Informed Reservoir Operations	Low	Low	1	1-5 years	6.077	Medium
Advanced Quantitative Precipitation Initiative	Low	Low	1	1-5 years	6.077	Medium
GPS System Map	Low	Low	1	1-5 years	6.077	Medium
Remove Over Constrained Conditions	Medium	Medium	1	1-10 years	5.077	Medium
Assess Ground Deformation	Medium	Low	1	1-10 years	4.077	Low
Redundant Supply Sources	High	Medium	1	1-10 years	4.077	Low
Increase Flow Capacity	High	Medium	1	1-10 years	4.077	Low
Electrical Feeder	High	Medium	1	1-10 years	4.077	Low
Install Manifolds	High	Medium	1	1-10 years	4.077	Low
Alternative EOC	High	Low	2	1-10 years	3.154	Low
Lift Station Power (#50)	High	Low	1	1-10 years	3.077	Low
RRCSD Pumping Stations	Medium	Low	1	1-10 years	4.077	Low
Emergency Backup at Main Lift	Medium	Low	1	1-10 years	4.077	Low
RRCSD Limited Storage Capacity	Medium	Low	1	1-10 years	4.077	Low
RRCSD Treatment Plant Vulnerability	Medium	Low	1	1-10 years	4.077	Low

Action 2026-SonomaWater-01. Geologic Assessment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	United States Geological Survey (USGS)
Hazards of Concern:	Earthquake
Description of the Problem:	Potential of earthquake impacts and vulnerabilities from Bennett Valley & Rodgers Creek faults
Description of the Solution:	Work with the United States Geological Survey (USGS) to design and conduct a detailed geologic assessment of Bennett Valley and Rodgers Creek faults to more accurately define the fault activity, paleo seismic history, rupture zone, and extent of surface rupture.
Estimated Cost:	Low Cost
Potential Funding Sources:	USGS, Sonoma Water
Implementation Timeline:	0-5 years
Objectives Met:	2,6,7
Benefits:	Medium • Critical to understanding of hazards to system • Critical to planning for future system upgrades
Impact on Socially Vulnerable Populations:	Improved restoration times for water and wastewater services after an earthquake
Impact on Future Development:	Informs future improvements of water and wastewater sites, systems, and infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water and wastewater for Sonoma County during and after an earthquake
Impact on Capabilities:	Informs future retrofitting of water and wastewater sites, facilities, and infrastructure
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-02. Impacts of Increased Precipitation

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Increased flooding incidents due to climate change
Description of the Solution:	Assess the impacts of increased precipitation from climate change on engineered flood protection infrastructure.
Estimated Cost:	Low Cost
Potential Funding Sources:	Sonoma Water, FEMA HMGP or FMA planning grants
Implementation Timeline:	0-5 years
Objectives Met:	6,10
Benefits:	High • Minimizing potential losses from a major flood • Incorporate climate change impacts in vulnerability assessment
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to flood control infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County due to climate change
Impact on Capabilities:	Informs future improvements to flood control infrastructure
Climate Change Considerations:	Climate is causing increased (in quantity and intensity) rainfall events, thus leading to increased flooding
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-03. Aquifer Storage

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought
Description of the Problem:	Fluctuating aquifer storage during drought
Description of the Solution:	Continue to research and pursue projects involved with aquifer storage and recovery.
Estimated Cost:	Low Cost
Potential Funding Sources:	FEMA HMGP, CSCC, USBR WaterSMART, Sonoma Water
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High Enhances drought resilience Prolong water supply to service area through drought
Impact on Socially Vulnerable Populations:	Improved restoration times for water after any hazard
Impact on Future Development:	Informs future improvements to the water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water for Sonoma County during and after drought
Impact on Capabilities:	Informs future improvements to the water system
Climate Change Considerations:	Drought exacerbated by climate change reduces the volume of the aquifer
Mitigation Category	Natural Systems Protection (NSP)
Priority	High

Action 2026-SonomaWater-04. Erosion Control of Concrete Structures

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Erosion of concrete flood control structures
Description of the Solution:	Assess concrete structures deteriorating from erosive effects of high storm flows, flooding, and sediment transport to ensure sustained integrity and flood protection reliability.
Estimated Cost:	Medium Cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB, CA DWR
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High •Low cost to assess •May facilitate funding partnerships
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to flood control infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County during and after severe storm and flooding
Impact on Capabilities:	Informs future improvements to flood control infrastructure
Climate Change Considerations:	Climate is causing increased (in quantity and intensity) rainfall events, thus leading to increased flooding
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-05. Improve Stormwater Surface Infiltration

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Increased surface runoff due to more severe rain events, leading to flooded infrastructure
Description of the Solution:	Continue to research and develop improved stormwater surface infiltration and recharge opportunities to reduce flooding impacts.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, FMA, Sonoma Water, SWRCB, CA DWR IRWM, CSCC
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Relatively low cost • Aligns with current stormwater planning process • Recharge could also provide drought benefits
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to flood control systems
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County during and after flood
Impact on Capabilities:	Informs future improvements to flood control systems
Climate Change Considerations:	Climate is causing increased (in quantity and intensity) rainfall events, thus leading to increased flooding
Mitigation Category	Natural Systems Protection (NSP)
Priority	High

Action 2026-SonomaWater-06. Capacity Deficiencies - Matanzas Dam

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Reaching capacity limits leads to increased vulnerability of the dam infrastructure
Description of the Solution:	Complete the assessment of design strategy options for addressing capacity deficiencies of the primary spillway at the Matanzas Dam and improve the flood protection function of the spillway structure.
Estimated Cost:	Medium cost
Potential Funding Sources:	NRCS, FEMA HHPD, HMGP, FMA, Sonoma Water, SWRCB, CA DWR
Implementation Timeline:	0-5 years
Objectives Met:	6,10
Benefits:	High • Preserves capacity of existing flood protection infrastructure • Reduces asset damage
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Develops and implements future improvements to flood control infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County during and after flood
Impact on Capabilities:	Develops and implements future improvements to flood control infrastructure
Climate Change Considerations:	Climate is causing increased (in quantity and intensity) rainfall events, thus leading to increased levels in dams
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-07. Critical Infrastructure Flooding Impacts

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Potential flooding impacts critical infrastructure in the event of an upstream dam failure
Description of the Solution:	Assess potential damage to Sonoma Water infrastructure in the event of Warm Springs and/or Coyote dam failure.
Estimated Cost:	Low
Potential Funding Sources:	USACE, FEMA HMGP planning, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6,10
Benefits:	Medium Maintain safe drinking water to service area
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to flood control sites
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County during and after flood
Impact on Capabilities:	Informs future improvements to flood control sites
Climate Change Considerations:	Climate is causing increased (in quantity and intensity) rainfall events, thus leading to increased levels in dams and more deterioration of the infrastructure
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-08. Gas and Water Line Intersections

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Vulnerability of dual impacts and increased coordination needs from all hazards where gas and water lines intersect
Description of the Solution:	Coordinate with PG&E to identify locations of buried electrical and high pressure gas lines overlap with water transmission system where post-disaster repairs could be delayed due to control of site considerations.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, Cal OES
Implementation Timeline:	0-5 years
Objectives Met:	2,6
Benefits:	Medium Critical to overall water transmission and delivery
Impact on Socially Vulnerable Populations:	Improved coordination and communication during all hazards
Impact on Future Development:	Develops and implements future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after all hazards
Impact on Capabilities:	Develops and implements future improvements to water system
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-09. Geotechnical Assessment

Lead Agency:	Sonoma Water Board of Directors, Russian River County Sanitation District
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Landslide
Description of the Problem:	Potential of landslide impacts and vulnerabilities on the water transmission system
Description of the Solution:	Conduct site specific geotechnical assessment of the portions of the water transmission system that are within the mostly and many historic landslide occurrence zones, the portions of the RRCSD treatment plant that are within the very high or high liquefaction zone, and the slopes bordering the Northern boundary of the RRCSD treatment plant.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, Cal OES, State Water Resources Control Board
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Critical to overall water transmission and delivery • Reduces wastewater service disruption • Reduces asset damage
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after landslide
Impact on Future Development:	Develops and implements future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after all hazards
Impact on Capabilities:	Develops and implements future improvements to water system
Climate Change Considerations:	Climate change drives increase of flooding events, wildfire, and drought, all which can lead to changes in the soils and landslides
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-10. Seismic Vulnerability Assessments

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Potential of seismic impacts and vulnerabilities on the water storage system
Description of the Solution:	Conduct updated seismic vulnerability assessments at storage reservoirs and tanks pursuant to revised standards, structural and non-structural elements of the Sonoma Water's administrative facilities, and electric power station at the Warm Springs dam.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP planning, Sonoma Water
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High Maintain safe drinking water to service area
Impact on Socially Vulnerable Populations:	Improved response efficiency during earthquake
Impact on Future Development:	Improves water system infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after earthquake
Impact on Capabilities:	Improves water system infrastructure
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-11. Corrosion Assessment

Lead Agency:	Sonoma Water Board of Directors, Occidental County Sanitation District
Supporting Agencies:	
Hazards of Concern:	Landslide
Description of the Problem:	Potential of corrosive soil impacts and vulnerabilities on wastewater systems
Description of the Solution:	Conduct corrosion assessment of Penngrove SZ and Occidental CSD facilities located within areas of moderate to high corrosive soil conditions.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP planning, Sonoma Water
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High Low cost to assess
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas after flood
Impact on Future Development:	Improves future improvements to wastewater sites
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of wastewater system for Sonoma County during and after flood
Impact on Capabilities:	Improves future improvements to wastewater sites
Climate Change Considerations:	Climate change may lead to increases in corrosive agents
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-12. Russian River Contamination Assessment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Earthquake, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Potential of aquifer impacts and vulnerabilities on the water supply after events that contaminate the water source
Description of the Solution:	Assess vulnerability of Russian River supply at the Russian River aquifer to contamination from landslides, wildland fire and post-fire erosion, saltwater infiltration from sea level rise and tsunami, and post-seismic cascading events.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan), PG&E, CA Geological Survey
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Medium Critical to overall water supply quality and reliability
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after drought, earthquake, landslide, sea level rise, tsunami and wildfire
Impact on Future Development:	Informs future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after drought, earthquake, landslide, sea level rise, tsunami, and wildfire hazards
Impact on Capabilities:	Informs future improvements to water system
Climate Change Considerations:	Climate change drives an increase of many hazards including wildfire, sea level rise, and tsunami
Mitigation Category	Natural Systems Protection (NSP)
Priority	High

Action 2026-SonomaWater-13. Liquefaction Vulnerability Assessment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Potential of impacts and vulnerabilities on the flood protection infrastructure after seismic events causing liquefaction
Description of the Solution:	Determine the highly vulnerable locations subject to ground deformation effects of liquefaction, where resulting lateral spread and/or sedimentation will decrease the level of flood protection provided by the Sonoma Water's engineered flood protection infrastructure (e.g. channels, conduits, or reservoirs).
Estimated Cost:	Low cost
Potential Funding Sources:	Sonoma Water, FEMA HMGP planning
Implementation Timeline:	1-10 years
Objectives Met:	6,10
Benefits:	Low Facilitates future preservation of flood protection capacity
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to flood control system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control system for Sonoma County during and after earthquake
Impact on Capabilities:	Informs future improvements to flood control system
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-14. Vegetation Assessment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Wildfire
Description of the Problem:	Contamination of water source by post-wildfire runoff
Description of the Solution:	Conduct assessment of vegetation around Lake Sonoma and Lake Mendocino for potential vegetation management projects that will protect water quality and storage from fire.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP planning, Sonoma Water, CAL FIRE, PG&E
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low Critical to overall water supply quality and reliability
Impact on Socially Vulnerable Populations:	Improved restoration rimes for water system after wildfire
Impact on Future Development:	Informs future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines if water system for Sonoma County during and after earthquake
Impact on Capabilities:	Informs future improvements to water system
Climate Change Considerations:	Climate change causes an increase in quantity and intensity of wildfire
Mitigation Category	Natural Systems Protection (NSP)
Priority	Medium

Action 2026-SonomaWater-15. Pipeline Vulnerability Assessment

Lead Agency	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Potential of impacts to wastewater pipelines during floods
Description of the Solution:	Conduct vulnerability assessment of critical pipelines located in Russian River CSD during a flood event.
Estimated Cost:	Low cost
Potential Funding Sources:	RRCSD, State Water Resources Control Board
Implementation Timeline:	1-10 years
Objectives Met:	6,10
Benefits:	Low • Reduces service disruption • Reduces asset damage • Reduces risk of releasing inadequately or untreated wastewater • Improves risk awareness • Can be completed within existing authority
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to flood control system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County during and after flood
Impact on Capabilities:	Informs future improvements to flood control system
Climate Change Considerations:	Climate change increases the quantity and intensity of flood events
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-16. Secondary Accessibility Feasibility

Lead Agency:	Russian River County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Access issues due to localized flooding, high wind events, and landslides, which may be exacerbated during earthquakes and wildfire
Description of the Solution:	Evaluate the feasibility of improving secondary accessibility to the RRCSD WWTP during natural hazards.
Estimated Cost:	Low cost
Potential Funding Sources:	Sonoma Water, RRCSD, FEMA HMGP
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low • Reduces service disruption • Improves system reliability
Impact on Socially Vulnerable Populations:	Improved restoration times for wastewater sites after earthquake, extreme wind, flood, landslide, and wildfire
Impact on Future Development:	Informs future improvements to wastewater sites
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of wastewater sites for Sonoma County during and after earthquake, extreme wind, flood, landslide, and wildfire hazards
Impact on Capabilities:	Informs future improvements to wastewater sites
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-17. Identify Critical Watersheds

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Wildfire
Description of the Problem:	Watershed vulnerability to wildfire
Description of the Solution:	Identify critical watersheds or sub-watersheds that represent high fire risk and are likely to represent high flood management impact (sediment) to agency's operations.
Estimated Cost:	Low cost
Potential Funding Sources:	Sonoma Water, CAL FIRE, CA Fire Safe Council, FEMA HMGP
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low • Reduces asset damage • Preserves capacity of existing flood protection infrastructure
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after wildfire
Impact on Future Development:	Informs future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after wildfire
Impact on Capabilities:	Informs future improvements to water system
Climate Change Considerations:	Climate change causes an increase in quantity and intensity of wildfire
Mitigation Category	Natural Systems Protection (NSP)
Priority	Medium

Action 2026-SonomaWater-18. Vacuum System Study

Lead Agency:	Russian River County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Inability to keep up with flow in RRCSD collections during heavy rain
Description of the Solution:	Study potential for vacuum system in RRCSD collection system
Estimated Cost:	Low cost
Potential Funding Sources:	RRCSD, FEMA HMGP, FMA
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low • Reduces service disruption • Reduces asset damage • Reduces risk of releasing inadequately or untreated wastewater
Impact on Socially Vulnerable Populations:	Improved restoration times for wastewater system after flood
Impact on Future Development:	Informs future improvements to wastewater sites
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of wastewater system for Sonoma County during after flood
Impact on Capabilities:	Informs future improvements to wastewater sites
Climate Change Considerations:	Climate is causing increased (in quantity and intensity) rainfall events, thus leading to increased flooding
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-19. Assess Ground Deformation

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Potential of impacts to conduits due to liquefaction after an earthquake
Description of the Solution:	Assess the potential ground deformation effects and develop and implement operational or design strategy to mitigate the moderate to very high liquefaction hazard on the Cherry-Magnolia, Thompson Brookhill School, Brigham Avenue, Colgan Avenue, Santa Rosa-Bellevue Avenue, Cook Creek, Kenwood Creek Bypass, Spring Creek Bypass, Brigham Avenue, and Steel Creek Conduits.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB, CA DWR
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low • Reduces asset damage • Preserves capacity of existing flood protection infrastructure
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after earthquake
Impact on Future Development:	Informs future improvements to water system
`Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after earthquake
Impact on Capabilities:	Informs future improvements to water system
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-20. Ground Rupture Assessment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Unknown vulnerability of GSZ facilities to ground rupture from earthquake
Description of the Solution:	Assess the potential for ground rupture effects of the Alexander Fault on Geyserville SZ facilities.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP planning, Sonoma Water
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low Low cost to assess
Impact on Socially Vulnerable Populations:	Improved restoration times for wastewater site after earthquake
Impact on Future Development:	Informs future improvements to wastewater site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of wastewater site for Sonoma County during and after an earthquake
Impact on Capabilities:	Informs future improvements to wastewater site
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-21. Backwater Culverts Assessment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Inability of accessing Mirabel culvert valves during flood events
Description of the Solution:	Assess backwater culverts at Mirabel facility and consider remote operation of their valves during flood events.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, FMA, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan), CA DWR
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low Maintain infiltration ponds for reliable source of drinking water during peak demands
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to water system site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system site for Sonoma County during and after flood
Impact on Capabilities:	Informs future improvements to water system site
Climate Change Considerations:	Climate is causing increased (in quantity and intensity) rainfall events, thus leading to increased flooding
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-22. Quantify Liquefaction Hazards

Lead Agency:	Sonoma Valley County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Unknown vulnerability of AQ pipe to liquefaction
Description of the Solution:	Quantify liquefaction hazards in areas of Moderate, High, and Very High liquefaction susceptibility along the SVCSD collection system pipelines.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, SVCSD, Sonoma Water
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low • Provides cost-effective constraint to regional widespread liquefaction mapping by others. • Benefits significant service area • Informs future mitigation projects.
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after an earthquake
Impact on Future Development:	Informs future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after an earthquake
Impact on Capabilities:	Informs future improvements to water system
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-23. Assess Water Damage Source

Lead Agency:	Sonoma Valley County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Water damage to MCC-5 and 6
Description of the Solution:	Assess the source of water damage to MCC-5 and MCC-6 in SVCSD and repair as needed.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, SVCSD, Sonoma Water
Implementation Timeline:	1-10 Years
Objectives Met:	6
Benefits:	Low • Reduces risk of wastewater treatment disruption. • Reduces public health and safety risk and environmental damage from release of inadequately treated wastewater.
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after a flood
Impact on Capabilities:	Informs future improvements to water system
Climate Change Considerations:	Climate is causing increased (in quantity and intensity) rainfall events, thus leading to increased flooding
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-24. Site-Specific Assessments

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Potential vulnerabilities of capital projects to earthquake
Description of the Solution:	Conduct site-specific assessments to better evaluate seismic related vulnerabilities and further define the scope of capital project mitigation actions.
Estimated Cost:	Low cost
Potential Funding Sources:	Sonoma Water
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	High • Better informs an understanding of specific vulnerabilities and provides additional information to further refine mitigation approach • Facilitates and streamlines mitigation design efforts
Impact on Socially Vulnerable Populations:	Improved restoration times for water system sites after earthquake
Impact on Future Development:	Informs future improvements to water system sites
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines if water system sites for Sonoma County during and after an earthquake
Impact on Capabilities:	Informs future improvements to water system sites
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-25. WWTP Hydraulic Constraints

Lead Agency:	Sonoma Valley County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Sea Leve Rise
Description of the Problem:	Sea level rise has burdened the hydraulic constrains at SV WWTP
Description of the Solution:	Eliminate Sonoma Valley WWTP Hydraulic Constraints due to Sea Level Rise (CAP37)
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SVCSD
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High
Impact on Socially Vulnerable Populations:	Improved restoration times for wastewater site after sea level rise
Impact on Future Development:	Develops and implements future improvements to wastewater sites
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of wastewater sites for Sonoma County during and after sea level rise
Impact on Capabilities:	Develops and implements future improvements to wastewater sites
Climate Change Considerations:	A warming climate leads to sea level rise
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-26. Reuse During Drought

Lead Agency:	Sonoma Valley County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought
Description of the Problem:	Limits to recycled water in Sonoma Valley
Description of the Solution:	Expand opportunities for Sonoma Valley Reuse during drought (CAP 38) and improve or adapt reuse supply to management units (CAP 37)
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SVCSD
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after drought
Impact on Future Development:	Develops and implements future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after drought
Impact on Capabilities:	Develops and implements future improvements to water system
Climate Change Considerations:	Drought is exacerbated by climate change
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-27. Collection System Storage

Lead Agency:	Sonoma Valley County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Increased inflow in the various collections systems during heavy rainfall/flooding events
Description of the Solution:	Develop in-line or off-line collection system storage (CAP 41), implement an inflow/infiltration monitoring and reduction program (CAP 35), and increase flood protection at the Sonoma Valley Treatment Plant.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SVCSD
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after flood
Impact on Capabilities:	Informs future improvements to water system
Climate Change Considerations:	Climate change has increased the frequency and intensity of rainfall events
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-28. Construction and Operation Standards

Lead Agency:	Sonoma Water Board of Directors, Russian River County Sanitation District, Sonoma Valley County Sanitation District, Occidental County Sanitation District
Supporting Agencies:	
Hazards of Concern:	Earthquake
Description of the Problem:	Current construction standards do not address seismic resilience, liquefaction potential, or increases in inflow and infiltration due to flood and sea level rise
Description of the Solution:	Update construction and operation standards to address seismic resilient measures, liquefaction potential, and increased inflow and infiltration for all collection systems, and develop standard project design criteria for new construction.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, RRCSD, SVCSD
Implementation Timeline:	0-5 years
Objectives Met:	1,6
Benefits:	High • Reduces service disruption • Reduces risk of releasing inadequately or untreated wastewater • Reduces asset damage
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after earthquake or flood
Impact on Future Development:	Develops and implements future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after an earthquake or flood
Impact on Capabilities:	Develops and implements future improvements to water system
Climate Change Considerations:	Climate change has increased the frequency and intensity of flood and is causing sea level rise
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-29. Flood Easements

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Lack of flood protection on several creeks off the Petaluma River
Description of the Solution:	Acquire flood easements from willing land owners in the Marin/Wilson/Wiggins Creek sub-watersheds of the Petaluma River watershed to preserve the benefits of existing downstream flood protection projects/improvements along the Petaluma River.
Estimated Cost:	Low cost
Potential Funding Sources:	Sonoma Water, Sonoma County Agriculture and Open Space, SWRCB, CA DWR FERP & IRWM
Implementation Timeline:	0-5 years
Objectives Met:	3,6,10
Benefits:	Medium • Minimizing potential losses from a major flood • Preserves capacity of existing flood protection infrastructure • Reduces asset damage
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Improves flood control system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County during and after floods
Impact on Capabilities:	Improves flood control system
Climate Change Considerations:	Climate change has increased the frequency and intensity of rainfall and flood events
Mitigation Category	Natural Systems Protection (NSP)
Priority	Medium

Action 2026-SonomaWater-30. Automated Valves

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought
Description of the Problem:	Uncontrolled releases in the AQ lead to water loss during drought events
Description of the Solution:	Provide operational capability to minimize uncontrolled release with automated valves on the Santa Rosa Aqueduct, Cotati intertie, and Wohler Forestville Intertie.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High Maintain reliable drinking water to service area
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after drought
Impact on Future Development:	Improves water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after a drought
Impact on Capabilities:	Improves water system
Climate Change Considerations:	Drought exacerbated by climate change reduces the volume of the water in the supply
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-31. Alternative EOC

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Vulnerability of current EOC to all hazards: Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, and Wildfire
Description of the Solution:	Procure, or contract for, an alternative EOC.
Estimated Cost:	High cost
Potential Funding Sources:	Cal OES, Sonoma Water
Implementation Timeline:	1-10 years
Objectives Met:	3,6
Benefits:	Low • Part of emergency response planning • Provides redundancy and portability • Leasing during emergencies reduces cost and maintenance of ownership
Impact on Socially Vulnerable Populations:	Improved restoration times for all hazards
Impact on Future Development:	Improves infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after all hazards
Impact on Capabilities:	Improves infrastructure
Climate Change Considerations:	Climate change exacerbates all hazards that may benefit from an EOC
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-32. Establish Partnerships and Ordinances

Lead Agency:	Russian River County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood, Sea Leve Rise
Description of the Problem:	Challenges in responding to and recovering from SSOs
Description of the Solution:	Establish partnerships and ordinances to reduce sanitary sewer overflows
Estimated Cost:	Low cost
Potential Funding Sources:	Sonoma Water, RRCSD, FEMA HMGP
Implementation Timeline:	1-10 years
Objectives Met:	1,6
Benefits:	Medium • Reduces service disruption • Reduces risk of releasing inadequately or untreated wastewater • Reduces asset damage
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to wastewater system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines wastewater system for Sonoma County during and after flooding and sea level rise
Impact on Capabilities:	Informs future improvements to wastewater system
Climate Change Considerations:	Climate change leads to increased rainfall events, which in turn lead to more sanitary sewer overflows
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-33. Earthquake Safety Assessment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	U.S Army Corps of Engineers
Hazards of Concern:	Dam Failure, Earthquake, Flood
Description of the Problem:	Lack of earthquake safety assessment at Warm Springs & Coyote Valley dams
Description of the Solution:	Work with the U.S. Army Corps of Engineers to expedite the earthquake safety assessment of Warm Springs and Coyote Valley dams; and reassessment of these under the revised Probable Maximum Flood conditions as impacted by the Probable Maximum Precipitation study.
Estimated Cost:	Low cost
Potential Funding Sources:	USACE, Sonoma Water
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low • Important element of flood control and fish population • Critical storage in droughts
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after dam failure, earthquake and flood
Impact on Future Development:	Informs future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after dam failure, earthquake and flood
Impact on Capabilities:	Informs future improvements to water system
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-34. Emergency On-Call Contracts

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Lack of contract stipulations requiring off ours or priority service
Description of the Solution:	Establish emergency on-call contracts with contractors and suppliers for rapid response and delivery in an emergency.
Estimated Cost:	Low cost
Potential Funding Sources:	Sonoma Water
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Medium • Critical emergency response • Critical for reducing post-event restoration time • Minimizes significant loss of services • Reduces public health and safety risk and environmental damage from uncontrolled release of wastewater
Impact on Socially Vulnerable Populations:	Improved response efficiency during all hazards
Impact on Future Development:	Informs future improvements to the water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after all hazards
Impact on Capabilities:	Informs future improvements to the water system
Climate Change Considerations:	Climate change may lead to an increase of frequency and intensity of nearly all hazards
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-35. Emergency Response Equipment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Lack of emergency inventory for water and wastewater
Description of the Solution:	Obtain flexible hoses, emergency pumps, generators, and related emergency response equipment to enhance the water and wastewater systems to effectively respond to an emergency
Estimated Cost:	Medium cost
Potential Funding Sources:	Sonoma Water
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Allows for rapid and effective first response • Critical for reducing post-event restoration time •Minimizes significant loss of services • Reduces public health and safety risk and environmental damage from uncontrolled release of wastewater
Impact on Socially Vulnerable Populations:	Improved restoration times for water and wastewater systems after all hazards
Impact on Future Development:	Improves water and wastewater system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water and wastewater system for Sonoma County during and after all hazards
Impact on Capabilities:	Improves water and wastewater system
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-36. SCADA Operations

Lead Agency:	Sonoma Water Board of Directors, Sonoma Valley County Sanitation District, Russian River County Sanitation District
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Vulnerabilities of SCADA to outages or delays due to all hazards: Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, and Wildfire
Description of the Solution:	Enhance the reliability of SCADA operations by upgrading network hardware, computer hardware, and radio hardware, and implementing a SCADA master plan and automation.
Estimated Cost:	Medium cost
Potential Funding Sources:	RRCSD, State Water Resources Control Board
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Reduces service disruption • Reduces asset damage • Reduces risk of releasing inadequately or untreated wastewater • Reduces energy use • Can be completed within existing authority
Impact on Socially Vulnerable Populations:	Improved restoration times for SCADA after all hazards
Impact on Future Development:	Improves SCADA
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of SCADA for Sonoma Water during and after all hazards
Impact on Capabilities:	Improves SCADA
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Local Plans and Regulations (LPR)
Priority	High

Action 2026-SonomaWater-37. Standby Power

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Lack of backup power to operate electricity, wireless internet, and temperature control, particularly during an emergency response
Description of the Solution:	Establish standby power at administrative buildings and Sonoma Water EOC and develop design strategy to ensure core functions are maintained in the event of a power failure.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, PG&E, USBR WaterSMART, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	Medium Maintain communication capability with emergency staff at administrative facilities
Impact on Socially Vulnerable Populations:	Improved response efficiency during all hazards
Impact on Future Development:	Develops and implements future improvements to administrative buildings
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of administrative buildings for Sonoma Water during and after all hazards
Impact on Capabilities:	Develops and implements future improvements to administrative buildings
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-38. Seismic Retrofit

Lead Agency:	Sonoma Water Board of Directors, Sonoma Valley County Sanitation District, Russian River County Sanitation District
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Lack of retrofitting at various sites and facilities that contribute to vulnerability to seismic activity.
Description of the Solution:	Seismically retrofit the: Wilfred booster station building; clarifiers at Sonoma Valley Treatment Plant; SVCSD chlorine building including chlorinators, piping, and rail system; suspended ceiling over SCADA Control Room at RRCSD treatment plant; suspended ceiling over office area and water quality lab at RRCSD treatment plant; and pipe connections/penetrations to various tanks, basins, buildings, and process units at all treatment plants to allow for differential movement
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, RRCSD, SVCSD, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Post event repair costs • Diversion of staff from other critical tasks following a major event • Relatively small retrofit costs
Impact on Socially Vulnerable Populations:	Improved restoration times for water system site after an earthquake
Impact on Future Development:	Improves water system site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system site for Sonoma County during and after an earthquake
Impact on Capabilities:	Improves water system site
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-39. Seismic Restraints

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Lack of seismic restraints on electrical and communication equipment
Description of the Solution:	Provide seismic restraints to electrical and communication equipment at various facilities.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Low cost high return measure • Expedites system recovery efforts • Allows staff to focus on major damage
Impact on Socially Vulnerable Populations:	Improved restoration times for infrastructure after an earthquake
Impact on Future Development:	Improves infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of infrastructure for Sonoma County during and after an earthquake
Impact on Capabilities:	Improves infrastructure
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-40. Collectors Retrofit

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Lack of retrofitting of Collectors 3, 5, and 6
Description of the Solution:	Develop and implement retrofit design for Collectors 3, 5, and 6 against liquefaction and lateral spread hazard.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Critical elements of system • Very high replacement cost • Avoiding loss of water supply • Maintain safe drinking water to service area
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after an earthquake
Impact on Future Development:	Develops and implements future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after an earthquake
Impact on Capabilities:	Develops and implements future improvements to water system
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-41. Piping Retrofit

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Lack of retrofitting of AQ pipe joints at storage reservoirs
Description of the Solution:	Perform piping retrofit by replacing existing rigid piping with piping with flexible joints at the storage reservoirs.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Reduce risk of loss of storage capacity • Minimizing risk of erosion due to water release • Relatively low cost retrofit
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after an earthquake
Impact on Future Development:	Develops and implements future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after an earthquake
Impact on Capabilities:	Develops and implements future improvements to water system
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-42. Restrain/Anchor Tanks

Lead Agency:	Russian River County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Lack of retrofitting of tertiary filter tanks at RRCSD TP
Description of the Solution:	Seismically restrain/anchor the steel tertiary filter tanks and miscellaneous equipment at the RRCSD treatment plant.
Estimated Cost:	Low cost
Potential Funding Sources:	RRCSD, FEMA HMGP, State Water Resources Control Board
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Reduces service disruption • Reduces asset damage • Reduces risk of releasing inadequately or untreated wastewater • Can be completed within existing authority
Impact on Socially Vulnerable Populations:	Improved restoration times for wastewater site after an earthquake
Impact on Future Development:	Improves wastewater site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of wastewater site for Sonoma County during and after an earthquake
Impact on Capabilities:	Improves wastewater site
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-43. Assess and Remove Sediment

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure
Description of the Problem:	Sediment build-up in Flood Detention Reservoirs
Description of the Solution:	Develop and implement process for assessing and removing sediment from Flood Detention Reservoirs and SMP-managed channels to preserve flood protection capacity.
Estimated Cost:	Low cost
Potential Funding Sources:	Sonoma Water, CDFW
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Low cost to assess • Preserves or restores capacity of existing flood protection infrastructure
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Informs future improvements to flood control system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County during and after dam failure and flooding
Impact on Capabilities:	Informs future improvements to flood control system
Climate Change Considerations:	Increase precipitation due to climate change may cause increased wear and tear on dam infrastructure
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-44. Cathodic Protection System

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Landslide
Description of the Problem:	Corrosive nature of source water from the Russian River when in the Russian River-Cotati Intertie AQs
Description of the Solution:	Implement cathodic protection system improvements to the Santa Rosa and Russian River-Cotati Intertie aqueducts to mitigate corrosion hazard.
Estimated Cost:	Medium cost
Potential Funding Sources:	Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Maintain safe and reliable drinking water to service area • Prevent damage to facilities within influence of corrosion
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Improves water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after a flood event
Impact on Capabilities:	Improves water system
Climate Change Considerations:	Climate change may lead to increases in corrosive agents
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-45. Retrofit for Ground Shaking

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Lack of retrofitting of Collector 1
Description of the Solution:	Develop and implement retrofit design for Collector 1 and 2 for ground shaking hazard.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Critical elements of system • Very high replacement cost • Avoiding loss of water supply • Maintain safe drinking water to service area
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after an earthquake
Impact on Future Development:	Improves water infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system for Sonoma County during and after an earthquake
Impact on Capabilities:	Improves water infrastructure
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-46. Sliding Restraints

Lead Agency:	Sonoma Valley County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Lack of retrofitting of polymer tanks at SVTP
Description of the Solution:	Provide sliding restraints to Floc Metal Solve polymer tanks at SVTP
Estimated Cost:	Medium cost
Potential Funding Sources:	SVCSD, FEMA HMGP, State Water Resources Control Board, State Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High • Reduces risk of wastewater treatment disruption. • Low cost high return measure • Reduces public health and safety risk and environmental damage from release of inadequately treated wastewater.
Impact on Socially Vulnerable Populations:	Improved restoration times for wastewater site after an earthquake
Impact on Future Development:	Improves wastewater site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of wastewater sites or Sonoma County during and after an earthquake
Impact on Capabilities:	Improves wastewater site
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-47. Redundant Supply Sources

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Earthquake, Wildfire
Description of the Problem:	Vulnerability of the central location of water supply
Description of the Solution:	Plan, design and add redundant/emergency supply sources to minimize dependence on the Russian River aquifer as the main source of water supply against all hazards, and install new emergency ground water wells located strategically throughout the system (assumed three locations).
Estimated Cost:	High cost
Potential Funding Sources:	CA DWR, USBR WaterSMART, FEMA HMGP, Sonoma Water
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Medium • Emergency supply • Addition of redundancy to the system • Alternate source of water supply • Provide drinking water supply redundancy to mitigate loss of other sources
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after drought, earthquake and wildfire
Impact on Future Development:	Improves water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after drought, earthquake and wildfire
Impact on Capabilities:	Improves water system
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-48. Pipeline Relocation

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	High vulnerability of AQ beneath Spring Lake
Description of the Solution:	Plan and implement the relocation of the pipeline that crosses beneath the Spring Lake and the Spring Lake dam to mitigate against the seismic risk of failure.
Estimated Cost:	High cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	High • Maintain reliable drinking water to Sonoma Valley and Eastern Santa Rosa Area. • Protect from potential Erosion/environmental impact from failure
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after an earthquake
Impact on Future Development:	Improves water infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after an earthquake
Impact on Capabilities:	Improves water infrastructure
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-49. Remove Over Constrained Condition

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake
Description of the Problem:	Over constrained conditions at storage tanks
Description of the Solution:	Remove over constrained conditions at storage tanks.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Medium • Reduce risk of damage to tank piping • Reduce risk of water loss • Low cost measure
Impact on Socially Vulnerable Populations:	Improved restoration times for water site after an earthquake
Impact on Future Development:	Improves water site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water site for Sonoma County during and after and earthquake
Impact on Capabilities:	Improves water site
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-50. Lift Station Power

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Prevent power disruptions in RRCSD during any hazard
Description of the Solution:	Replace power distribution system to lift stations located in Russian River CSD to respond in an emergency.
Estimated Cost:	High cost
Potential Funding Sources:	RRCSD, State Water Resources Control Board
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low • Reduces service disruption • Reduces asset damage • Reduces risk of releasing inadequately or untreated wastewater • Reduces energy use • Improves risk awareness • Can be completed within existing authority
Impact on Socially Vulnerable Populations:	Improved restoration times for wastewater system after all hazards
Impact on Future Development:	Improves wastewater system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines if the wastewater system for Sonoma County during and after all hazards
Impact on Capabilities:	Improves wastewater system
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-51. Increase Flow Capacity

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	Capacity issues within the Santa Rosa Creek flood channel
Description of the Solution:	Increase the designed flow conveyance capacity for portions of Santa Rosa Creek flood control channel to convey the 1 percent annual chance flood event without overtopping.
Estimated Cost:	High cost
Potential Funding Sources:	FEMA HMGP, FMA, Sonoma Water, SWRCB, CA DWR FERP, WCB, CSCC
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Medium • Minimizing potential losses from a major flood • Incorporate climate change impacts in vulnerability assessment
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Improves flood control system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of flood control for Sonoma County during and after flood
Impact on Capabilities:	Improves flood control system
Climate Change Considerations:	Climate change has increased the frequency and intensity of all flood events
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-52. Electrical Feeder

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	Vulnerability of 12-kV electrical at Mirabel during major incidents
Description of the Solution:	Design and construct a new 12-kV electrical feeder for the Mirabel facilities to reduce risk due to seismic, fire and flood hazards.
Estimated Cost:	High cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Medium Maintain reliable drinking water to service area
Impact on Socially Vulnerable Populations:	Improved restoration tomes for water system after earthquake, flood, and wildfire
Impact on Future Development:	Improves water infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after earthquake, flood and wildfire
Impact on Capabilities:	Improves water infrastructure
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-53. Install Manifolds

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	Lack of bypass ability at Booster Stations during a major incident
Description of the Solution:	Install manifolds at strategic locations to connect emergency hoses to booster stations.
Estimated Cost:	High cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, USBR WaterSMART, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Medium • Effective backup mechanism • Help with quick service restoration
Impact on Socially Vulnerable Populations:	Improved restoration times for water infrastructure after earthquake, flood and wildfire
Impact on Future Development:	Improves water infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water infrastructure for Sonoma County during and after earthquake, flood and wildfire
Impact on Capabilities:	Improves water infrastructure
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-54. Operational/Design Strategies

Lead Agency:	Sonoma Water Board of Directors, Sonoma Valley CSD, Russian River CSD, Occidental CSD
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Lack of retrofitting of RDS
Description of the Solution:	Develop and implement operational or design strategy to mitigate the impacts of natural hazards and climate change on Sonoma Water facilities and infrastructure.
Estimated Cost:	Medium cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	Medium • Critical element of system • High replacement cost • Minimizing risk of river diversion capability • Maintain safe drinking water to service area
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after an earthquake
Impact on Future Development:	Develops and implements future improvements to water system infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of water system infrastructure for Sonoma County during and after an earthquake
Impact on Capabilities:	Develops and implements future improvements to water system infrastructure
Climate Change Considerations:	N/A – earthquake is not explicitly linked to climate change.
Mitigation Category	Local Plans and Regulations (LPR), Structure and Infrastructure Project (SIP)
Priority	Medium

Action 2026-SonomaWater-55. Secondary Water Quality

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Flood
Description of the Problem:	Lack of redundancy to Wohler & Mirabel collectors
Description of the Solution:	Strategize improvements to secondary water quality in the Todd Road, Sebastopol, and Occidental Wells to provide additional water supply in the event that one or more of the Caissons is damaged by earthquake or flood.
Estimated Cost:	Medium cost
Potential Funding Sources:	Sonoma Water, SWRCB Drinking Water Revolving Fund (loan), CA DWR, USBR WaterSMART, FEMA HMGP
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High Provide drinking water supply redundancy to mitigate loss of other sources
Impact on Socially Vulnerable Populations:	Improved restoration times for the water system after an earthquake and flood
Impact on Future Development:	Develops and implements future improvements to water system infrastructure
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after earthquake and flood
Impact on Capabilities:	Develops and implements future improvements to water system infrastructure
Climate Change Considerations:	Earthquake is not explicitly linked to climate change, but severe weather events leading to flood is exacerbated by climate change.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	High

Action 2026-SonomaWater-56. Hydrologic Index

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Flood
Description of the Problem:	Vulnerability of river levels and overall source storage due to extreme water fluctuations (flood, drought)
Description of the Solution:	Develop a modified hydrologic index to improve management of river flows and system storage.
Estimated Cost:	Medium cost
Potential Funding Sources:	Elements of this currently funded by NOAA and CDFW
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	High Critical to overall water supply and reliability
Impact on Socially Vulnerable Populations:	Improved restoration times for water system after drought and flood
Impact on Future Development:	Develops and implements future improvements to water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after droughts and floods
Impact on Capabilities:	Develops and implements future improvements to water system
Climate Change Considerations:	Climate change has increased the frequency and intensity of both floods and drought
Mitigation Category	Natural Systems Protection (NSP)
Priority	High

Action 2026-SonomaWater-57. Forecast Informed Reservoir Operations

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought
Description of the Problem:	Historically, uninformed releases from the major reservoirs (Lake Sonoma/Lake Mendocino) has led to a need for county-wide water conservation efforts
Description of the Solution:	Continue to support Forecast Informed Reservoir Operations (FIRO) and its efforts to provide drought resilient planning.
Estimated Cost:	Low cost
Potential Funding Sources:	Elements of this currently funded by NOAA Habitat Blueprint and Sonoma Water; potential future funding source includes USBR WaterSMART
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	Low Preserves water for fire fighting. Enhances drought resilience. Prolong water supply to service area through drought
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Develops and implements future improvements to the water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after a flood
Impact on Capabilities:	Develops and implements future improvements to the water system
Climate Change Considerations:	Climate change exacerbates the frequency and duration of drought
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-58. Advanced Quantitative Precipitation Initiative

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Flood
Description of the Problem:	Lack of real-time long-term localized radar data
Description of the Solution:	Continue to support Advanced Quantitative Precipitation Initiative efforts to provide drought and flood resilient planning.
Estimated Cost:	Low cost
Potential Funding Sources:	Elements of this currently funded by CA DWR IRWM and Sonoma Water, potential future funding source includes FEMA HMGP
Implementation Timeline:	0-5 years
Objectives Met:	6
Benefits:	Low Critical to overall water supply and reliability
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Develops and implements future improvements to the water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after a flood
Impact on Capabilities:	Develops and implements future improvements to the water system
Climate Change Considerations:	Climate change exacerbates the frequency and duration of drought and flooding events
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-59. GPS System Map

Lead Agency:	Sonoma Water Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Lack of cohesive display of data collected from the field, particularly when leaks or other system failures occur
Description of the Solution:	Develop a GPS based system map with real-time monitoring at critical locations to assist in identifying the location of leaks or other system failures in timely fashion.
Estimated Cost:	Low cost
Potential Funding Sources:	FEMA HMGP, Sonoma Water, USBR WaterSMART, SWRCB Drinking Water Revolving Fund (loan)
Implementation Timeline:	1-10 years
Objectives Met:	6
Benefits:	Low • Critical emergency response • Critical for reducing post-event restoration time • Avoiding significant loss of water supply • Reducing environmental damage from uncontrolled release of water
Impact on Socially Vulnerable Populations:	Improved response efficiency during for all hazards
Impact on Future Development:	Develops and implements future improvements to the water system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the water system for Sonoma County during and after all hazards
Impact on Capabilities:	Develops and implements future improvements to the water system
Climate Change Considerations:	Climate change increases the frequency and intensity of nearly all hazards
Mitigation Category	Local Plans and Regulations (LPR)
Priority	Medium

Action 2026-SonomaWater-60. RRCSD Pumping Stations

Lead Agency:	Russian River County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Flood
Description of the Problem:	High vulnerability of Russian River CSD's pumping stations to flood
Description of the Solution:	Elevate and/or protect pump stations located in Russian River CSD from flood related damage.
Estimated Cost:	Medium cost
Potential Funding Sources:	RRCSD, FEMA HMGP, State Water Resources Control Board, State Revolving Fund (loan)
Implementation Timeline:	0-10 years
Objectives Met:	Improved resilience of the wastewater system for flood hazards
Benefits:	Low • Reduces service disruption • Reduces asset damage • Reduces risk of releasing inadequately or untreated wastewater • Improves risk awareness • Can be completed within existing authority
Impact on Socially Vulnerable Populations:	Improved flood prevention of vulnerable areas
Impact on Future Development:	Develops and implements future improvements to the wastewater system
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the wastewater system for Sonoma County during and after a flood
Impact on Capabilities:	Develops and implements future improvements to the wastewater system
Climate Change Considerations:	Climate change has increased the frequency and intensity of rainfall, leading to floods
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-61. Emergency Backup at Main Lift

Lead Agency:	Russian River County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Deteriorating emergency backup at Main Lift in RRCSD
Description of the Solution:	Replace the existing emergency backup power system at the Main Lift Station in RRCSD.
Estimated Cost:	Medium cost
Potential Funding Sources:	RRCSD, FEMA HMGP, State Water Resources Control Board, State Revolving Fund (loan)
Implementation Timeline:	0-10 years
Objectives Met:	Improved resilience of wastewater site for earthquake, extreme cold, extreme heat, extreme wind, flood, landslide and wildfire hazards
Benefits:	Low • Reduces service disruption • Reduces asset damage • Reduces risk of releasing inadequately or untreated wastewater • Reduces energy use • Improves risk awareness • Can be completed within existing authority
Impact on Socially Vulnerable Populations:	Improved restoration times for the wastewater system after an earthquake, extreme cold, extreme heat, extreme wind, flood, landslide and wildfire
Impact on Future Development:	Develops and implements future improvements to wastewater site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the wastewater system for Sonoma County during and after earthquake, extreme cold, extreme heat, extreme wind, flood, landslide and wildfire
Impact on Capabilities:	Develops and implements future improvements to wastewater site
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards.
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-62. RRCSD Limited Storage Capacity

Lead Agency:	Russian River County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Earthquake, Flood, Wildfire
Description of the Problem:	Limited storage capacity at RRCSD in case redundancy is needed after a major incident
Description of the Solution:	Increase storage capacity at the RRCSD treatment plant to enhance operational ability for storage during and after a natural disaster while repairs are made to restore treatment capabilities.
Estimated Cost:	Medum cost
Potential Funding Sources:	RRCSD, FEMA HMGP, State Water Resources Control Board, State Revolving Fund (loan)
Implementation Timeline:	0-10 years
Objectives Met:	Improved resilience of wastewater site for all hazards
Benefits:	Low • Reduces service disruption • Reduces risk of releasing inadequately or untreated wastewater • Improves risk awareness • Can be completed within existing authority
Impact on Socially Vulnerable Populations:	Improved restoration times for the wastewater system after all hazards
Impact on Future Development:	Develops and implements future improvements to wastewater site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the wastewater system for Sonoma County during and after all hazards
Impact on Capabilities:	Develops and implements future improvements to wastewater site
Climate Change Considerations:	Climate change has increased the frequency and intensity of nearly all hazards
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

Action 2026-SonomaWater-63. RRCSD Treatment Plant Vulnerability

Lead Agency:	Russian River County Sanitation District Board of Directors
Supporting Agencies:	N/A
Hazards of Concern:	Wildfire
Description of the Problem:	High vulnerability of RRCSD Treatment Plant to wildfire due to its proximity to wooded areas
Description of the Solution:	Upgrade the asphalt shingle/tar and gravel roofs at the RRCSD treatment plant to mitigate the effects of wild-land fire.
Estimated Cost:	Medium cost
Potential Funding Sources:	RRCSD, FEMA HMGP, State Water Resources Control Board, State Revolving Fund (loan)
Implementation Timeline:	0-10 years
Objectives Met:	Improved resilience of wastewater site for wildfire hazards
Benefits:	Low • Reduces service disruption • Reduces asset damage • Can be completed within existing authority
Impact on Socially Vulnerable Populations:	Improved restoration times for the wastewater system after a wildfire
Impact on Future Development:	Develops and implements future improvements to wastewater site
Impact on Critical Facilities/Lifelines:	Increased resilience of the critical lifelines of the wastewater system for Sonoma County during and after a wildfire
Impact on Capabilities:	Develops and implements future improvements to wastewater site
Climate Change Considerations:	Climate change has increased the intensity and frequency of wildfire
Mitigation Category	Structure and Infrastructure Project (SIP)
Priority	Low

22. SONOMA COUNTY AGRICULTURAL PRESERVATION AND OPEN SPACE DISTRICT

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Sonoma County Agricultural Preservation and Open Space District (Ag + Open Space) with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of Sonoma County. The annex presents a general overview of the District, describes who participated in the planning process, assesses Ag + Open Space's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

22.1 HAZARD MITIGATION PLANNING TEAM

Ag + Open Space identified primary and alternate HMP points of contact and developed this plan over the course of several months. The District participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The District officials who participated in the development of the annex are listed below and shown in Table 22-1. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

Primary Point of Contact: Sheri Emerson, Stewardship Manager

Address: 747 Mendocino Ave, Suite 100, Santa Rosa, CA 95401

Phone Number: 707-565-7358

Email: Sheri.Emerson@sonoma-county.org

Alternate Point of Contact: Allison Schichtel, Senior Conservation Planner

Address: 747 Mendocino Ave, Suite 100, Santa Rosa, CA 95401

Phone Number: 707-565-7353

Email: Allison.Schichtel@sonoma-county.org

Table 22-1. Additional Contributors

Name	Department	Position	HMP Contribution
Sheri Emerson	District Stewardship Program	Stewardship Manager	Contributor
Allison Schichtel	District Acquisition Program	Senior Conservation Planner	Contributor
Jen Kuszmar	District Acquisition Program	Acquisition Manager	Reviewer
Misti Arias	District Administration	General Manager	Approver

22.2 COMMUNITY PROFILE

Ag + Open Space is a special district established in 1990 to protect Sonoma County's agricultural heritage, natural resources, and open spaces for future generations. Created through voter-approved Measures A and C, the district was formed under California Public Resources Code to support the state's open space preservation goals. Measure C also introduced a quarter-cent sales tax to fund land conservation efforts, which was extended through 2031 by Measure F in 2006.

Ag + Open Space primarily works through the acquisition of conservation easements and, in some cases, direct land ownership and management. As of June 2020, the district has protected over 122,000 acres across Sonoma County. These efforts help maintain working farms and ranches, safeguard wildlife habitat, and preserve the county's scenic beauty.

Serving all areas within Sonoma County, Ag + Open Space plays a vital role in shaping the region's landscape and resilience. Sonoma County, the northernmost of the nine San Francisco Bay Area counties, stretches from the Pacific Ocean inland to the borders of Marin and Mendocino Counties, approximately 40 miles north of the Golden Gate Bridge.

22.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Sonoma Ag + Open Space completed specific activities to collect input on hazards and vulnerability from the people the organization serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

In January 2025, Sonoma Ag + Open Space launched a public survey by sharing it across its social media platforms. The survey and the HMP were also highlighted in the April edition of the District's eNews. As part of ongoing outreach efforts, Ag + Open Space presented an overview of the HMP to the Ag + Open Space Advisory Committee during its public meeting on May 22, 2025. This committee comprises 17 members representing each of the five supervisorial districts and a range of sectors, including real estate, agriculture, environmental advocacy, and local government leadership. These efforts are shown in Figure 22-1 through Figure 22-4.

Figure 22-1. Social Media Posts



Figure 22-2. Ag + Open Space Advisory Committee HMP Update Presentation



Figure 22-3. April eNews

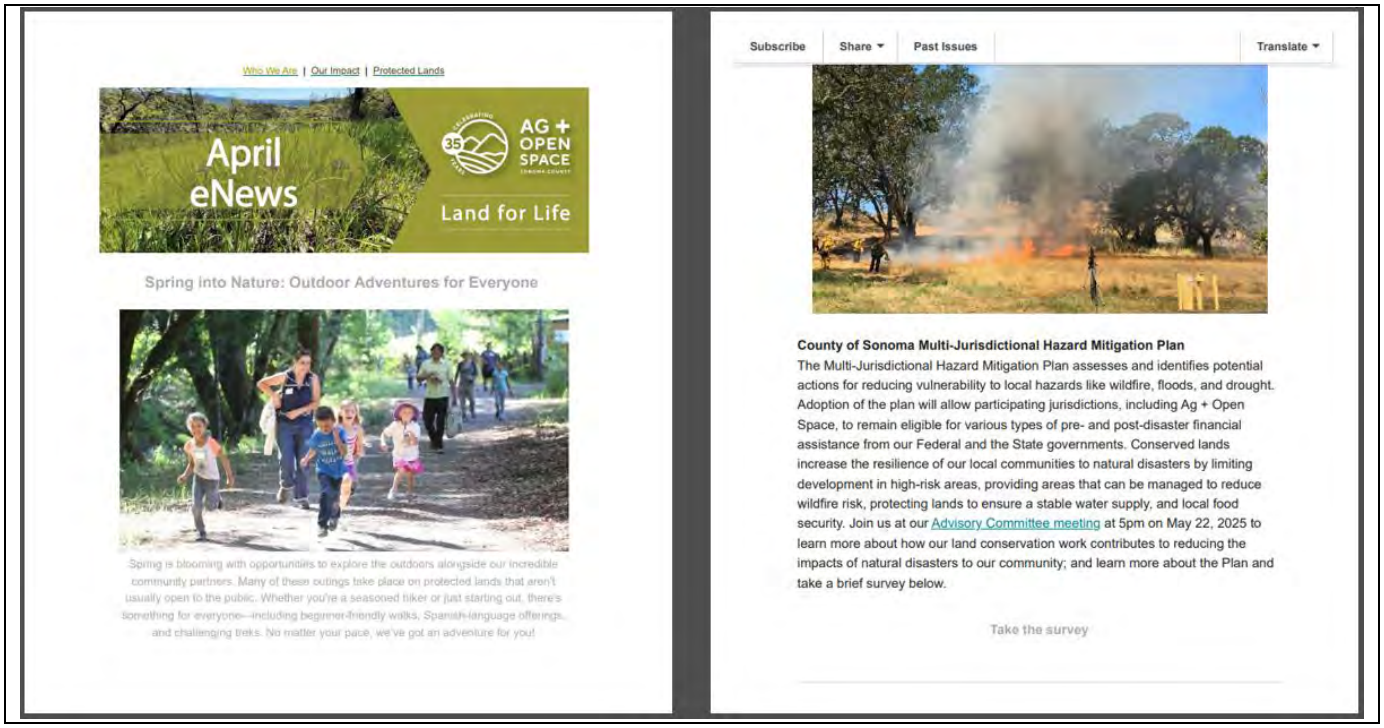


Figure 22-4. Ag + Open Space Outreach Flyers

Sonoma County Multi-Jurisdictional Hazard Mitigation Plan

AG + OPEN SPACE SONOMA COUNTY

The Sonoma County Multi-Jurisdictional Hazard Mitigation Plan assesses and identifies potential actions to reduce local communities' vulnerability to local hazards like wildfire, floods, and drought. By adopting this plan participating agencies, including Ag + Open Space, are able to coordinate hazard mitigation actions across the county and to remain eligible for Federal and State pre- and post-disaster financial assistance.

Our Role	One of the 22 partners who collaborated to develop this plan
Ag + Open Space Mitigation Strategy	Our part of the plan focuses on 16 mitigation actions to reduce the impact of hazards on Ag + Open Space protected lands, including: coordination with County and other plan partners, mapping, data collection, outreach, land protection, and stewardship actions.
Identified Hazards	Dam failure, drought, earthquake, extreme cold, extreme heat, extreme wind, flooding, landslide, sea level rise, tsunami, wildfire

Conservation is part of the solution.

Natural and working lands offer vital habitats for wildlife to thrive, support a broad diversity of plants and animals, provide areas that filter and recharge our water, offer stunning vistas, and sustain farms and ranches that ensure access to local food. The conservation and stewardship of these lands also helps increase the resilience of local communities to natural disasters.

These lands...



Reduce wildfire risk in the wildland-urban interface

Reduce flood impacts and ensure a stable water supply

Provide shaded, cool areas within communities to reduce the urban heat island effect

Provide access to water (like beach and river access) on high heat days

Help Create a Resilient Sonoma County for the Whole Community

AG + OPEN SPACE SONOMA COUNTY

Sonoma County Multi-Jurisdictional Hazard Mitigation Plan Timeline

Summer 2025:	Survey input and ongoing community outreach
Fall 2025:	Draft for public review
Early 2026:	Ag + Open Space Board of Directors approval

More information is available at the Hazard Mitigation Plan website.

SCAN ME

For questions, please contact:
Ag + Open Space at openspace@sonoma-county.org

Plan multi-jurisdiccional de mitigación de riesgos del condado de Sonoma

AG + OPEN SPACE SONOMA COUNTY

El Plan multi-jurisdiccional de mitigación de riesgos del condado de Sonoma evalúa e identifica posibles medidas para reducir la vulnerabilidad de las comunidades locales ante riesgos locales, por ejemplo, incendios forestales, inundaciones y sequías. Al adoptar este plan, las organizaciones participantes, entre ellos Ag + Open Space, pueden coordinar las medidas de mitigación de riesgos en todo el condado y seguir siendo aptos para recibir ayuda financiera federal y estatal antes y después de los desastres.

Nuestra función	Somos uno de los 22 socios que colaboraron en la elaboración de este plan
Estrategia de mitigación de Ag + Open Space	Nuestra parte del plan se centra en 16 medidas de mitigación para reducir el impacto de los riesgos en las tierras protegidas de Ag + Open Space, entre ellas: coordinación con el condado y otros socios del plan, mapeo, recopilación de datos, divulgación para el público, protección y cuidado de la tierra.
Riesgos identificados	Rupturas de presas, sequías, terremotos, frío, calor o viento extremos, inundaciones, deslizamientos de tierra, aumento del nivel del mar, tsunamis, incendios forestales

La conservación es parte de la solución.

Las tierras naturales y productivas ofrecen hábitats vitales para que la vida silvestre prospere, albergan una amplia diversidad de plantas y animales, proporcionan áreas que filtran y recargan el agua, ofrecen paisajes asombrosos y dan soporte a granjas y ranchos que garantizan el acceso a los alimentos locales. La conservación y cuidado de estas tierras también contribuyen a aumentar la resiliencia de las comunidades locales ante los desastres naturales.

Estas tierras...



Reducen el riesgo de incendios forestales en la interfaz urbano-forestal

Reducen el impacto de las inundaciones y garantizan un suministro estable de agua

Proporcionan zonas con sombra y frescas dentro de las comunidades con el fin de reducir el efecto isla de calor urbano

Ofrecen acceso a agua (por ejemplo, acceso a la playa y al río) en días calorosos

Ayuda a crear un condado de Sonoma resiliente para toda la comunidad

AG + OPEN SPACE SONOMA COUNTY

Calendario del Plan multi-jurisdiccional de mitigación de riesgos del Condado de Sonoma:

Verano 2025:	Aportaciones de la encuesta y divulgación continua en la comunidad
Otoño 2025:	Propuesta para revisión pública
Principios de 2026:	Aprobación por la Junta Directiva de Ag + Open Space

Para obtener más información, visita el sitio web del Plan de mitigación de riesgos.

ESCANÉAME

Si tienes alguna pregunta, ponte en contacto con:
Ag + Open Space en openspace@sonoma-county.org

The following targeted outreach was made to underserved communities and vulnerable populations:

- Ag + Open Space sent information out via social media and electronic newsletter distribution list about the HMP with a link to the County's survey
- Ag + Open Space distributed a flyer at summer 2025 tabling events describing the organization's role in the HMP and how its work mitigates the impacts of future natural disasters
- Ag + Open Space gave a presentation to its Advisory Committee (a publicly noticed meeting) about the organization's role in the HMP and how the work mitigates the impacts of future natural disasters
- Through its Community Spaces Matching Grant Program (CSMGP), Ag + Open Space partners with community-based organizations—including non-profit organizations, County agencies, and incorporated cities—to develop open spaces in communities that lack open space benefits. These parks and open spaces are places where community members can gather, recreate, and grow local food. Additionally, these lands are important for climate resilience and hazard mitigation as they provide the critical functions of sequestering carbon, mitigating wildfire and flooding, and providing relief from overheated environments.
- The CSMGP process has informed Ag + Open Space's mitigation actions and includes extensive outreach and application assistance throughout the county with an emphasis on underserved communities and in areas with vulnerable populations. As Ag +Open Space continues to outreach and build partnerships with community organizations as part of the CSMGP, it will solicit input on and reflect community priorities and potential mitigation actions in current and future plan updates.

During the update of the HMP, opportunities were provided for public input; however, limited feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to Ag + Open Space was contributed through community engagement activities.

22.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Ag + Open Space invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

22.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included input from several local and regional agencies involved in hazard mitigation. Permit Sonoma helped with land use and planning information. The County of Sonoma Public Infrastructure Department shared data on roads and public facilities. Local fire districts and CAL

FIRE provided important information about wildfire risks and emergency response. These agencies worked together to help identify hazards and shape strategies to keep the community safe.

22.4.2 Agencies that Have the Authority to Regulate Development

Permit Sonoma holds the authority to regulate development within the area, ensuring that land use aligns with established planning, safety, and environmental standards.

22.4.3 Neighboring Communities

As part of the hazard mitigation planning process, outreach was conducted to neighboring service providers and emergency response agencies to inform them of the effort and invite their participation. Communication included sharing the planning timeline and opportunities to provide input on regional hazard vulnerabilities and potential mitigation strategies.

- Sonoma Resource Conservation District
- Gold Ridge Resource Conservation District
- Sonoma Water

22.4.4 Representatives of Business, Academia, and Other Private Organizations

The outreach included representatives from across the five supervisorial districts and sectors such as real estate, agriculture, environmental advocacy, and local government. The following served as members of the Ag + Open Space Advisory Committee:

- Richard Hodges, Sonoma Splash Board Member | First District
- Paul Martin, Martin Family Ranch | Second District
- Ladi Asgill (Chair Pro Tem), EcoInnovation, Inc. | Second District
- Thembi Borras (Chair), California Department of Forestry and Fire Protection | Third District
- Steve Rabinowitsh, Santa Rosa Junior College | Third District
- Paolo Tantarelli, Community Soil Foundation | Fourth District
- Michelle Whitman, Renewal Enterprise District | Fifth District
- Wendy Eliot, Sonoma Land Trust (Retired) | Fifth District
- Kevin McDonnell, Petaluma City Council | Mayors and Councilmembers
- John Shribbs (Vice-Chair), Petaluma City Council | Mayors and Councilmembers
- Alex DeCarli, Petaluma City Council | Mayors and Councilmembers
- Dayna Ghirardelli, Sonoma County Farm Bureau | Agriculture
- Don McEnhill, Russian Riverkeeper | Environment
- Emily Albert, The Corcoran Group | Real Estate

22.4.5 Nonprofit Organizations and Community-Based Organizations

Coordination with local community organizations supported broader engagement in the hazard mitigation planning process. These groups were invited to review draft materials and share feedback based on their local knowledge and experience in emergency preparedness, helping to ensure that community perspectives were reflected in the final plan.

- Sonoma Land Trust
- LandPaths
- Sonoma Ecology Center

22.5 CHANGES IN COMMUNITY PRIORITIES

Ag + Open Space's goals and organizational priorities are driven by its long-range comprehensive plan, the Vital Lands Initiative, which was adopted in January 2021 and will continue to serve the organization through 2031. In alignment with the Vital Lands Initiative, Ag + Open Space's priorities have not changed since the last approval of the hazard mitigation plan.

22.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Ag + Open Space performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Ag + Open Space to identify opportunities for integrating mitigation concepts into ongoing District procedures.

22.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, Ag + Open Space possesses capabilities that are unique and different from local government. Construction and development within the District are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume 1.

Codes, Ordinances, and Regulations

Table 22-2 summarizes the codes, ordinances, and regulations available to Ag + Open Space.

Table 22-2. Ag + Open Space Codes, Ordinances, Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building Codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	Sonoma County
Other	This code governs the district's formation, funding, and land conservation activities.	County California Public Resources Code § 5500	Sonoma County

Planning Documents

Table 22-3 summarizes the planning documents available to Ag + Open Space.

Table 22-3. Ag + Open Space Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Open Space Plan	Vital Lands Initiative (January 2021) is Ag + Open Space's strategic plan for land conservation within Sonoma County, to permanently protect land for natural resources, agriculture, scenic greenbelts and open space values, and outdoor recreation and education. Vital Lands directs Ag + Open Space's community engagement, planning, acquisition, and stewardship efforts. The Fee Lands Strategy (February 2021) guides the stewardship and conveyance of lands held in fee title and managed by Ag + Open Space. Both documents include actions to mitigate hazards from natural disasters, including wildfire fuels reduction, other vegetation management, habitat restoration, water conservation and other drought mitigation, and preventing new development on properties at higher risk of impacts from flood and/or wildfire disasters.	County Vital Lands Initiative, January 2021 Fee Lands Strategy, February 2021	Sonoma County

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Community Wildfire Protection Plan	Ag + Open Space participates in the County of Sonoma's Community Wildfire Protection Plan. Ag + Open Space-proposed mitigation actions in the area of land conservation and stewardship of natural and working lands align with this plan.	County County of Sonoma's Community Wildfire Protection Plan	Sonoma County
Climate Action/ Resilience/ Sustainability Plan	Partnered with County of Sonoma Climate Action and Resiliency Division's Climate Resilience Comprehensive Action Plan. Ag + Open Space-proposed mitigation actions in the area of land conservation and stewardship of natural and working lands align with this plan.	County County of Sonoma Climate Action and Resiliency Division's Climate Resilience Comprehensive Action Plan	Sonoma County

Response and Recovery Planning Documents

Table 22-4 summarizes the response and recovery planning documents available to Ag + Open Space.

Table 22-4. Ag + Open Space Response/Recovery Planning Documents

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan	Ag + Open Space partners with County of Sonoma's emergency services and operations programs. Consistent with County requirements, Ag + Open Space maintains our own Emergency Action Plan and an Injury and Illness Prevention Plan. These documents together describe actions to be taken in case of natural disasters (among other emergencies) including evacuations and emergency communications.	County Emergency Action Plan and an Injury and Illness Prevention Plan	Sonoma County
Continuity of Operations Plan	Ag + Open Space participates in the County of Sonoma's Continuity of Operations Plan and Emergency Response Team.	County County of Sonoma's Continuity of Operations Plan and Emergency Response Team	Sonoma County, Ag + Open Space

22.6.2 Integration

Ag + Open Space actively collaborates with the County's emergency services and operations programs to support hazard mitigation and community resilience. Ag + Open Space maintains its own Emergency Action Plan and participates in the County's Continuity of Operations Plan and Emergency Response Team to ensure coordinated disaster response.

Ag + Open Space's strategic planning documents—the Vital Lands Initiative (2021) and Fee Lands Strategy (2021)—guide land conservation, stewardship, and community engagement. Both plans include actions that directly support hazard mitigation, such as wildfire fuels reduction, vegetation management, habitat restoration, water conservation, and limiting development in high-risk flood and wildfire areas.

The District also contributes to broader countywide efforts, including participation in the Community Wildfire Protection Plan and partnership with the Climate Action and Resiliency Division's Climate Resilience Comprehensive Action Plan. Ag + Open Space's proposed mitigation actions in land conservation and stewardship align with the goals of these plans.

Potential areas for further integration with the HMP include:

- Applying hazard assessment data and mitigation actions to future emergency plans or annex updates.
- Using hazard-specific information, such as drought and wildfire data, to inform updates to policies and operational practices.
- Incorporating hazard analyses into the development of new strategic plans or district annexation efforts.

22.6.3 Development and Permitting Capability

Ag + Open Space is a special district for the entire Sonoma County. The District is subject to the Sonoma County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the planning area are issued through Sonoma County. Therefore, building code, land use, and development capabilities are not applicable to the District.

22.6.4 Administrative and Technical Capability

Table 22-5 summarizes the administrative bodies and programs available to support mitigation initiatives for Ag + Open Space.

Table 22-5. Administrative Capabilities

Resources	Available?	Comment
Planning Board	No	-
Zoning Board of Adjustment	No	-
Planning Department	No	-
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	Yes	Ag + Open Space Advisory Committee, Ag + Open Space Fiscal Commission. Ag + Open Space General Manager, Community Resources Manager, Administrative and Fiscal Services Manager, and Administrative Aides staff the committees. The Committee weighs in on policy decisions, including actions in support of hazard mitigation, while the Commission reviews financial transactions, including the funding of hazard mitigation actions.

Resources	Available?	Comment
Economic Development Commission/Committee	No	-
Public Works/Highway Department	No	-
Construction/Building/Code Enforcement Department	No	-
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Stewardship program maintains Ag + Open Space properties, via service contracts. Includes stormwater maintenance, vegetation management, erosion control, road and fence repair.
Mutual aid agreements	No	-
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Administrative and Fiscal Services Manager, Secretary, Stewardship Manager, Staff Safety Committee, Vegetation Management Program Manager all are responsible in part for the organization's actions towards mitigation of natural and other hazards.
Other - Administration of Grant Program Funding	Yes	Competitive Ag + Open Space Matching Grant Program that awards funding for land acquisition, recreation, and/or habitat restoration projects; also may serve as grant funding administrator for various partnership grant award, including the County of Sonoma's Vegetation Management Program funding.

Table 22-6 summarizes technical staff and personnel resources available to Ag + Open Space and their current responsibilities that contribute to hazard mitigation.

Table 22-6. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Acquisition Manager, Stewardship Manager, Community Resources Manager, Stewardship Supervisor, Acquisition Specialists, Stewardship Specialists, Senior Conservation Planner, Natural Resource Planner, Agricultural Specialist, Vegetation Management Program Manager
Engineers or professionals trained in building or infrastructure construction practices	Yes	Provided through contract support
Planners or engineers with an understanding of natural hazards	Yes	Acquisition Manager, Stewardship Manager, Community Resources Manager, Stewardship Supervisor, Acquisition Specialists, Stewardship Specialists, Senior Conservation Planner, Natural Resource Planner, Agricultural Specialist, Vegetation Management Program Manager
Staff with expertise or training in benefit/cost analysis	Yes	Provided through contract support

Resources	Available?	Comment
Professionals trained in conducting damage assessments	Yes	Provided through contract support
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Senior Conservation Planner, GIS Coordinator, GIS Analyst
Staff that work with socially vulnerable populations or underserved communities	Yes	Community Resources Manager, Community Relations Specialist, Community Relations Assistants, Acquisition Manager, Acquisition Specialists, Stewardship Manager, Stewardship Specialists, Stewardship Technicians
Environmental scientists familiar with natural hazards	Yes	Provided through contract support
Surveyors	Yes	Provided through contract support
Emergency manager	No	-
Grant writers	Yes	Acquisition Specialists, Stewardship Specialists, Senior Conservation Planner, Grants Coordinator, also provided through contract support
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-

22.6.5 Fiscal Capability

Table 22-7 summarizes financial resources available to Ag + Open Space.

Table 22-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes, can apply for grants
Open Space Acquisition funding programs	Yes, through sales tax measure (F, 2006)
Other – Grant funding programs	Yes, can apply for grants, and also can award land acquisition, recreation, and/or habitat restoration grants via the competitive Ag + Open Space Matching Grant Program

22.6.6 Education and Outreach Capability

Table 22-8 summarizes the education and outreach resources available to Ag + Open Space.

Table 22-8. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Yes via social media and online outreach, and in support of County of Sonoma's Emergency Operations team
Personnel skilled or trained in website development	No	Through contract support only.
Hazard mitigation information available on your website	Yes	Information about reducing the risk of wildfire, flooding
Social media for hazard mitigation education and outreach	Yes	Social media outlets as well as electronic newsletter
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Ag + Open Space Board of Directors, Fiscal Oversight Commission, Advisory Committee provide direction and input on Ag + Open Space activities related to hazard mitigation
Warning systems for hazard events	No	-
Natural disaster/safety programs in place for schools	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	-
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Outreach and education program, volunteer program

Landowners in Sonoma County face increasing risks from wildfire, flood, and drought, yet many lack the technical guidance and resources needed to implement effective mitigation strategies. While Ag + Open Space has made progress through partnerships—such as the 2019 contract with Sonoma Resource Conservation District (RCD) to support wildfire-affected landowners and participation in the Watershed Task Force and ALERT initiative—there remains a continued need for coordinated outreach and education.

Many landowners are still unaware of or unable to access best practices that could reduce their vulnerability to climate-related hazards. This represents an opportunity for the District to expand and improve its outreach capabilities in coordination with other conservation partners like Sonoma Water, Gold Ridge RCD, Sonoma RCD, UC Cooperative Extension, Sonoma Land Trust, and TOGETHER Bay Area. This could be done by developing and expanding public outreach and education campaigns that highlight the role of land conservation and stewardship in mitigating hazards such as wildfire, flood, and drought. Future campaigns could demonstrate the tangible benefits of these practices, while enhancements to the Resilient Forests & Watersheds website could transform it into a comprehensive, user-friendly resource hub for landowners seeking guidance on resilience strategies.

22.6.7 Community Classifications

Table 22-9 summarizes classifications for community programs available to Ag + Open Space.

Table 22-9. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule	No	-	-
Public Protection (ISO Resource Conservation Classes 1 to 10)	No	-	-
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

22.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 22-10 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 22-10. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Extreme Wind	Moderate
Flood	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

22.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Ag + Open Space is a special district and does not participate in the NFIP directly. Therefore, all structures located within the District's jurisdiction were included in the Sonoma County assessment of NFIP-insured structures with repetitive loss. This information can be found in the annex for Sonoma County.

22.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The District does not permit or regulate development. Development permits within Ag + Open Space's jurisdiction are issued through Sonoma County. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 22-11 through Table 22-13.

Table 22-11. Number of Building Permits for New Construction Issued Since the Previous HMP

Year and Permit Issued	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2021 New Construction Permits Issued	380	4	154	538
2021 Permits Issued within SFHA	24	0	34	58
2022 New Construction Permits Issued	32	4	159	488
2022 Permits Issued within SFHA	18	0	34	52
2023 New Construction Permits Issued	305	0	188	493
2023 Permits Issued within SFHA	11	0	34	45
2024 New Construction Permits Issued	282	2	131	415
2024 Permits Issued within SFHA	19	0	29	48

SFHA = Special Flood Hazard Area

Table 22-12. Recent Major Development and Infrastructure from 2021 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones[a]	Description / Status of Development
Hyatt Hotel	Hotel	165 room hotel, conference facilities, and a restaurant	3750 North Laughlin Road, Santa Rosa APN 059-370-033	Wildfire	Construction permitting
Siesta Senior Housing	Residential	92 dwelling units	18503 Highway 12, Sonoma APN 056-511-029	N/A	Construction completed
Redwood Apartments	Residential	96 dwelling units	3422 Santa Rosa Avenue, Santa Rosa APN 134-132-070	Flooding	Construction completed
Wildwood Retreat Center	Commercial resort	Guest quarters, common space, recreational areas for a maximum of 60 people onsite	20111 Old Cazadero Road APNs 106-230-007, 106-230-008	Wildfire	Entitlement approved
Guernewood Resort	Commercial resort	108-room resort Restaurant and bar	17155 Highway 116, Guerneville APN 072-130-009	Flooding, Wildfire	Entitlement approved

a. Only location-specific hazard zones or vulnerabilities identified.

Table 22-13. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones	Description / Status of Development
Airport Village Mixed-Use Project	Mixed-Use Residential	1464 dwelling units 10,000 sf of commercial	3843 Brickway Boulevard, Santa Rosa APNS 059-271-073, 059-271-090, 059-340-031, 059-340-032, 059-430-001, 059-430-002, 059-430-003, 059-430-004, 059-430-005, 059-430-006	Wildfire, Flooding	In entitlement process
Sonoma Developmental Center Redevelopment	Mixed-Use Residential	990 dwelling units 150 room hotel 130,000 sf of commercial 70 acres of outdoor public space	15000 Arnold Drive, Glen Ellen APN 054-090-001	Wildfire, Flooding	In entitlement process

Since the last HMP, 203 building permits were issued for new construction in SFHAs, which represented 9.5 percent of the total permits issued. In addition, major developments occurred in known wildfire hazard areas. Therefore, the vulnerability of the County has increased since the previous plan was approved.

22.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Ag + Open Space's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

22.9.1 Hazard Area

Maps of probable hazard areas within the District are shown in Figure 22-5 and Figure 22-6. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Ag + Open Space has significant exposure.

Figure 22-5. Ag + Open Spece Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

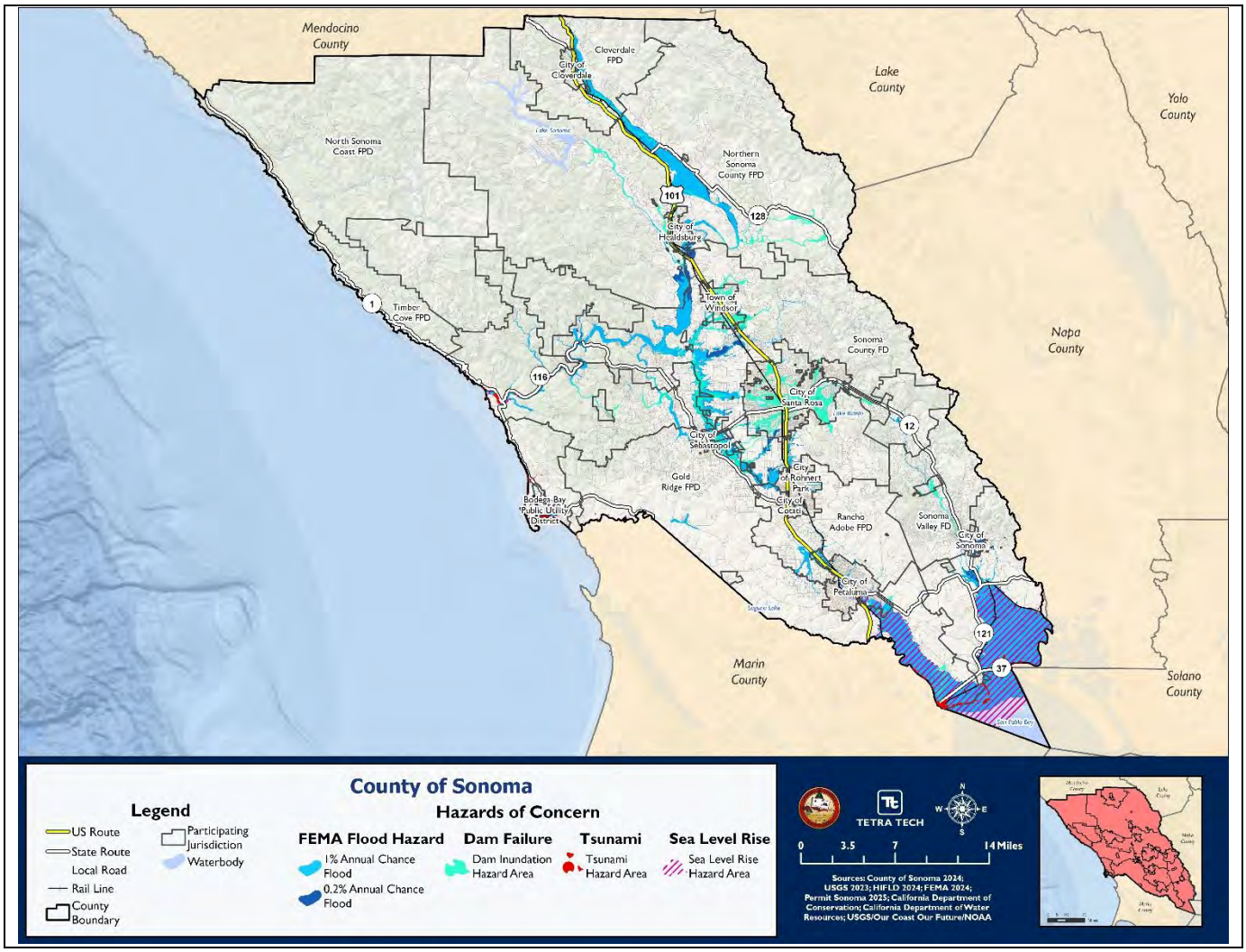
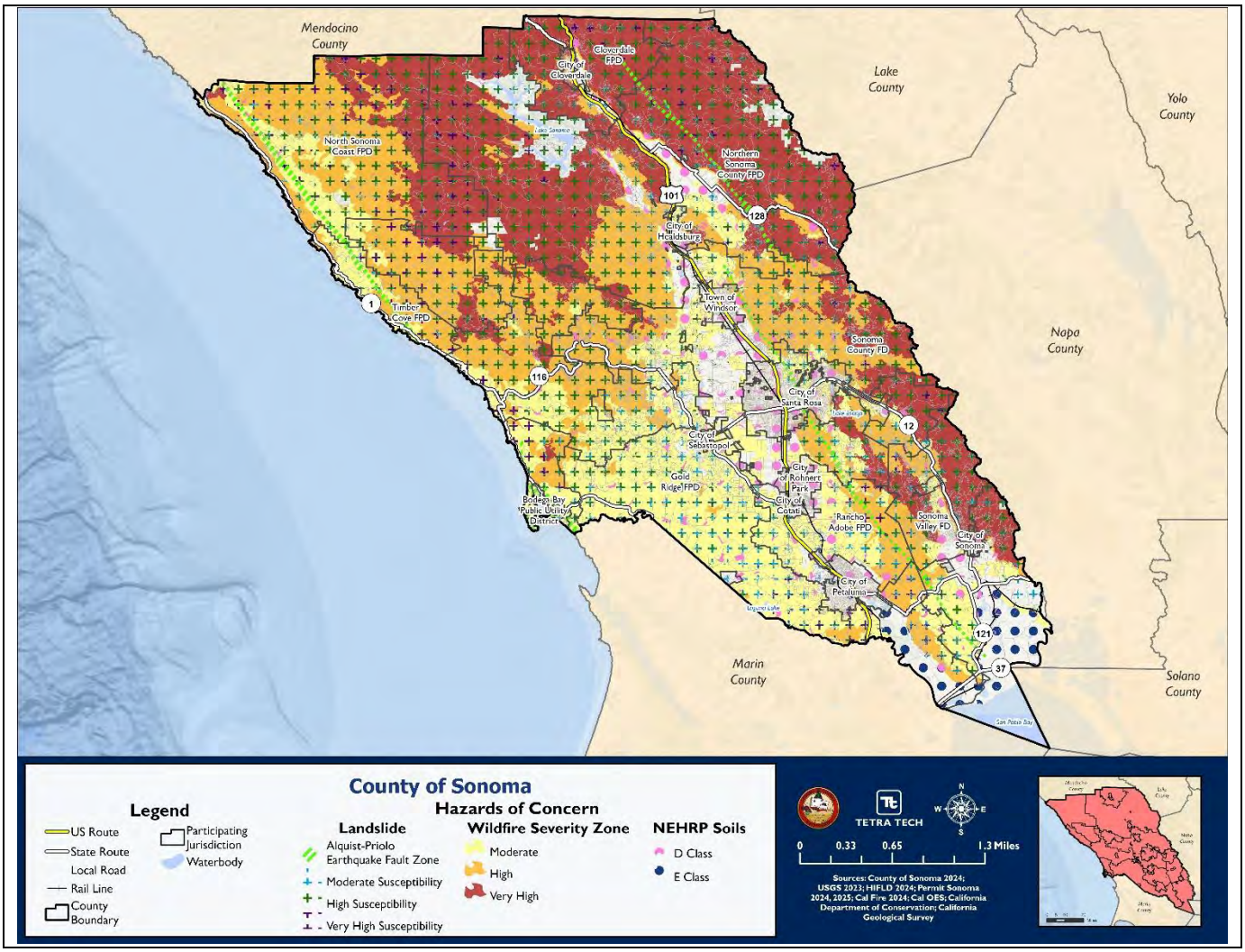


Figure 22-6. Ag + Open Spece Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



22.9.2 Hazard Event History

The history of natural and non-natural hazard events in Sonoma County is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 22-14 provides details on loss and damage to Ag + Open Space during hazard events since the last hazard mitigation plan update. The District did not suffer any physical or financial damage as a result of hazard events over the past five years.

Table 22-14. Hazard Event History in Sonoma County, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses to Ag + Open Space
January 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton.	None
March 9, 2023	Flood	DR-4699-CA EM-3592-CA CA23-3	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	None

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA)

22.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Ag + Open Space.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Ag + Open Space reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. Table 22-15 shows Ag + Open Space's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 22-15. Hazard Ranking

Hazard	Rank
Dam Failure	Low
Drought	Medium
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	Low

Hazard	Rank
Landslide	Low
Sea Level Rise	Low
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to Ag + Open Space. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the District. Table 22-16 summarizes additional risks specific to the District.

Table 22-16. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	Ag + Open Space may face risks from dam failure at nearby reservoirs, which could lead to flooding in certain areas. There are several high-hazard dams within or potentially affecting the District and its protected areas. Several such areas are along the Laguna de Santa Rosa, where potential inundation maps show spaces such as the Occidental Roads Wetlands fee property or Indian Valley conservation easement property at risk. Several mapped dam inundation areas cross major transportation routes, such as Highways 101, 116, and 12, impacting both transportation infrastructure and the people who may be traveling at the time of failure, potentially limiting emergency access to people who are visiting one of the many protected spaces. The populations most vulnerable to these hazards are those downstream of the reservoirs, including residents and visitors along the various waterways in the District, such as the Russian River or Laguna de Santa Rosa.
Drought	The District is susceptible to drought conditions that can significantly impact local water supply and agricultural activities. The District's assets are primarily agricultural and wild land, making them especially vulnerable to droughts. In long or severe drought periods, forested areas such as the additions to the Sonoma Coast State Park or the Monte Rio Redwoods Regional Park and Open Space Preserve could see tree mortality, susceptibility to pests, and heightened risk to other hazards such as wildfire. In periods of extended drought, farms and ranches in the District can be negatively impacted. Recreation industries near or on the Russian River or Laguna de Santa Rosa may also be vulnerable. Populations most at risk due to drought include people living in higher fire-risk areas, which includes most of the northern and eastern parts of District, and people dependent on agricultural and forestry activities.

Hazard	Qualitative Local Impacts
Earthquake	The District is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. Fault zones run across the coastal and eastern sides of the District, making these areas especially vulnerable, although the entire district is prone to earthquakes. NEHRP Class D soils are common in the central part of the District along the river valleys, making several of the high-hazard dams there vulnerable to failure, threatening Ag + Open Space-protected areas such as the Occidental Roads Wetlands and other spaces along the Laguna de Santa Rosa. Especially vulnerable populations include people living in mobile or older homes that are not retrofitted to withstand earthquakes, such as the numerous senior mobile home parks in the District, or travelers along Highways 1, 12, 101, or 128. People recreating in isolated areas may also be vulnerable, as communications may be disrupted.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on the District's population and infrastructure. Agricultural lands protected by the District are vulnerable to extreme cold events given potential for frost damage to crops and production loss for livestock. Elderly populations in the District are more vulnerable to extreme cold than the general populace, as are people living alone or in remote areas, as well as people recreating outdoors in District-protected areas. Many senior mobile home parks exist in the county, which could be especially vulnerable. The District's office can be vulnerable to extreme cold, especially if the event coincides with a power outage. Because of the county's coastal location and moderate temperatures, District infrastructure is not typically vulnerable to extreme cold. However, because of the rarity of freezing temperatures, residents are not typically prepared, and if a freeze event were to occur, pipes could freeze or burst.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Agricultural lands protected by the District are vulnerable to extreme heat events, due to the potential for health impacts on agricultural workers and crop loss. Many communities, especially those in urban and underserved areas, lack access to nearby parks and open spaces that can provide refuge during extreme weather events, reduce urban heat, and serve as natural buffers against flooding and wildfire. Elderly populations and people experiencing homelessness in the county are more vulnerable to extreme heat than the general populace, as are people living alone or in remote areas. People recreating on District-protected lands may be vulnerable to extreme heat. Many senior mobile home parks exist in the county, which could be especially vulnerable. Highways 128, 116, and 12 can be vulnerable to extreme heat, as heat can impact road integrity. This could limit the District's ability to access remote areas. The District's office can be vulnerable to extreme heat, especially if the event coincides with a power outage.
Extreme Wind	The District may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Trees in protected areas across the District can be vulnerable to extreme winds. Transportation along Highways 1, 12, 116, and 128 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses, including the numerous senior mobile home parks in the District. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable. People recreating in isolated areas, where winds create hazardous conditions and few options for shelter exist, may also be vulnerable, and communications may be disrupted.

Hazard	Qualitative Local Impacts
Flood	Flooding is a concern due to heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. People living in low-lying areas can be vulnerable to flooding. Tourists and travelers may be unaware of flooding risks as well, especially in areas that are within the SFHA, such as the floodplain of the Russian River or Laguna de Santa Rosa, where several District-protected areas are in or near the SFHA. Highways 1, 12, 37, 101, 116, and 128 cross areas prone to flooding at various points in the District, making these roads vulnerable to flooding. Heavy winter rains can contribute to downed trees and power line hazards that can impact travel. Disruption of these transportation networks can impact the safety of staff or visitors on District lands.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. District-protected lands with steep terrain, such as Buckeye Forest, Cooley Ranch, or the Modini Preserve, are vulnerable to landslides, especially after wildfires. Wildfires can destabilize slopes and leave behind hazard trees, increasing the risk of landslides, debris flows, and damage to infrastructure, especially during subsequent storms or high wind events. Slope stability and healthy vegetation are important parts of protecting wild land and ecosystems in Sonoma County. Populations vulnerable to landslides include residents in high-landslide susceptibility areas, moderate wildfire risk areas, and those near the fault zone, as well as travelers and visitors unaware of risks. People in areas with limited communication options, such as remote or rugged terrain, can be vulnerable as well, since alerts and requests for help may not come through.
Sea Level Rise	The District is at risk from sea level rise along the Pacific Ocean and San Pablo Bay. Certain spaces protected by the District that are close to the San Pablo Bay are especially at risk, such as Cloudy Bend. Highway 37 is also vulnerable to sea level rise. Populations with the highest vulnerability include those living or working on protected lands near the coast
Tsunami	The District is at risk from tsunami along the Pacific Ocean and San Pablo Bay. Certain spaces protected by the District that are close to San Pablo Bay or the coast are especially at risk, such as Dickson Ranch and the Chanslor Ranch fee property. Highway 37 and Highway 1 are also vulnerable. Populations with the most risk include those living or working on protected lands near the coast.
Wildfire	The District faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. Populations most vulnerable to wildfire are likely to be low-income people living in remote, rural locations where it can be difficult to access or provide sufficient warning in a hazard event. People in isolated or rugged terrain can be vulnerable as well, since alerts and requests for help may not come through. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation. Many of the District's protected lands, such as the Modini Preserve have a high or very high severity fire risk, including most of the areas surrounding Highway 1, which is a major evacuation route for the coastal areas of the District. Travelers and tourists are also vulnerable for this reason.

22.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Ag + Open Space identified the following risk-related issues within the community:

- Need for coordinated emergency response and recovery efforts.
- Need for ongoing maintenance and updates to the hazard mitigation plan.

- Increasing vulnerability to catastrophic wildfires, driven by prolonged drought, extreme heat, and wind events:
    - Dense, unmanaged vegetation in wildland-urban interface areas and open spaces significantly elevates the risk of ignition and fire spread.
    - Inadequate vegetation management threatens lives and property and exacerbates secondary hazards such as landslides and erosion following fire events.
    - There is an urgent need for coordinated, strategic vegetation management to reduce fuel loads and enhance landscape resilience.
- Outdated and incomplete datasets related to land use, hydrology, and vegetation to assess and mitigate natural hazards:
    - These data gaps hinder accurate risk modeling, emergency preparedness, and long-term resilience planning, especially in the face of intensifying climate impacts and increasing development pressures.
    - Without high-resolution, current geospatial data, decision-makers lack the tools needed to protect communities, infrastructure, and ecosystems effectively.
- Need for public awareness of land conservation's role in hazard mitigation.
- Increasing threats from climate-driven hazards such as prolonged droughts, intensified wildfires, and more frequent and severe flooding:
    - Many riparian and shoreline areas lack adequate natural buffers, which are essential for mitigating these risks.
    - The absence of effective vegetative buffers compromises water quality, reduces habitat connectivity, and increases vulnerability of both human and ecological communities to natural disasters.
- Need to protect multi-benefit natural and working lands in hazard-prone areas.
- Increasing vulnerability to wildfire in communities near wildland areas due to dense vegetation, limited defensible space, and changing climate conditions:
    - These conditions also exacerbate risks from extreme wind and heat, which can accelerate fire spread and complicate emergency response.
- Risks to natural and working lands that provide critical ecosystem services—such as groundwater recharge, flood mitigation, and coastal protection—from development or degradation, reducing the region's resilience to climate-related hazards.
- Lack of access in many communities—especially those in urban and underserved areas—to nearby parks and open spaces that can provide refuge during extreme weather events, reduce urban heat, and serve as natural buffers against flooding and wildfire.
- Increasing threats to forests and grasslands from wildfire, drought, and extreme heat, which compromise ecological health, carbon storage, and public safety:
    - Without active management, these landscapes become more vulnerable to severe fire behavior and habitat degradation.

- Wildfires that destabilize slopes and leave behind hazard trees, increasing the risk of landslides, debris flows, and damage to infrastructure, especially during subsequent storms or high wind events.
- Wildfires that alter ecosystems, increasing erosion, sedimentation, invasive species spread, and carbon loss:
    - Without post-fire monitoring, these impacts may go unaddressed, leading to long-term environmental degradation and increased hazard exposure.
- Landowners who face increasing risks from wildfire, flood, and drought and lack the technical guidance and resources needed to implement effective mitigation strategies:
    - While Ag + Open Space has made progress through partnerships—such as the 2019 contract with Sonoma Resource Conservation District (RCD) to support wildfire-affected landowners and participation in the Watershed Task Force and ALERT initiative—there remains a continued need for coordinated outreach and education.
    - Many landowners are still unaware of or unable to access best practices that could reduce their vulnerability to climate-related hazards.
- Vulnerability of many areas in Sonoma County to flooding and post-fire landslides or debris flows, especially where natural vegetation has been degraded or removed:
    - These hazards threaten public safety, infrastructure, and water quality, and are expected to worsen with climate change.
    - here is a need for proactive, nature-based solutions to stabilize landscapes and reduce hazard exposure.
- Degraded soils across Sonoma County that reduce the landscape's ability to retain water, resist erosion, and sequester carbon—exacerbating the impacts of drought, extreme heat, wind erosion, and landslides:
    - Many landowners lack the resources or knowledge to implement soil health practices that could improve resilience to these hazards.

22.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

22.10.1 Past Mitigation Action Status

Table 22-17 indicates progress on the District's mitigation strategy identified in the 2021 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 22-17. Status of 2021 Mitigation Actions for Ag + Open Space

Mitigation Actions	Status
Project Number	SAO-1
Hazards Addressed	Wildfire, flood, drought, earthquake, public safety power shutoff, severe weather, soil hazards, sea level rise, dam failure, tsunami
Lead Agency	Ag + Open Space
Mitigation Action Description	Participate in and support the County's Continuity of Operations Planning (COOP) efforts, Watershed Task Force, and other emergency response/recover efforts.
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ongoing support to County's emergency response and recovery efforts
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SAO-2
Hazards Addressed	Wildfire, flood, drought, earthquake, public safety power shutoff, severe weather, soil hazards, sea level rise, dam failure, tsunami
Lead Agency	Ag + Open Space
Mitigation Action Description	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ongoing engagement with HMP maintenance and update process.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	No Change
If discontinue, explain why	Not Applicable
Project Number	SAO-3
Hazards Addressed	Wildfire, severe weather, soil hazards
Lead Agency	Ag + Open Space
Mitigation Action Description	Coordinate vegetation management grant awards using funds from PG&E settlement
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Established in 2021, 74 projects have been awarded grants as of June 2024, total of $11.4 million awarded. $1.5 million to distributed to new high priority vegetation management projects in 2025.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	CAO / Ag & Open Space engaged in process to determine the future of this grant program and wildfire resilience efforts.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SAO-4
Hazards Addressed	Wildfire, flood, drought, earthquake, public safety power shutoff, severe weather, soil hazards, sea level rise, dam failure, tsunami
Lead Agency	Ag + Open Space
Mitigation Action Description	Partner with County departments and other organizations to acquire countywide LiDAR and update land use/land cover, hydrology, topography, and vegetation structure (including fuel load) datasets
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Lidar acquisition complete: Partnered with the North Coast Resource Partnership and other entities to procure a $3.5 million grant from the United States Geological Survey for the acquisition of a lidar point cloud and digital elevation model for Sonoma County and other northern California counties. The lidar data were collected in Fall 2022 and released for agency use in Spring 2024; public release is pending. Updated datasets in progress: Established contract to develop an updated fine-scale vegetation map for Sonoma County. Expected completion in March 2026. Pursuing funding for an updated hydrography layer in partnership with Sonoma Water, Permit Sonoma, and the San Francisco Estuary Institute.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Additional funding needed to update the countywide fuel model and wildfire hazard index datasets. Future updates to reflect post-hazard conditions may be needed for affected areas.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SAO-5
Hazards Addressed	Wildfire, flood, drought, severe weather, soil hazards, sea level rise
Lead Agency	Ag + Open Space
Mitigation Action Description	Develop and implement a public outreach and education campaign about the role of land conservation and stewardship in mitigating flood, drought, and wildfire risks and impacts from climate change
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Land for campaign launched, see website page https://www.sonomaopenspace.org/land-for-climate-resilience/ in 2023, launched Resilient Forests & Watersheds workshop series to outreach to forest landowners, community organizations, resource managers about watershed protection, forest mgt, and fuels treatments. Using Rx fire, Rx grazing, shaded fuel breaks, and defensible space to improve wildfire resilience.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing need, additional campaigns to be developed to demonstrate benefit of land conservation and stewardship actions in mitigating listed hazards. Improving Resil. Forests & Watersheds website to serve as a holistic search tool for landowners.
If discontinue, explain why	Not Applicable
Project Number	SAO-6
Hazards Addressed	Wildfire, flood, drought
Lead Agency	Ag + Open Space
Mitigation Action Description	Map potential riparian (and shoreline) buffers of adequate width, length, hydrology, soils, and vegetation to provide effective fuel breaks, flood conveyance, and groundwater recharge.
Status	In progress
Narrative describing progress or obstacles that have prevented implementation	Continue to include riparian buffers in conservation easements based on unique property conditions and conservation values. Pursuing funding for an updated hydrography layer based on Fall 2022 lidar in partnership with Sonoma Water, Permit Sonoma, and the San Francisco Estuary Institute.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Additional funding needed to update data layers used for riparian mapping based on Fall 2022 lidar
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SAO-7
Hazards Addressed	Wildfire, flood, drought, earthquake, soil hazards, sea level rise, dam failure, tsunami
Lead Agency	Ag + Open Space
Mitigation Action Description	Identify priority areas and acquire conservation easements over multi-benefit natural and working lands in hazard-prone areas to ensure fewer people and structures are at risk and to allow first responders to stage suppression and response operations
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Mapped priority areas for protection of multi-benefit natural and working lands in high fire risk areas. Partnered with the Greenbelt Alliance to map property-specific conservation and land management strategies for wildfire risk reduction in the Sonoma Springs area. Mapped priority properties for conservation in flood-prone areas and conducted outreach to landowners. Completed 16 conservation easement acquisition projects, including 6 in high wildfire risk areas within the wildland urban interface, 3 with significant floodplain protections, and 3 community open space projects 56 conservation easement acquisition projects are in progress, including 29 community open space projects. Stewardship of acquired conservation easements over multi-benefit natural and working lands in hazard-prone areas in accordance with hazard mitigation goals
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing need
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SAO-8
Hazards Addressed	Wildfire, severe weather, soil hazards
Lead Agency	Ag + Open Space
Mitigation Action Description	Partner with public agencies, non-profit organizations, and private landowners to establish strategically placed fuel buffer zones between wildlands and at-risk communities
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Completed 6 conservation easement acquisition projects in high wildfire risk areas in the wildland urban interface. 10 projects with similar characteristics and conservation benefits are in progress. Partnering with CAL FIRE and others to establish a portion of a regional shaded fuel break at Ag + Open Space-owned Saddle Mountain Preserve – this fuel break is critical for protecting northeastern Santa Rosa from wildfires Implemented 95 miles of shaded fuel breaks and roadside treatments to improve evacuation and ingress routes for public and fire professionals. Collaborated with Res. Conservation Districts, CALFIRE, Permit Sonoma to design and ensure env. Compliance and fund fuels treatments.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing need. CALFIRE wildfire prevention grant to help install 13 mile shaded fuel break along Russian River. Measure H funding to be applied on project designed by partners in high risk areas.
If discontinue, explain why	Not Applicable
Project Number	SAO-9
Hazards Addressed	Wildfire, flood, drought, soil hazards, sea level rise, tsunami
Lead Agency	Ag + Open Space
Mitigation Action Description	Identify priority areas and acquire conservation easements over natural and working lands which provide drought, flood, and climate change resilience benefits, including lands with high recharge potential; wetlands, floodplains, and headwater streams; and coastal areas (including coastal wetlands)
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Completed 11 conservation easement acquisition projects that provide climate change resilience benefits, including 4 projects with significant floodplain protections, 3 with wetland protections, 6 in headwater areas, 5 with high groundwater recharge potential. 16 projects with similar characteristics and conservation benefits are in progress. Stewardship of acquired conservation easements over natural and working lands in accordance with hazard mitigation goals
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing need
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SAO-10
Hazards Addressed	Wildfire, flood, public safety power shutoff, severe weather, sea level rise
Lead Agency	Ag + Open Space
Mitigation Action Description	Partner with public agencies and non-profit organizations to expand, create, or connect new parks and open space preserves and trails and to implement open space projects in or near incorporated cities and other communities in Sonoma County, including acquisition projects and improvement projects (restoration, public access, agriculture, recreation development)
Status	Ongoing
Narrative describing progress or obstacles that have prevented implementation	Completed 3 urban open space projects as part of our Community Spaces Matching Grant Program, as well as 5 projects to create new parks and open space preserves and 3 projects to expand existing parks. 29 Community Spaces Matching Grant Program projects and 4 other projects to create new and expand existing parks and recreational opportunities are in progress. Stewardship of acquired conservation easements in or near incorporated cities and other communities in Sonoma County, in accordance with hazard mitigation goals
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing need
If discontinue, explain why	Not Applicable
Project Number	SAO-11
Hazards Addressed	Wildfire, severe weather, soil hazards
Lead Agency	Ag + Open Space
Mitigation Action Description	Conduct and encourage forest and grassland management activities, including ecologically appropriate thinning, prescribed burning, and livestock grazing, to improve forest health and resilience to wildfire, disease, and drought; to reduce wildfire hazards; enhance wildlife habitat; and increase carbon sequestration.
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Annual management of forest and grassland habitats at all Ag + Open Space-owned properties through thinning, prescribed burning, grazing, and mowing. Veg Mgt program has promoted Workforce Development and env compliance for wildfire resilience on private and public lands. Healthy forests can start with shaded fuel breaks followed by Rx burning under treated areas.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing land management needs on AOS-owned properties and AOS-held CE properties
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SAO-12
Hazards Addressed	Severe weather, soil hazards
Lead Agency	Ag + Open Space
Mitigation Action Description	Stabilize burned slopes and remove hazard trees to reduce risk of debris flows and other damage to structures, roads, and waterways following a fire
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Hazard trees removed, burned slopes stabilized at Saddle Mountain (property was affected by 2020 Glass Fire). Ongoing monitoring and maintenance.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Anticipate impacts to AOS-owned properties from future wildfires
If discontinue, explain why	Not Change
Project Number	SAO-13
Hazards Addressed	Wildfire, flood, severe weather, soil hazards
Lead Agency	Ag + Open Space
Mitigation Action Description	Monitor and assess vegetation response, carbon loss, erosion and sedimentation risks, stream channel response, and invasive/noxious species establishment on burned lands to prioritize and implement remedial efforts as needed to minimize hazards.
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ag + Open Space-owned properties and Ag + Open Space-held CE properties have been assessed through both field monitoring and remote monitoring via the use of post-fire aerial imagery in the years since impacts from fires in 2017, 2019, and 2020. When released, the updated fine-scale vegetation map and 2022 lidar will support additional remote monitoring and assessment of vegetation response, carbon loss, and other fire impacts.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Anticipate impacts of AOS-owned properties and AOS-held CE properties from future wildfires.
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SAO-14
Hazards Addressed	Wildfire, flood, drought
Lead Agency	Ag + Open Space
Mitigation Action Description	Partner with RCDs and other organizations on technical assistance and outreach efforts to landowners regarding best practices and mitigation measures for wildfire, flood, and drought hazards.
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Completed/Ongoing/In progress. Ag + Open Space contracted with Sonoma Resource Conservation District in 2019 to provide technical support to Sonoma County landowners affected by 2019 and 2020 wildfires. Ag + Open Space participates in the Sonoma County-led Watershed Task Force, and the Marin Resource Conservation District-led Ag Lands Emergency Response Team (ALERT), part of the Sonoma-Marin Ag and County Climate Coalition. Ag + Open Space continues to partner with Resource Conservation Districts and others on sharing best practices and mitigation measures for listed hazards. The County has an MOU with Gold Ridge and Sonoma RCD to promote the Resilient Forests & Watersheds workshop initiative. This contract started in June 2023 and will go through June 2026.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing need
If discontinue, explain why	Not Applicable
Project Number	SAO-15
Hazards Addressed	Flood, soil hazards
Lead Agency	Ag + Open Space
Mitigation Action Description	Partner with RCDs and other organizations to implement habitat restoration projects to reduce flood risk and/or risk of post-fire landslide or debris flows.
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ag + Open Space continues to partner with Resource Conservation Districts and others on prioritization of projects to reduce flood risk and/or risk of post-fire landslide or debris flows.
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing need anticipated
If discontinue, explain why	Not Applicable

Mitigation Actions	Status
Project Number	SAO-16
Hazards Addressed	Drought, severe weather, soil hazards
Lead Agency	Ag + Open Space
Mitigation Action Description	Partner with RCDs and other organizations to improve soil health, including organic matter content, aggregate stability, water holding capacity, and carbon sequestration
Status	In progress; Ongoing
Narrative describing progress or obstacles that have prevented implementation	Ag + Open Space continues to partner with Resource Conservation Districts and others on outreach and other actions to improve soil health. Ag + Open Space received a training grant from American Farmland Trust to support capacity building and participation in the Soil Health Stewards Program https://farmland.org/soil-health-stewards-program/
Include in the 2026 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing need anticipated
If discontinue, explain why	Not Applicable

22.10.2 Additional Mitigation Efforts

In addition to the mitigation actions listed as complete in Table 22-17, Ag + Open Space identified the following mitigation efforts completed since the last HMP:

- Completion of 16 conservation easement acquisition projects across 3,845 acres, including 6 in high wildfire risk areas within the wildland urban interface, 3 with significant floodplain protections, and 3 community open space projects. Projects seek to retire developmental rights in areas critical for risk reduction, habitat protection, agricultural productivity, and scenic values

Ag + Open Space did not receive any FEMA funds in the last 5 years; all progress on projects listed in the 2021 Hazard Mitigation Plan was completed through local sales tax revenue funding, other local funds, federal grants, and state grants.

Since the adoption of the County's first HMP, Ag + Open Space has made significant mitigation progress in the following areas:

- Progress on 56 additional conservation easement acquisition projects, including 29 community open space projects and 4 projects to create new or expand existing parks and recreational opportunities
- Incorporation of climate resilience and hazard mitigation-related criteria into the District's evaluation matrix for assessing potential conservation opportunities
- Partnering with CAL FIRE and others to establish a portion of a regional shaded fuel break at Ag + Open Space-owned Saddle Mountain Preserve – critical for protecting northeastern Santa Rosa from wildfires

22.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Ag + Open Space participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Ag + Open Space would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 22-18 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D).

Table 22-18. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	X	X	X	X	X	-	X	X	-	X
Drought	X	X	X	X	X	-	X	X	-	X
Earthquake	X	X	X	X	X	-	X	X	-	X
Extreme Cold	X	-	X	-	X	-	X	X	-	-
Extreme Heat	X	X	X	-	X	-	X	X	-	-
Extreme Wind	X	X	X	X	X	-	X	X	-	X
Flood	X	X	X	X	X	-	X	X	-	X
Landslide	X	X	X	X	X	-	X	X	-	X
Sea Level Rise	X	X	X	X	X	-	X	X	-	X
Tsunami	X	X	X	X	X	-	X	X	-	X
Wildfire	X	X	X	X	X	-	X	X	-	X

Note: Mitigation category codes as follows (see Appendix D): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 22-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 22-19. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Hazard Mitigation Plan Maintenance	Low	Medium	6	1-5 years	7.462	High
Vegetation Management Grant Program	Low	Medium	5	1-5 years	7.385	High
Riparian and Shoreline Buffers	Low	Low	6	1-5 years	6.462	Medium
Post-Fire Slope Stabilization	Medium	Medium	6	1-5 years	6.462	Medium
Post-Fire Landscape Monitoring	Medium	Medium	6	1-5 years	6.462	Medium
Habitat Restoration	Medium	Medium	6	1-5 years	6.462	Medium
Acquire Conservation Easements – Hazard-Prone	Medium	Medium	5	1-5 years	6.385	Medium
Acquire Conservation Easements – Climate	Medium	Medium	5	1-5 years	6.385	Medium
Parks and Open Space Connection	Medium	Medium	5	1-5 years	6.385	Medium
Forest and Grassland Management	Medium	Medium	5	1-5 years	6.385	Medium
Land Conservation and Climate Resilience Education	Medium	Medium	5	1-5 years	6.385	Medium
Soil Health Improvement	Medium	Medium	5	1-5 years	6.385	Medium
Technical Assistance and Outreach	Low	Low	5	1-5 years	6.385	Medium
Emergency Response and Recovery Coordination	Low	Low	4	1-5 years	6.308	Medium
Data Collection and Analysis	High	Medium	5	1-5 years	5.385	Medium
Fuel Buffer Zones	Medium	Medium	5	1-10 years	5.385	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-SAO-01. Emergency Response and Recovery Coordination

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Need for coordinated emergency response and recovery efforts.
Description of the Solution:	Participate in and support the County's COOP efforts, Watershed Task Force, and other emergency response/recovery efforts.
Estimated Cost:	Low
Potential Funding Sources:	Staff time, General Funds
Implementation Timeline:	1-5 years
Objectives Met:	2,5,6,11
Benefits:	Improved coordination and effectiveness of emergency response and recovery efforts.
Impact on Socially Vulnerable Populations:	Ensures vulnerable populations are considered in emergency planning.
Impact on Future Development:	Supports resilient development by ensuring continuity of operations.
Impact on Critical Facilities/Lifelines:	Enhances the protection and operational continuity of critical infrastructure by integrating land access, vegetation management, and watershed knowledge into emergency protocols.
Impact on Capabilities:	Strengthens emergency management capabilities.
Climate Change Considerations:	Addresses the increasing frequency and severity of climate-related disasters by ensuring emergency strategies are adaptive and landscape-informed.
Mitigation Category	Local Plans and Regulations
CRS Category	Emergency Services
Priority	Medium

Action 2026-SAO-02. Hazard Mitigation Plan Maintenance

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	County of Sonoma Emergency Management
Hazards of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Need for ongoing maintenance and updates to the hazard mitigation plan.
Description of the Solution:	Actively participate in the plan maintenance protocols outlined in Volume 1 of the HMP.
Estimated Cost:	Low
Potential Funding Sources:	Staff time, General Funds
Implementation Timeline:	1-5 years
Objectives Met:	1,2,4,8,9,12
Benefits:	Ensures the HMP remains current and effective.
Impact on Socially Vulnerable Populations:	Ensures that mitigation strategies continue to address the needs of at-risk populations
Impact on Future Development:	Guides resilient development by integrating updated risk data into land use planning and conservation priorities.
Impact on Critical Facilities/Lifelines:	Enhances protection of essential infrastructure by ensuring mitigation strategies are based on the latest hazard assessments.
Impact on Capabilities:	Strengthens mitigation capabilities.
Climate Change Considerations:	Ensures that the HMP evolves to address emerging climate risks, such as increased wildfire frequency, sea level rise, and extreme weather events.
Mitigation Category	Local Plans and Regulations
CRS Category	Public Information
Priority	High

Action 2026-SAO-03. Vegetation Management Grant Program

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	County of Sonoma, CAL FIRE, Local Fire Districts
Hazard(s) of Concern:	Extreme Heat, Extreme Wind, Landslide, Wildfire
Description of the Problem:	Sonoma County's landscapes are increasingly vulnerable to catastrophic wildfires, driven by prolonged drought, extreme heat, and wind events. Dense, unmanaged vegetation in wildland-urban interface areas and open spaces significantly elevates the risk of ignition and fire spread. Inadequate vegetation management not only threatens lives and property but also exacerbates secondary hazards such as landslides and erosion following fire events. There is an urgent need for coordinated, strategic vegetation management to reduce fuel loads and enhance landscape resilience.
Description of the Solution:	To address this critical need, the District will coordinate the distribution of vegetation management grant awards using PG&E settlement funds and funds procured from external funding sources. These funds will support targeted fuel reduction projects, defensible space creation, and ecological stewardship practices across high-risk areas. The program will prioritize projects that align with community wildfire protection plans, promote ecosystem health, and reduce risk to vulnerable populations and critical infrastructure.
Estimated Cost:	Low
Potential Funding Sources:	PG&E Settlement Funds, CAL FIRE, National Fish & Wildlife Foundation, USFS, California State Coastal Conservancy, PG&E Grant Program
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6,10,13
Benefits:	Improved wildfire resilience
Impact on Socially Vulnerable Populations:	Reduces risk in vulnerable communities
Impact on Future Development:	Supports safer development patterns by integrating vegetation management into land use planning and zoning decisions.
Impact on Critical Facilities/Lifelines:	Enhances protection through vegetation management
Impact on Capabilities:	Strengthens local capacity for wildfire mitigation through coordinated funding, project implementation, and community engagement.
Climate Change Considerations:	Directly addresses the increasing frequency and severity of wildfires driven by climate change, supporting long-term adaptation and resilience.
Mitigation Category	Natural Systems Protection
CRS Category	Preventative Measures
Priority	High

Action 2026-SAO-04. Data Collection and Analysis

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	Sonoma Water, Permit Sonoma, San Francisco Estuary Institute, California Department of Fish & Wildlife, California Native Plant Society
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	The ability to assess and mitigate natural hazards is constrained by outdated and incomplete datasets related to land use, hydrology, and vegetation. These data gaps hinder accurate risk modeling, emergency preparedness, and long-term resilience planning, especially in the face of intensifying climate impacts and increasing development pressures. Without high-resolution, current geospatial data, decision-makers lack the tools needed to protect communities, infrastructure, and ecosystems effectively.
Description of the Solution:	Partnered with the North Coast Resource Partnership and other entities to secure a $3.5 million grant from the U.S. Geological Survey for the acquisition of countywide LiDAR data, including a point cloud and digital elevation model, collected in Fall 2022 and released for agency use in Spring 2024. Public release is pending. In parallel, the District will initiate the development of an updated fine-scale vegetation map for Sonoma County, with completion expected by March 2026. Additionally, the District will pursue funding in collaboration with Sonoma Water, Permit Sonoma, and the San Francisco Estuary Institute to update the county's hydrography layer.
Estimated Cost:	High
Potential Funding Sources:	General Funds, Private Foundations, United States Geological Survey Grant Program(s), California State Coastal Conservancy Grants
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	1,4,8,9,12
Benefits:	Enhanced risk assessment and mitigation
Impact on Socially Vulnerable Populations:	Improves hazard planning for vulnerable groups
Impact on Future Development:	Supports informed, resilient development
Impact on Critical Facilities/Lifelines:	Enhances the ability to identify and protect critical infrastructure by improving terrain modeling, floodplain mapping, and vegetation risk assessments.
Impact on Capabilities:	Significantly strengthens technical capacity for hazard assessment, mitigation planning, and climate adaptation through modern geospatial tools.
Climate Change Considerations:	Supports advanced modeling of climate-related hazards such as sea level rise, wildfire spread, and extreme precipitation, enabling proactive adaptation strategies.
Mitigation Category	Structure and Infrastructure Project, Local Plans and Regulations
CRS Category	Preventative Measures
Priority	Medium

Action 2026-SAO-05. Land Conservation and Climate Resilience Education

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	-
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Need for public awareness of land conservation's role in hazard mitigation.
Description of the Solution:	Develop and expand public outreach and education campaigns that highlight the role of land conservation and stewardship in mitigating hazards such as wildfire, flood, and drought. Future campaigns will demonstrate the tangible benefits of these practices, while enhancements to the Resilient Forests & Watersheds website will transform it into a comprehensive, user-friendly resource hub for landowners seeking guidance on resilience strategies.
Estimated Cost:	Low
Potential Funding Sources:	General Funds
Implementation Timeline:	1-5 years
Objectives Met:	2,4,10,13
Benefits:	Improved community resilience
Impact on Socially Vulnerable Populations:	Socially vulnerable populations will learn how to prepare for and mitigate the various hazards that may impact them.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	Indirect protection through community action
Impact on Capabilities:	This action would build upon Ag + Open Space's existing public education and outreach program.
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate-related disaster events. This action will inform residents and business owners of how to reduce risk from hazards and how climate change may exacerbate those risks.
Mitigation Category	Education and Awareness Programs
CRS Category	Public Information
Priority	Medium

Action 2026-SAO-06. Riparian and Shoreline Buffers

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	Sonoma Water, Permit Sonoma, San Francisco Estuary Institute
Hazard(s) of Concern:	Drought, Flood, Wildfire
Description of the Problem:	Sonoma County faces increasing threats from climate-driven hazards such as prolonged droughts, intensified wildfires, and more frequent and severe flooding. Many riparian and shoreline areas lack adequate natural buffers, which are essential for mitigating these risks. The absence of effective vegetative buffers compromises water quality, reduces habitat connectivity, and increases vulnerability of both human and ecological communities to natural disasters.
Description of the Solution:	Continue to include riparian buffers in conservation easements based on unique property conditions and conservation values. Pursuing funding for an updated hydrography layer based on Fall 2022 lidar in partnership with Sonoma Water, Permit Sonoma, and the San Francisco Estuary Institute.
Estimated Cost:	Low
Potential Funding Sources:	Staff time, General Funds, CA Department of Conservation
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	4,6,7,9,10,13
Benefits:	Strengthens natural defenses against flooding and wildfire by restoring and preserving riparian ecosystems.
Impact on Socially Vulnerable Populations:	Reduces exposure to environmental hazards for underserved communities by enhancing natural buffers near residential areas, improving public safety and environmental equity.
Impact on Future Development:	Supports resilient land use planning
Impact on Critical Facilities/Lifelines:	Enhances natural protection for infrastructure such as roads, utilities, and emergency services by reducing erosion, flood risk, and fire spread near critical corridors.
Impact on Capabilities:	Strengthens local and regional mitigation planning through improved data, mapping, and conservation strategies, enabling more informed decision-making.
Climate Change Considerations:	Directly addresses the increasing frequency and severity of climate-related hazards by leveraging nature-based solutions that adapt over time and provide co-benefits for ecosystems and communities.
Mitigation Category	Natural Systems Protection
CRS Category	National Resource Protection, Preventative Measures
Priority	Medium

Action 2026-SAO-07. Acquire Conservation Easements – Hazard-Prone

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	Sonoma Land Trust, County of Sonoma, NGOs
Hazard(s) of Concern:	Dam Failure, Drought, Earthquake, Extreme Cold, Extreme Heat, Extreme Wind, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Need to protect multi-benefit natural and working lands in hazard-prone areas.
Description of the Solution:	Identify priority areas and acquire conservation easements over multi-benefit natural and working lands in hazard-prone areas to ensure fewer people and structures are at risk and to allow first responders to stage suppression and response operations. Mapped priority areas in high fire risk and flood-prone zones. Partnered with Greenbelt Alliance to develop property-specific strategies in Sonoma Springs. Completed 16 conservation easement acquisitions, including 6 in wildland-urban interface areas and 3 with floodplain protections. 56 projects are in progress.
Estimated Cost:	Medium
Potential Funding Sources:	General Funds, FEMA HMGP, PDM, FMA, USDA-NRCS, State Coastal Conservancy, CA Department of Conservation, CA Wildlife Conservation Board, Strategic Growth Council/ Sustainable Agricultural Lands Conservation, CAL FIRE, Private Foundations
Implementation Timeline:	1-5 years, ongoing
Objectives Met:	2,4,7,10,13
Benefits:	Reduces exposure of people and structures to hazards, enhances natural buffers, supports emergency response operations, and preserves ecosystem services.
Impact on Socially Vulnerable Populations:	Helps protect underserved communities by reducing hazard exposure and preserving open space near vulnerable populations.
Impact on Future Development:	Guides development away from high-risk areas and supports sustainable land use planning.
Impact on Critical Facilities/Lifelines:	Provides space for emergency operations and reduces hazard impacts near critical infrastructure.
Impact on Capabilities:	Enhances long-term land conservation and hazard mitigation capacity.
Climate Change Considerations:	Supports climate adaptation by preserving floodplains, recharge areas, and wildfire buffers.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Preventative Measures
Priority	Medium

Action 2026-SAO-08. Fuel Buffer Zones

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	County of Sonoma, NGOs, CALFIRE
Hazard(s) of Concern:	Extreme Heat, Extreme Wind, Landslide, Wildfire
Description of the Problem:	Communities located near wildland areas are increasingly vulnerable to wildfire due to dense vegetation, limited defensible space, and changing climate conditions. These conditions also exacerbate risks from extreme wind and heat, which can accelerate fire spread and complicate emergency response.
Description of the Solution:	Partner with public agencies, non-profit organizations, and private landowners to establish strategically placed fuel buffer zones between wildlands and at-risk communities
Estimated Cost:	Medium
Potential Funding Sources:	CALFIRE Wildfire Prevention Grant, Measure H funding
Implementation Timeline:	5 or more years
Objectives Met:	2,4,6,10,13
Benefits:	Reduces wildfire risk, improves evacuation and emergency access, enhances landscape resilience, and protects life and property.
Impact on Socially Vulnerable Populations:	Provides critical protection for communities with limited resources to implement their own defensible space measures.
Impact on Future Development:	Guides development away from high-risk areas and ensures new development incorporates defensible space.
Impact on Critical Facilities/Lifelines:	Enhances protection of evacuation routes, utilities, and emergency service access points.
Impact on Capabilities:	Strengthens interagency coordination and fuels management capacity.
Climate Change Considerations:	Addresses increased wildfire frequency and intensity due to hotter, drier conditions and more extreme weather events.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Preventative Measures
Priority	Medium

Action 2026-SAO-09. Acquire Conservation Easements – Climate

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	Sonoma Land Trust, County of Sonoma, Sonoma Water, CA Department of Fish & Wildlife, California State Coastal Conservancy
Hazard(s) of Concern:	Drought, Flood, Landslide, Sea Level Rise, Tsunami, Wildfire
Description of the Problem:	Many natural and working lands that provide critical ecosystem services—such as groundwater recharge, flood mitigation, and coastal protection—are at risk of development or degradation, reducing the region's resilience to climate-related hazards.
Description of the Solution:	Identify priority areas and acquire conservation easements over natural and working lands which provide drought, flood, and climate change resilience benefits, including lands with high recharge potential; wetlands, floodplains, and headwater streams; and coastal areas (including coastal wetlands).
Estimated Cost:	Medium
Potential Funding Sources:	General Funds, FEMA HMGP, PDM, USDA-NRCS, State Coastal Conservancy, CA Department of Conservation, CA Wildlife Conservation Board, Strategic Growth Council/ Sustainable Agricultural Lands Conservation, Private Foundations
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	2,4,7,10,13
Benefits:	Enhances regional climate resilience, protects water resources, reduces flood and wildfire risks, and preserves biodiversity and ecosystem services.
Impact on Socially Vulnerable Populations:	Helps protect communities most at risk from climate-related hazards by preserving natural buffers and reducing exposure.
Impact on Future Development:	Guides development away from high-risk areas and supports sustainable land use planning.
Impact on Critical Facilities/Lifelines:	Provides natural protection for infrastructure and emergency access routes.
Impact on Capabilities:	Strengthens long-term land conservation and hazard mitigation capacity.
Climate Change Considerations:	Directly supports climate adaptation by preserving and enhancing natural systems that buffer against extreme weather, sea level rise, and drought.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Preventative Measures
Priority	Medium

Action 2026-SAO-10. Parks and Open Space Connection

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	Incorporated cities, County of Sonoma, NGOs, California State Parks, California State Coastal Conservancy
Hazard(s) of Concern:	Extreme Cold, Extreme Heat, Extreme Wind, Flood, Sea Level Rise, Wildfire
Description of the Problem:	Many communities, especially those in urban and underserved areas, lack access to nearby parks and open spaces that can provide refuge during extreme weather events, reduce urban heat, and serve as natural buffers against flooding and wildfire.
Description of the Solution:	Partner with public agencies and non-profit organizations to expand, create, or connect new parks and open space preserves and trails and to implement open space projects in or near incorporated cities and other communities in Sonoma County, including acquisition projects and improvement projects (restoration, public access, agriculture, recreation development)
Estimated Cost:	Medium
Potential Funding Sources:	General Funds, State Coastal Conservancy, CA Department of Conservation, CA Wildlife Conservation Board, USDA, One Bay Area Grant Program, Private Foundations
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6,10,13
Benefits:	Enhances community resilience, provides cooling and refuge during extreme heat, improves public health and recreation, and supports ecological restoration.
Impact on Socially Vulnerable Populations:	Increases equitable access to green space and reduces exposure to climate-related hazards in underserved communities.
Impact on Future Development:	Encourages sustainable development patterns and buffers development from hazard-prone areas.
Impact on Critical Facilities/Lifelines:	Provides natural protection and emergency gathering spaces near critical infrastructure.
Impact on Capabilities:	Strengthens community-based resilience and land management capacity.
Climate Change Considerations:	Supports adaptation to extreme heat, flooding, and sea level rise through nature-based solutions.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Preventative Measures
Priority	Medium

Action 2026-SAO-11. Forest and Grassland Management

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	County of Sonoma, RCDs, CALFIRE, California Conservation Corps, NGOs
Hazard(s) of Concern:	Drought, Extreme Heat, Landslide, Wildfire
Description of the Problem:	Forests and grasslands across Sonoma County face increasing threats from wildfire, drought, and extreme heat, which compromise ecological health, carbon storage, and public safety. Without active management, these landscapes become more vulnerable to severe fire behavior and habitat degradation.
Description of the Solution:	Continue to implement and support forest and grassland management activities on Ag + Open Space-owned properties and conservation easement lands, including ecologically appropriate thinning, prescribed burning, and livestock grazing. These ongoing land stewardship efforts aim to improve forest health, enhance resilience to wildfire, drought, and disease, reduce wildfire hazards, support wildlife habitat, and increase carbon sequestration.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMGP, PDM, General Funds, CALFIRE, California State Coastal Conservancy, California Natural Resources Agency
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	2,4,6,10,13
Benefits:	Reduces wildfire risk, improves ecosystem health, enhances biodiversity, and supports climate mitigation through carbon storage.
Impact on Socially Vulnerable Populations:	Reduces hazard exposure for nearby vulnerable communities and supports workforce development through stewardship programs.
Impact on Future Development:	Helps maintain defensible space and reduces risk in the wildland-urban interface.
Impact on Critical Facilities/Lifelines:	Enhances protection of evacuation routes and utility corridors through fuel reduction.
Impact on Capabilities:	Builds long-term capacity for land stewardship and wildfire resilience.
Climate Change Considerations:	Supports adaptation to increased wildfire frequency and severity, prolonged drought, and ecosystem stress
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Preventative Measures
Priority	Medium

Action 2026-SAO-12. Post-Fire Slope Stabilization

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	County of Sonoma, Sonoma Water, CALFIRE, NGOs
Hazard(s) of Concern:	Extreme Heat, Extreme Wind, Landslide
Description of the Problem:	Wildfires can destabilize slopes and leave behind hazard trees, increasing the risk of landslides, debris flows, and damage to infrastructure, especially during subsequent storms or high wind events.
Description of the Solution:	Stabilize burned slopes and remove hazard trees to reduce risk of debris flows and other damage to structures, roads, and waterways following a fire. Anticipate impacts to AOS-owned properties from future wildfires.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA HMGP, PDM, FMA, CAL FIRE, General Funds
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	2,4,6,8,11,13
Benefits:	Reduces post-fire hazards, protects infrastructure and natural resources, and improves public safety.
Impact on Socially Vulnerable Populations:	Helps protect communities that may have limited capacity to recover from post-fire hazards.
Impact on Future Development:	Reduces risk in areas adjacent to burn scars and informs future land use planning.
Impact on Critical Facilities/Lifelines:	Protects roads, water systems, and emergency access routes from post-fire damage.
Impact on Capabilities:	Enhances post-disaster recovery and land management capacity.
Climate Change Considerations:	Addresses increased wildfire frequency and severity, and the compounding effects of extreme weather on burned landscapes.
Mitigation Category	Structure and Infrastructure Project, Natural Systems Protection
CRS Category	Preventative Measures, Natural Resource Protection
Priority	Medium

Action 2026-SAO-13. Post-Fire Landscape Monitoring

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	County of Sonoma, Sonoma Water, CA State Parks, Regional Water Board, USGS, USFS, NGOs
Hazard(s) of Concern:	Extreme Heat, Extreme Wind, Flood, Landslide, Wildfire
Description of the Problem:	Wildfires can significantly alter ecosystems, increasing erosion, sedimentation, invasive species spread, and carbon loss. Without post-fire monitoring, these impacts may go unaddressed, leading to long-term environmental degradation and increased hazard exposure.
Description of the Solution:	Monitor and assess vegetation response, carbon loss, erosion and sedimentation risks, stream channel response, and invasive/noxious species establishment on burned lands to prioritize and implement remedial efforts as needed to minimize hazards. Anticipate impacts of AOS-owned properties and AOS-held CE properties from future wildfires.
Estimated Cost:	Medium
Potential Funding Sources:	Staff Time, General Funds, Private Foundations, California Natural Resources Agency, CAL FIRE
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	2,4,6,8,10,13
Benefits:	Supports ecosystem recovery, reduces post-fire hazards, informs future land management, and enhances climate resilience.
Impact on Socially Vulnerable Populations:	Helps protect downstream and adjacent communities from post-fire flooding, erosion, and degraded water quality.
Impact on Future Development:	Provides data to guide land use planning and reduce risk in fire-affected areas.
Impact on Critical Facilities/Lifelines:	Protects water quality and infrastructure from sedimentation and slope instability.
Impact on Capabilities:	Enhances monitoring, adaptive management, and post-disaster recovery capacity.
Climate Change Considerations:	Addresses increased wildfire frequency and severity and supports carbon sequestration and ecosystem resilience.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Preventative Measures
Priority	Medium

Action 2026-SAO-14. Technical Assistance and Outreach

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	RCD's, Sonoma Water, UC Cooperative Extension, County of Sonoma, NGOs, Fire Safe Sonoma, local fire districts
Hazard(s) of Concern:	Drought, Flood, Wildfire
Description of the Problem:	Landowners in Sonoma County face increasing risks from wildfire, flood, and drought, yet many lack the technical guidance and resources needed to implement effective mitigation strategies. While Ag + Open Space has made progress through partnerships—such as the 2019 contract with Sonoma Resource Conservation District (RCD) to support wildfire-affected landowners and participation in the Watershed Task Force and ALERT initiative—there remains a continued need for coordinated outreach and education. Many landowners are still unaware of or unable to access best practices that could reduce their vulnerability to climate-related hazards.
Description of the Solution:	Expand and strengthen partnerships with Resource Conservation Districts and other organizations to deliver technical assistance and outreach to landowners on wildfire, flood, and drought mitigation. This includes continued participation in the Sonoma County Watershed Task Force and the ALERT initiative, as well as support for the Resilient Forests & Watersheds workshop series (2023–2026) through the County's MOU with Gold Ridge and Sonoma RCDs. These efforts aim to equip landowners with practical tools and knowledge to implement climate-resilient land management practices and reduce hazard exposure across the region.
Estimated Cost:	Medium
Potential Funding Sources:	HMGP, PDM, FMA, BRIC, USDANRCS, California State Coastal Conservancy, CA Department of Food & Agriculture, CA Wildlife Conservation Board, CAL FIRE
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	2,4,10,12,13
Benefits:	Increases landowner capacity to implement hazard mitigation practices, improves landscape resilience, and strengthens community partnerships.
Impact on Socially Vulnerable Populations:	Provides equitable access to technical support and resources for landowners in underserved or high-risk areas.
Impact on Future Development:	Encourages sustainable land management and reduces risk in developing areas.
Impact on Critical Facilities/Lifelines:	Supports protection of water resources, access routes, and utility corridors through improved land stewardship.
Impact on Capabilities:	Enhances local capacity for hazard mitigation through education, collaboration, and technical assistance.
Climate Change Considerations:	Supports adaptation to increasing frequency and severity of climate-related hazards through proactive land management.
Mitigation Category	Education and Awareness Programs, Natural Systems Protection
CRS Category	Preventative Measures, Natural Resource Protection, Public Information
Priority	Medium

Action 2026-SAO-15. Habitat Restoration

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	RCD's, Sonoma Water, UC Cooperative Extension, NGOs
Hazard(s) of Concern:	Flood, Landslide
Description of the Problem:	Many areas in Sonoma County are vulnerable to flooding and post-fire landslides or debris flows, especially where natural vegetation has been degraded or removed. These hazards threaten public safety, infrastructure, and water quality, and are expected to worsen with climate change. There is a need for proactive, nature-based solutions to stabilize landscapes and reduce hazard exposure.
Description of the Solution:	Partner with RCDs and other organizations to implement habitat restoration projects to reduce flood risk and/or risk of post-fire landslide or debris flows.
Estimated Cost:	Medium
Potential Funding Sources:	HMGP, PDM, FMA, BRIC, USDANRCS, State Coastal Conservancy, State Water Resources Control Board
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	2,4,6,8,10,13
Benefits:	Reduces flood and landslide risk, improves water quality, restores habitat, and enhances ecosystem services.
Impact on Socially Vulnerable Populations:	Helps protect communities that are more likely to be located in hazard-prone areas and have fewer resources for recovery.
Impact on Future Development:	Supports sustainable land use and reduces risk in areas targeted for future development.
Impact on Critical Facilities/Lifelines:	Protects roads, water infrastructure, and emergency access routes from erosion and debris flows.
Impact on Capabilities:	Builds local capacity for nature-based hazard mitigation and land stewardship.
Climate Change Considerations:	Enhances landscape resilience to more intense storms, flooding, and wildfire impacts expected under climate change.
Mitigation Category	Natural Systems Protection
CRS Category	Preventative Measures, Natural Resource Protection
Priority	Medium

Action 2026-SAO-16. Soil Health Improvement

Lead Agency:	Ag + Open Space Board of Directors
Supporting Agencies:	RCD's, Regional Climate Protection Authority, Zero Waste Sonoma, Carbon Cycle Institute, North Coast Soil Heath Hub, NGOs
Hazard(s) of Concern:	Drought, Extreme Heat, Extreme Wind, Landslide
Description of the Problem:	Degraded soils across Sonoma County reduce the landscape's ability to retain water, resist erosion, and sequester carbon—exacerbating the impacts of drought, extreme heat, wind erosion, and landslides. Many landowners lack the resources or knowledge to implement soil health practices that could improve resilience to these hazards.
Description of the Solution:	Partner with RCDs and other organizations to improve soil health, including organic matter content, aggregate stability, water holding capacity, and carbon sequestration
Estimated Cost:	Medium
Potential Funding Sources:	CA Department of Food & Agriculture, USDA-NRCS, Restore CA, CA Wildlife Conservation Board
Implementation Timeline:	1-5 years, Ongoing
Objectives Met:	2,4,6,10,13
Benefits:	Improves drought and erosion resilience, enhances soil fertility and productivity, increases carbon storage, and supports regenerative land management.
Impact on Socially Vulnerable Populations:	Supports equitable access to soil health resources for small-scale and underserved landowners.
Impact on Future Development:	Promotes sustainable land use and reduces erosion and runoff risks in developing areas.
Impact on Critical Facilities/Lifelines:	Reduces sedimentation and erosion risks near infrastructure and water systems.
Impact on Capabilities:	Builds local capacity for climate-smart land management and hazard mitigation.
Climate Change Considerations:	Enhances resilience to climate extremes and contributes to carbon sequestration and climate mitigation goals.
Mitigation Category	Natural Systems Protection
CRS Category	Natural Resource Protection, Preventative Measures
Priority	Medium

23. SANTA ROSA JUNIOR COLLEGE

This jurisdictional annex to the Sonoma County Hazard Mitigation Plan (HMP) provides information to assist the Santa Rosa Junior College (SRJC) with reducing losses from future hazard events. This annex is not guidance for what to do when a disaster occurs; the focus is actions that can be implemented prior to a disaster to reduce or eliminate damage to the people, property, environment, or economy of SRJC. The annex presents a general overview of the Santa Rosa Junior College, describes who participated in the planning process, assesses local risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

23.1 HAZARD MITIGATION PLANNING TEAM

The Santa Rosa Junior College identified primary and alternate HMP points of contact and developed this plan over the course of several months. SRJC participated in the Sonoma County HMP Planning Partnership and Hazard Mitigation Working Group, and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

The College officials who participated in the development of the annex are listed below and shown in Table 23-1. Additional documentation of the College's planning activities through Planning Partnership meetings is included in Volume 1.

Primary Point of Contact: Dawn Carter, Emergency Manager

Address: 1501 Mendocino Ave, Santa Rosa, CA 95401

Phone Number: 707-524-1621

Email: dcarter@santarosa.edu

Alternate Point of Contact: Robert Brownlee, Chief

Address: 1501 Mendocino Ave, Santa Rosa, CA 95401

Phone Number: 707-527-4329

Email: rbrownlee@santarosa.edu

Table 23-1. Additional Contributors

Name	Department	Position	HMP Contribution
Robert Brownlee	SRJC Police Dept	Chief of Police	Input, review & approval of plan
Dawn Carter	SRJC Police Dept	Emergency Mgmt. Specialist	Emergency Mgmt. information
Whitney Schultz	Accounting Dept	Director of Accounting	Funding information
Hank Lankford	Facility Operations	Manager, Facility Operations	Current mitigation efforts

23.2 COMMUNITY PROFILE

SRJC, founded in 1918, is one of California's oldest publicly funded two-year colleges. It has grown from a small program of 19 students to serving tens of thousands across multiple campuses in Sonoma County, including Santa Rosa, Petaluma, and Shone Farm. The college is known for its strong academic programs, community partnerships, and commitment to student success. Over the years, SRJC has expanded its facilities, launched innovative programs, and secured major funding through local bond measures to support education, technology, and sustainability. Today, SRJC remains a vital educational and economic anchor in the region.

SRJC is a leading community college committed to student success, equity, and opportunity. Each year, about 1,400 students transfer to four-year universities, over 800 to California State University campuses, and nearly 80 percent of University of California applicants are accepted. Top destinations include Sonoma State, UC Davis, and UC Berkeley, with students also transferring to elite institutions like Stanford and UCLA.

SRJC offers over 1,700 courses each semester across 110+ majors and 180 certificates. Career Education students see a 40 percent earnings boost after completing their programs. The college awards around 2,200 associate degrees and 3,900 certificates annually.

Student life is vibrant, with more than 60 clubs and leadership opportunities through the Student Government Assembly. Financial aid exceeds $30 million annually, and over $6 million in scholarships are awarded, including $4 million from the prestigious Doyle Scholarship. The SRJC Foundation supports students with an endowment of over $70 million.

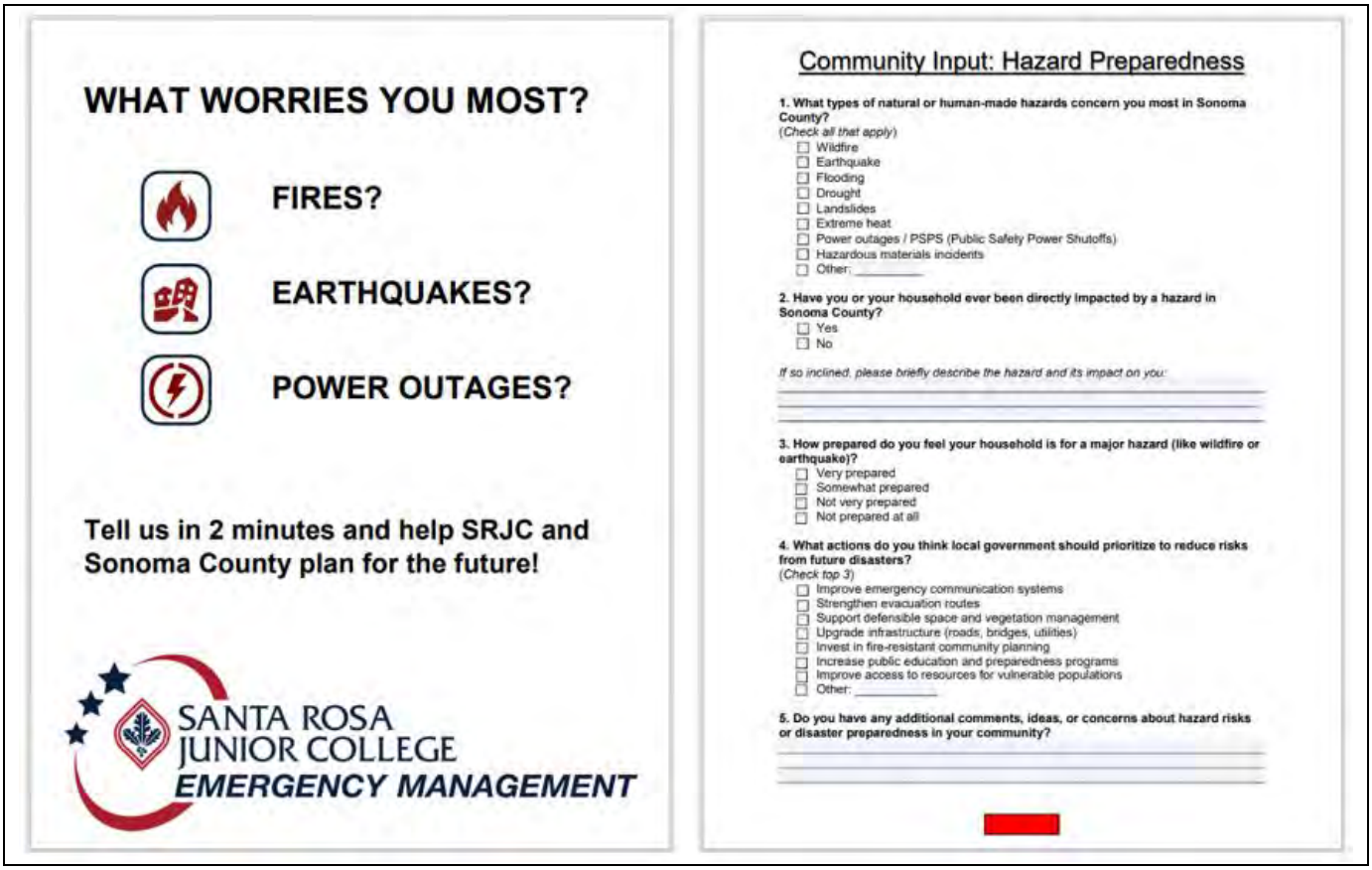
With five locations across Sonoma County, SRJC serves as a vital educational hub welcoming nearly 40 percent of local high school graduates who pursue college. SRJC offers classes in Santa Rosa, Roseland, and Windsor. The college is guided by a mission to foster inclusive, holistic learning and remains fully accredited by the Western Association of Schools and Colleges.

23.3 PUBLIC ENGAGEMENT

Volume I of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, SRJC completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Hazard Mitigation Working Group meeting, attending an in-person meeting, and reviewing the draft plan.

As part of ongoing outreach efforts, a consistent questionnaire has been used across all engagement activities to gather input and raise awareness. During tabling events, a printed table sign is displayed alongside the questionnaires to provide context and encourage participation. See Figure 23-1 for these efforts.

Figure 23-1. Table Sign and Questionnaire



Outreach began in December 2024 with targeted emails sent to Building & Area Safety Coordinators across all five campuses, as well as to Incident Command Post personnel at satellite locations in Petaluma, Roseland, Windsor, and Forestville. These initial communications helped establish awareness and engagement among key safety personnel.

In-person outreach continued through tabling at several major campus events, including Professional Development Day in February 2025, Career Education Day in May 2025, and Welcome Day events held in both Santa Rosa and Petaluma in August 2025. These events provided valuable opportunities to connect directly with students, staff, and faculty, and to promote participation in hazard mitigation planning.

The following targeted outreach was made to underserved communities and vulnerable populations:

- EOPS Dept. persons (includes persons disadvantaged by social, economic, educational or linguistic barriers). We will ask EOPS to reach out and gather information from their underserved populations or use the information they've already gathered to understand and integrate the needs of these populations.
- Disability Resources Dept. persons (accommodations and services for disabled/differently abled students) We will ask DRD to contribute feedback on our mitigation plans in order to ensure we are taking our disabled population into consideration.

During the update of the HMP, opportunities were provided for public input; however, no feedback was received. As a result, no additional information regarding specific hazards or vulnerabilities to SRJC was contributed through community engagement activities.

23.4 STAKEHOLDER ENGAGEMENT

Volume I of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Santa Rosa Junior College invited stakeholders relevant to its planning process to participate by attending a Hazard Mitigation Working Group meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan. The following sections outline the organizations invited by the District to participate in the 2026 HMP update.

23.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

Local and regional agencies helped with the planning process by sharing information about infrastructure, emergency response, and wildfire risks.

- SRJC Police Dept.
- SRJC Facility Operations
- County of Sonoma
- Santa Rosa
- Petaluma
- Windsor
- Forestville
- Napa County
- Mendocino County
- Marin County

23.4.2 Agencies that Have the Authority to Regulate Development

Agencies who make decisions about land use and development were involved to make sure the plan could be used in future projects. SRJC's Finance Department and Board of Trustees helped ensure that planning efforts could be supported and followed through.

23.4.3 Neighboring Communities

Nearby cities and counties were invited to take part in the planning process to help coordinate efforts across the region. Their involvement helped address shared risks and improve regional cooperation.

- County of Sonoma
- Santa Rosa
- Petaluma
- Windsor
- Forestville
- Napa County
- Mendocino County
- Marin County

23.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team worked with private organizations to understand how hazards could affect businesses and services. PG&E provided input on how to keep utilities running and protect infrastructure during emergencies.

23.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan’s focus on inclusive and accessible mitigation strategies.

- Bear Cub Scholars
- SRJC Foundation

23.5 CHANGES IN COMMUNITY PRIORITIES

SRJC did not participate in the 2021 HMP update; therefore, the community's identified priorities remain unchanged.

23.6 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Santa Rosa Junior College performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume I describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities

- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of its progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Santa Rosa Junior College to identify opportunities for integrating mitigation concepts into ongoing College procedures.

23.6.1 Planning and Regulatory Capability and Integration

Planning and regulatory capabilities encompass the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards. As a special district, Santa Rosa Junior College possesses capabilities that are different from those of local municipal governments. Construction and development within the SRJC are subject to the building codes, planning and land use regulations, and development standards of the County or municipality where they occur. For a comprehensive list of state codes relevant to hazard mitigation in California, please refer to the capability assessment in Volume I.

Codes, Ordinances, and Regulations

Table 23-2 summarizes the codes, ordinances, and regulations available to SRJC.

Table 23-2. SRJC Codes, Ordinances, Regulations

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Building Codes	Building codes are integrated into the HMP as a foundational tool for reducing risk by ensuring that structures are designed and constructed to withstand local hazard conditions. These codes help minimize damage from natural hazards, thereby enhancing community resilience and protecting life and property.	State 2022, amended State code	County of Sonoma
Other	Santa Rosa Junior College is governed by the Sonoma County Junior College District Board of Trustees, a seven-member elected body representing local districts. Operating under California Education Code § 70902, the Board is responsible for setting college policies, overseeing academics and student services, managing finances and facilities, hiring personnel, and ensuring legal compliance.	State California Code, Education Code - EDC § 70902	County of Sonoma

Planning Documents

Table 23-3 summarizes the planning documents available to SRJC.

Table 23-3. SRJC Plans

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Disaster Debris Management Plan	The Debris Management Plan aligns with the HMP by reducing post-disaster hazards and improving response efficiency. It supports mitigation by minimizing secondary risks (e.g., fire, flooding, delayed access) and speeding up recovery.	Local Code 6.8.1 Hazmat Planning June 12, 2012	SRJC Facility Operations
Stormwater Management Plan	The Stormwater Management Plan supports the HMP by addressing flood-related hazards through improved drainage, runoff control, and green infrastructure. It reduces risk by minimizing flood impacts on people, property, and infrastructure, and by helping manage storm events more effectively.	Local Code 6.8 Facilities Planning June 12, 2012	SRJC Facility Operations
Transportation Plan	The Transportation Plan aligns with the HMP by reducing risk to critical infrastructure and ensuring access and evacuation routes remain operational during disasters.	Local Code 6.8.7 District Energy Guidelines Nov 12, 2003	SRJC Facility Operations/SRJC Police Department

Response and Recovery Planning Documents

Table 23-4 summarizes the response and recovery planning documents available to SRJC.

Table 23-4. SRJC Response/Recovery Planning Documents

Capability Type	HMP Integration and Risk Reduction	Authority	Responsible Department or Agency
Emergency Operations Plan (EOP)	The EOP aligns with the HMP by providing the operational structure to respond to the hazards identified in the HMP. It reduces risk by ensuring a coordinated and effective response, limiting the impacts of disasters.	Local 6.12 P enacting the needs for an EOP was signed Mar 10, 2015. The EOP itself was signed Oct 16, 2017	Emergency Management
Continuity of Operations Plan	The EOP aligns with the HMP by providing the operational structure to respond to the hazards identified in the HMP. It reduces risk by ensuring a coordinated and effective response, limiting the impacts of disasters.	Local EOP signed Oct 16, 2017	Emergency Operations Personnel
Threat & Hazard Identification & Risk Assessment (THIRA)	This team supports the HMP by identifying and assessing specific threats and hazards—including those related to behavioral and mental health—affecting the junior college population. Focus is on intervention and response planning. It reduces risk by increasing awareness, preparedness, and protective measures against psychological and behavioral incidents that could escalate into broader emergencies.	Local 8.4P Student Health Services April 9, 2013	BCARE Team

23.6.2 Integration

This is the first HMP that SRJC has participated in. Table 23-2 through Table 23-4 list local planning mechanisms that present an opportunity for plan integration over the next five years. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings include the following:

- Applying hazard assessment data and mitigation actions to future emergency plans or annex updates
- Using hazard-specific information, such as drought data, to inform updates to policies and operational practices
- Incorporating hazard analyses into the development of new plans or district annexation efforts

23.6.3 Development and Permitting Capability

SRJC is a special district located in unincorporated Sonoma County. SRJC is subject to the Sonoma County and State of California building codes and land use regulations. SRJC does not permit or regulate development. Development permits within the planning area are issued through Sonoma County. Therefore, building code, land use, and development capabilities are not applicable to SRJC.

23.6.4 Administrative and Technical Capability

Table 23-5 summarizes the administrative bodies and programs available to support mitigation initiatives at SRJC.

Table 23-5. Administrative Capabilities

Resources	Available?	Comment
Emergency Management/ Public Safety Department	Yes	SRJC Police, Cabinet & Board of Trustees (as needed), Building and Area Safety Coordinators, Emergency Operations Center and Incident Command Post trained personnel. **Responsibilities**: Oversee campus-wide safety, security, and preparedness; Coordinate and manage emergency response and recovery operations; Activate and staff the Emergency Operations Center (EOC) and Incident Command Post (ICP); Conduct training, drills, and hazard-specific planning with stakeholders. **Supports HMP:** Participate in hazard identification and risk assessments (e.g., THIRA, HMP updates); Implement and promote mitigation measures to protect life and property; Integrate mitigation goals into emergency planning and recovery strategies; Provide leadership in post-incident improvement planning and mitigation grant initiatives.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Facilities and custodial staff support the HMP through building maintenance, hazard prevention, and post-disaster cleanup. They reduce risk by helping maintain safe, functional facilities and assisting in mitigation projects.
Mutual aid agreements	Yes	We have agreements with the county.

Table 23-6 summarizes technical staff and personnel resources available to Santa Rosa Junior College and their current responsibilities that contribute to hazard mitigation.

Table 23-6. Technical/Staffing Capabilities

Resources	Available?	Comment
Planners or engineers with knowledge of land development and land management practices	Yes	Manager of Sustainability and Energy Programs; develops and implements energy efficiency projects supports green infrastructure projects that mitigate climate-related hazards like extreme heat and flooding, and collaborates on sustainability planning; aligns long-term environmental goals with hazard mitigation priorities identified in the HMP.
Engineers or professionals trained in building or infrastructure construction practices	Yes	The Facilities Manager and staff; oversee infrastructure maintenance and upgrades that address hazard vulnerabilities, manage building systems to ensure functionality during emergencies, and coordinate mitigation-related capital improvement projects to reduce long-term risk to campus facilities.
Planners or engineers with an understanding of natural hazards	Yes	Manager of Sustainability and Energy Programs; develops and implements energy efficiency projects. supports green infrastructure projects that mitigate climate-related hazards like extreme heat and flooding, collaborates on sustainability planning, aligns long-term environmental goals with hazard mitigation priorities identified in the HMP.
Staff with expertise or training in benefit/cost analysis	Yes	Manager of Accounting and staff; oversee budgeting for hazard mitigation initiatives and resilience improvements, ensure financial planning accounts for disaster response and recovery costs, and support grant management and tracking for mitigation funding aligned with the HMP.
Professionals trained in conducting damage assessments	Yes	Facilities Manager & staff and Manager of Sustainability and Energy Programs; develop and implement energy efficiency projects, support green infrastructure projects that mitigate climate-related hazards like extreme heat and flooding, collaborate on sustainability planning, and align long-term environmental goals with hazard mitigation priorities identified in the HMP.
Personnel skilled or trained in GIS and/or Hazus applications	No	Manager of Sustainability and Energy Programs; develops and implements energy efficiency projects, supports green infrastructure projects that mitigate climate-related hazards like extreme heat and flooding, collaborates on sustainability planning, and aligns long-term environmental goals with hazard mitigation priorities identified in the HMP.
Staff that work with socially vulnerable populations or underserved communities	Yes	Dean, Disabled Students and Programs and staff; support the integration of inclusive planning practices into emergency preparedness and hazard mitigation initiatives, help prioritize the needs of at-risk groups in resilience strategies, and advocate for programs that reduce disproportionate impacts from disasters, in alignment with the HMP's commitment to equitable risk reduction.
Environmental scientists familiar with natural hazards	No	-
Surveyors	No	-
Emergency manager	Yes	The Emergency Management Specialist; leads preparedness and response planning for hazards identified in the HMP, coordinates training and exercises to build staff readiness, and activates and manages the Emergency Operations Center during incidents to limit the impact of disasters.

Resources	Available?	Comment
Grant writers	Yes	Emergency Manager; researches, applies for, and manages hazard mitigation and emergency management grants, helping secure funding for projects that align with the HMP and reduce risk to life, property, and operations.
Resilience Officer	No	-

23.6.5 Fiscal Capability

Table 23-7 summarizes financial resources available to Santa Rosa Junior College.

Table 23-7. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	No
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	-

23.6.6 Education and Outreach Capability

Table 23-8 summarizes the education and outreach resources available to Santa Rosa Junior College. One opportunity to expand or improve SJRC's capabilities is to include hazard mitigation information on its website and to disseminate information on mitigation through social media.

Table 23-8. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Senior Director Marketing & Communications
Personnel skilled or trained in website development	Yes	Web Developer Director
Hazard mitigation information available on your website	No	-
Social media for hazard mitigation education and outreach	No	-

Outreach Resources	Available?	Comment
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	SRJC Police Dept.
Natural disaster/safety programs in place for schools	Yes	Emergency Mgmt. Specialist
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	-
Public outreach mechanisms / programs to inform the public on natural hazards, risk, and ways to protect themselves during such events	Yes	Newsletters

23.6.7 Community Classifications

Table 23-9 summarizes classifications for community programs available to Santa Rosa Junior College.

Table 23-9. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	N/A	-	-
Building Code Effectiveness Grading Schedule	N/A	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	N/A	-	-
National Weather Service StormReady Certification	N/A	-	-
Firewise Communities Classification	N/A	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

N/A = Not applicable; — = Unavailable

23.6.8 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 23-10 summarizes the adaptive capacity for each identified hazard of concern and the College’s capability to address related actions using the following classifications:

- Strong adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- Moderate adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.

- Weak adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak, outdated, or inconsistent plans, policies, codes, or ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 23-10. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Flooding	Moderate
Landslide	Moderate
Sea Level Rise	Moderate
Tsunami	Moderate
Wildfire	Moderate

23.7 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

SRJC is a special district covering both incorporated and unincorporated areas of Sonoma County. SRJC does not participate in the National Flood Insurance Program directly. Therefore, all structures located within SRJC's jurisdiction were included in the Sonoma County or relevant city assessment of NFIP-insured structures with repetitive loss. This information can be found in the annexes for Sonoma County, the City of Santa Rosa, the City of Petaluma, and the Town of Windsor.

23.8 GROWTH/DEVELOPMENT TRENDS

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. Santa Rosa Junior College does not permit or regulate development. Development permits within the SRJC's jurisdiction are issued through Sonoma County. Therefore, new and anticipated development located within SRJC's jurisdiction is included in the annex for Sonoma County.

23.9 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume I provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Santa Rosa Junior College's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

23.9.1 Hazard Area

SRJC's jurisdiction is all of Sonoma County because students are spread throughout the County. Maps of probable hazard areas within that service area are shown in Figure 23-2 through Figure 23-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Santa Rosa Junior College has significant exposure.

Figure 23-2. SRJC Flood, Dam Inundation, Tsunami, and Sea Level Rise Hazard Area

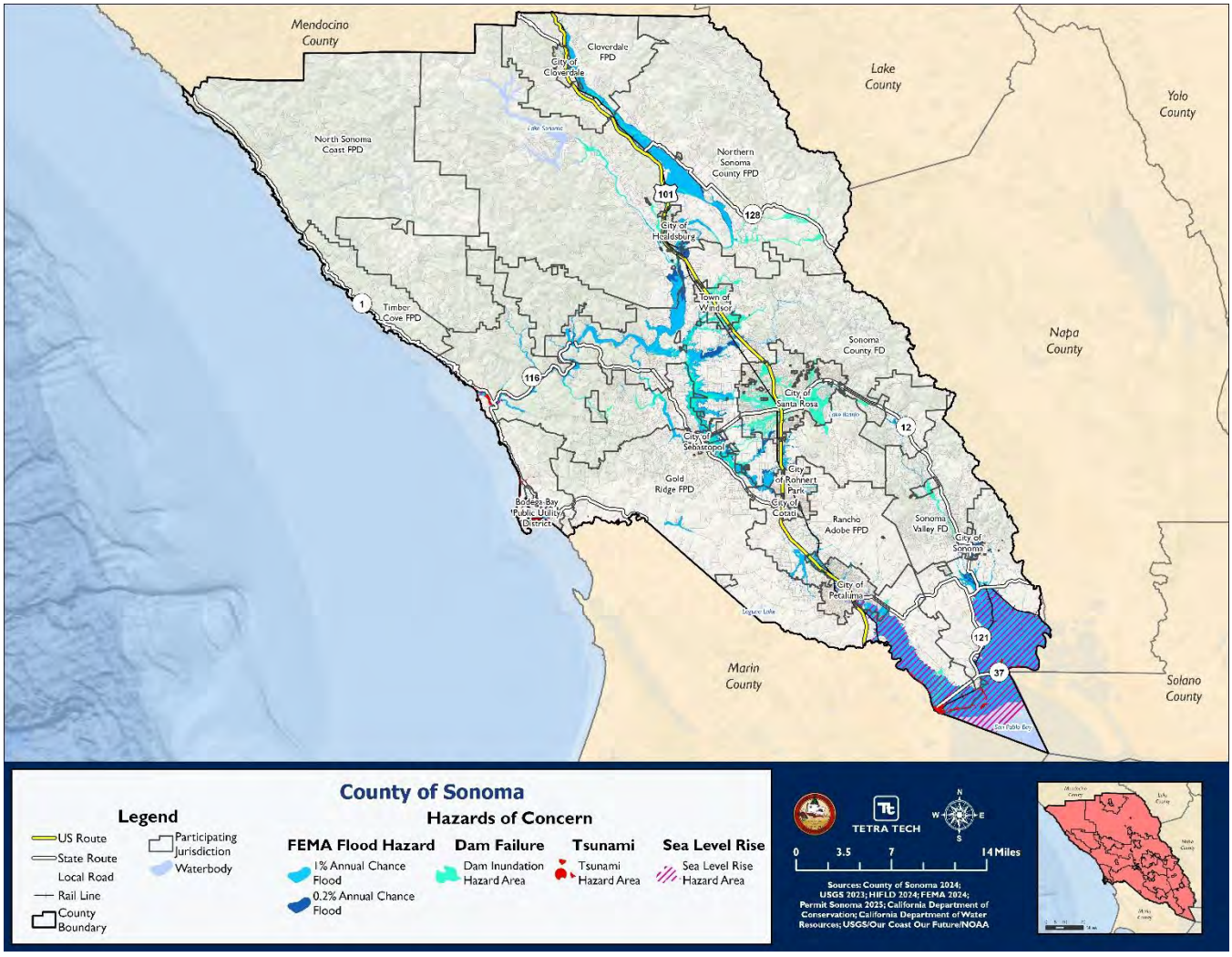
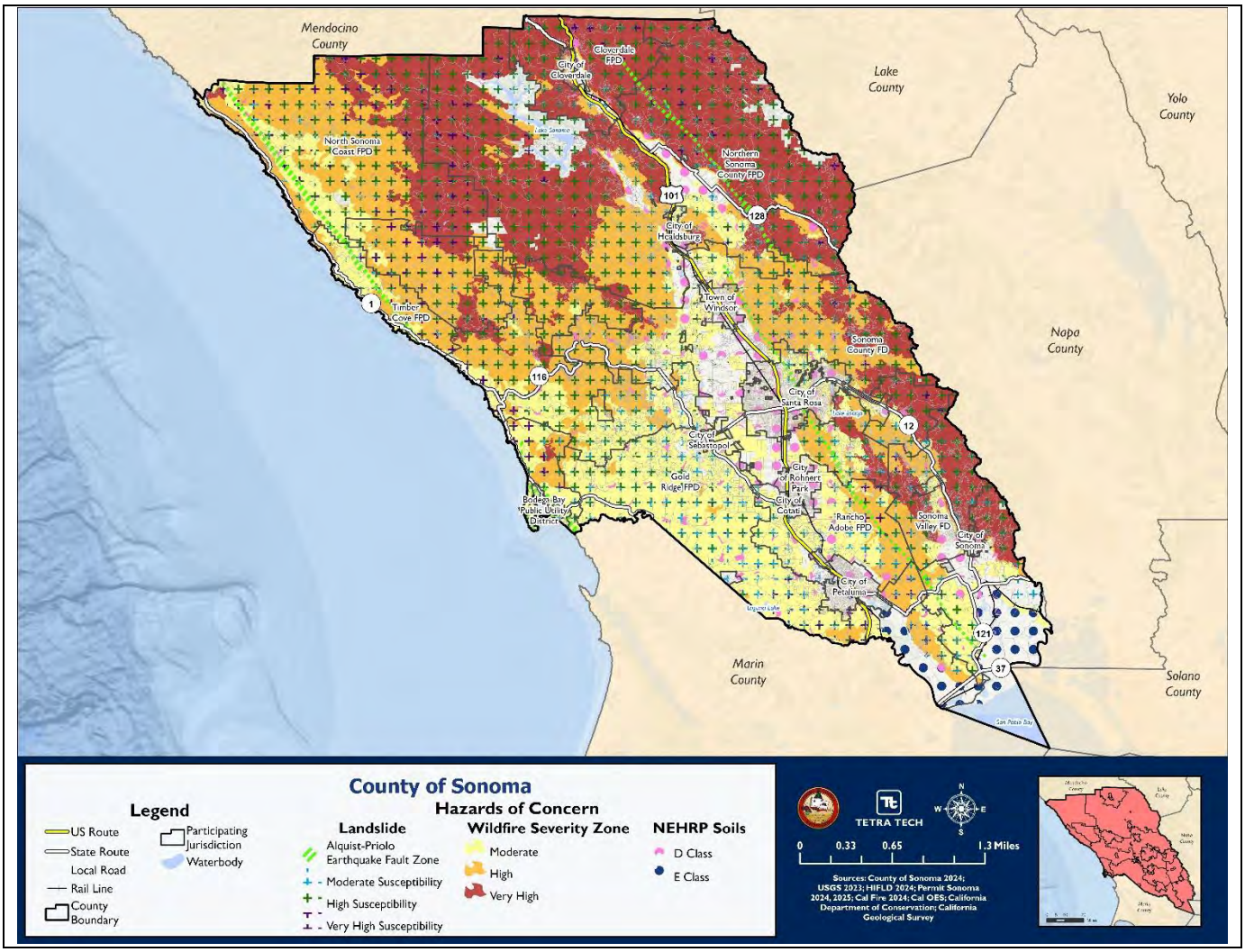


Figure 23-3. SRJC Wildfire Severity Zone, NEHRP Soils, and Landslide Hazard Area



23.9.2 Hazard Event History

The history of natural and non-natural hazard events in Santa Rosa Junior College is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 23-11 provides details on loss and damage affecting the College during hazard events since the last hazard mitigation plan update.

Table 23-11. Hazard Event History in Santa Rosa Junior College, 2021-2025

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Santa Rosa Junior College
November 8, 2021	Flood	N/A	A weak to moderate atmospheric river event impacted the SF Bay Area, bringing moderate to locally heavy rain and gusty winds. Heavy rain caused roadway flooding.	Shone Farm Campus Closure 2 days. School still on Covid protocols. Staff and residents had at least one way in/out (limited access). Normally there are 4 ways to get to campus.
January 9, 2023	Flood	N/A	A strong atmospheric river led to widespread flooding across the San Francisco Bay Area and Central Coast. Roadway flooding was reported along Mark West Creek near the communities of Forestville and Trenton.	Shone Farm Campus Closure 4 days. Not during academic year, therefore little impact on classes. Impact on staff that needed to feed/tend animals each day. Lambs were calving at this time, as part of curriculum for the campus. No losses. Staff lost access completely for 1.5 days. Residents moved off site during this closure.
March 9, 2023	Flood	DR-4683-CA EM-3591-CA CA23-1	Sub-tropical moisture plume from over the Central Pacific moved into the California Coast. CHP reported a mud slide moving debris on California Highway 116.	Shone Farm closed for 3 days. Classes and public not allowed at Shone Thurs-Sat (March 9,10,11). Residents moved off site. Staff unable to get to campus for one of the days. Other days had limited access.
January 21-22, 2024	Flood	DR-4699-CA EM-3592-CA CA23-3	Widespread rainfall and nuisance flooding occurred across the Bay Area. Westbound California Route 116 at Travis Road was flooded across all lanes. A vehicle was stuck in floodwaters on Eastside Road north of Mark West Station Road. A mudslide was reported on California Highway 1 near Estero Lane. The Shiloh Road and Arata Lane offramps from US Highway 101 northbound were closed due to standing water. Flooding was reported in northern Guerneville. Heavy rain caused flooding from Fife Creek at Sycamore Court Mobile Home Park; 3 inches of water flooded a trailer.	Shone Farm closed, can not confirm number of days. Residents moved off site. Staff had no access for unconfirmed number of days. Roseland campus in SW SR flooded.
January 31, 2024	Flood	N/A	A cold front brought widespread rain and high winds through California. A water rescue occurred on Mark West Station Road at Starr Road.	SRJC closed Shone Farm. Residents were evacuated to local hotel. No classes were held

Dates of Event	Event Type	Disaster Declaration	Summary of Event	Summary of Damage and Losses in Santa Rosa Junior College
February 4, 2024	Flood	N/A	Two cold fronts caused minor nuisance flooding gusty winds, and widespread rain. Roadway flooding was reported at California Route 1 and Kruse Ranch Road; a vehicle was stuck in mud on the right hand side of the road. Standing water was reported halfway across Occidental Road in two spots between Mill Street and California Highway 116. Approximately 3 inches of water rushed across Calistoga Road near Alpine Road. Roadway flooding was reported at Arnold Drive and Boyes Blvd. Water flooded the roadway at northbound Olivet Road at Piner Road. Roadway flooding was reported at eastbound Highway 116 and Bloomfield Road. A landslide blocked eastbound lanes of Mark West Springs Road. A vehicle was stuck in a flooded roadway on Valley Ford Road. Route 12 was closed due to flooding from Fremont Drive to Watmaugh Road. A creek flowed over Mark West Station Road. Mud, dirt, and rock blocked Los Alamos Road.	SRJC closed Shone Farm and Public Safety Training Center in Windsor due to power outages that lasted 8 days. PSTC had to hold classes on the rest of the Saturdays of the remaining school semester to adhere to minimum course work hours due to the nature of the courses being taken (All public safety, Fire, Law, Emerg. Medical). Shone Farm canceled classes for an entire week. Heavy impacts on students and staff as some portions of curricula were not recoverable.
November 20-22, 2024	Atmospheric River/ Flooding	N/A	Atmospheric River/ Flooding	Roseland closed on Nov 21 and Public Safety Training Center campus closed Nov 20 due to excessive rains and limited access to campuses due to flooding on roadways. Shone Farm closed to students Nov 21-22. Staff and some residents were able to be on campus for all weekdays; limited access. Classes were labeled as hybrid to accommodate flood days.

EM = Emergency Declaration (FEMA); DR = Major Disaster Declaration (FEMA); N/A = Not applicable

23.9.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume I have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Santa Rosa Junior College.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume I. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts

of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions.

Santa Rosa Junior College reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. Table 23-12 shows the final hazard rankings for identified hazards of concern. Hazards ranked as “No exposure” are not considered to be hazards of local concern and are excluded from the vulnerability assessment, potential impacts assessment, and mitigation strategy. Mitigation actions outlined below address all hazards of local concern, targeting high and medium hazards especially.”

Table 23-12. Hazard Ranking

Hazard	Rank
Dam Failure	Medium
Drought	No exposure to this hazard
Earthquake	High
Extreme Cold	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Flooding	Medium
Landslide	Medium
Sea Level Rise	Low
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume I, modified as appropriate based on review by the jurisdiction

Vulnerability to Hazards of Local Concern

Based on the above jurisdiction-specific information, this section describes vulnerability of community assets to the hazards of local concern to Santa Rosa Junior College. Special purpose districts focus on maintaining critical facilities to provide specific services to customers. Therefore, the hazard vulnerability and impact is described in terms of qualitative assessments and specific identified issues related to these services, with a focus on district-owned assets.

For all hazards of local concern, the potential impacts were qualitatively evaluated. The qualitative assessments in the hazard profiles in Volume I are equally applicable to the District. Table 23-13 summarizes additional risks specific to SRJC.

Table 23-13. Qualitative Assessment of Impacts for Hazards of Local Concern

Hazard	Qualitative Local Impacts
Dam Failure	SRJC may face risks from dam failure at nearby reservoirs, which could lead to flooding in certain areas. There are areas of the Santa Rosa campus marked as potential dam inundation areas, primarily around Bussman Hall/SRJC Multicultural Museum, Burdo, Polly O'Meara Doyle Hall, the John Lounibos Center, and the Facilities Operations & Warehouse. This can impact access to critical assets, and could damage irreplaceable items in the museum, which has experienced flooding in the past. Dam failure could inundate the Public Safety Training Center (PSTC), and impact access to the Shone Farm campus. Populations vulnerable to dam failure include students and staff that may be on site at affected campuses, along with community members who are unable to access campus during a dam failure event.
Drought	SRJC is susceptible to drought conditions that can significantly impact local water supply and agricultural activities; however, this would not impact the College's core mission of education for students. Therefore, this is not a local hazard of concern.
Earthquake	SRJC is at risk of experiencing earthquakes that could cause disruption to services and structural damage specifically to older buildings constructed prior to current building standards. The entirety of the Santa Rosa and Petaluma campuses are located on NEHRP Class D soils, making them more vulnerable to earthquakes. PSTC and Shone Farm campuses are surrounded by Class D soil areas, making them potentially more difficult to access after an earthquake event. Populations vulnerable to earthquake include students and staff that may be on site at affected campuses, along with community members who are unable to access campus after an earthquake event. Especially vulnerable populations include people living in mobile or older homes that are not retrofitted to withstand earthquakes, or travelers along Highways 1, 12, 101, or 128.
Extreme Cold	Extreme cold events are rare and typically have minimal impact on SRJC's population and infrastructure. Access and functional needs populations in the area are more vulnerable to extreme cold than the general populace, as are people living alone. SRJC campuses can be vulnerable to extreme cold, especially if the event coincides with a power outage. Because of SRJC's moderate temperatures, infrastructure is not typically vulnerable to extreme cold. However, because of the rarity of freezing temperatures, residents and infrastructure may not be prepared, and if a freeze event were to occur, pipes could freeze or burst.
Extreme Heat	Periodic heat waves pose health risks, especially to vulnerable populations, and can strain energy and water resources. Access and functional needs populations in the area are more vulnerable to extreme heat than the general populace, as are people living alone. Highways 128, 116, and 12 can be vulnerable to extreme heat, as heat can impact road integrity. This could limit staff and student's abilities to access campuses. Campus buildings can also be vulnerable to extreme heat, especially if the event coincides with a power outage.

Hazard	Qualitative Local Impacts
Extreme Wind	SRJC may occasionally experience strong winds that can cause property damage, power outages, and hazardous conditions. Trees and power lines across the campuses are vulnerable to extreme winds, creating hazardous conditions. The Santa Rosa campus has numerous mature oak trees with an elevated risk of limb failure and falling debris, and its solar arrays may also be susceptible to wind damage. The PSTC, Petaluma, and Shone Farm campuses also have solar arrays vulnerable to high winds, and Shone Farm is additionally exposed due to surrounding trees. Transportation along Highways 12, 101, 116, and 128 can be disrupted when high winds down trees over the road. Especially vulnerable populations include those living in mobile homes and older houses. If extreme winds cause power outages and coincide with extreme temperatures or storms, elderly populations and children can also become vulnerable.
Flood	Flooding is a concern due to heavy rainfall events, potentially affecting homes, transportation routes and infrastructure. The Physical Fitness Center at the Petaluma campus is located in a SFHA, making it especially vulnerable to flooding. Parts of Campus Circle are also prone to flooding. The Shone Farm and PSTC campuses are surrounded by SFHA areas, restricting access to the campus during flood events. Populations vulnerable to flooding include students and staff that may be on site at affected campuses, along with community members who are unable to access or leave campus during a flooding event.
Landslide	Some areas, particularly those with steeper terrain, may be prone to landslides during heavy rain or seismic activity. Parts of the Shone Farm campus are rated as having a moderate to high landslide susceptibility, potentially impacting both structures and fields. Populations vulnerable to landslide include students and staff that may be on site at affected campuses, along with community members who are unable to access campus during a landslide event.
Sea Level Rise	Mapped sea level rise hazard areas are primarily along the Pacific Ocean and San Pablo Bay, not directly threatening SRJC facilities. However, sea level rise threatens the City of Petaluma, home to the SRJC Petaluma campus, thus making the campus indirectly vulnerable to this hazard. Various routes in and out of the city, including Highways 101 and 37, are within the sea level rise hazard area, and if impacted could limit the ability of students and staff to travel to campus or home. Sea level rise may impact the communities where staff and students live or visit. Populations with the highest vulnerability include those living or working on or near the coast or the bay.
Tsunami	Mapped tsunami hazard areas are primarily along the Pacific Ocean and San Pablo Bay, not directly threatening SRJC facilities. However, Highway 37 is within a tsunami hazard area, and if impacted could limit the ability of students and staff to travel to campus or home. Tsunamis can impact the communities where staff and students live or visit. Populations with the highest vulnerability include those living or working on or near the coast or the bay.
Wildfire	SRJC faces significant wildfire risk, given the surrounding vegetation and climate, which can threaten homes, air quality, and safety. The Shone Farm campus is located in a moderate wildfire severity risk zone, making facilities on this campus vulnerable to wildfire. Populations vulnerable to wildfire include students and staff that may be on site at affected campuses, along with community members who are unable to access campus during a wildfire event. People with health conditions, especially respiratory conditions, and children are vulnerable to smoke inhalation.

23.9.4 Identified Issues

After review of hazard event history, hazard rankings, hazard location, and current capabilities, Santa Rosa Junior College identified the following risk-related issue for the community:

- Streets around Shone Farm campus flood, restricting access to the campus.

23.10 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

23.10.1 Past Mitigation Action Status

The Santa Rosa Junior College did not participate in the 2021 HMP Update and has no prior mitigation actions.

23.10.2 Additional Mitigation Efforts

Santa Rosa Junior College completed the following mitigation efforts since the last HMP:

- Facility Operations Department undertook comprehensive tree trimming and tree removal at all campuses, to reduce risk of falling tree limbs. Self-funded.
- Facility Operations conducted extensive landscaping maintenance across the properties to ensure proper drainage to prevent standing water. Self-funded.
- Capital Projects and Facility Operations have regraded and repaved parking lots and road access on campuses to improve drainage and ensure water runoff. Self-funded and Measure H bond funds.

23.10.3 Proposed Hazard Mitigation Actions for the HMP Update

Santa Rosa Junior College participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Flood prone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)
- FEMA Hazard Mitigation Assistance Program and Policy Guide (July 2024)

The action worksheets included at the end of this annex list the mitigation actions that Santa Rosa Junior College would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in SRJC priorities.

Table 23-14 indicates how the proposed mitigation actions fall within the four FEMA mitigation action categories and six CRS mitigation action categories (these categories are described in Appendix D). As noted above in the Jurisdictional Risk Assessment, drought is not a local hazard of concern and is excluded from the mitigation strategy.

Table 23-14. Analysis of Mitigation Actions by Hazard and Category

Hazard	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Dam Failure	-	X	-	-	X	-	-	-	X	X
Drought	-	-	-	-	-	-	-	-	-	-
Earthquake	-	X	-	-	-	X	-	-	-	-
Extreme Cold	-	X	-	-	X	-	-	-	-	-
Extreme Heat	-	X	-	-	X	-	-	-	-	-
Extreme Wind	-	X	-	-	X	-	-	-	-	-
Flooding	-	X	-	-	X	-	-	-	X	X
Landslide	-	X	-	-	-	X	-	-	-	-
Sea Level Rise	-	X	-	-	X	-	-	-	X	X
Tsunami	-	X	-	-	X	-	-	-	X	X
Wildfire	-	X	-	-	-	X	-	-	-	-

Note: Mitigation category codes as follows (see Appendix D for descriptions): LPR = Local Plans and Regulations; SIP = Structure and Infrastructure Project; NSP = Natural Systems Protection; EAP = Education and Awareness Programs; PR = Preventative Measures; PP = Property Protection; PI = Public Information; NR = Natural Resource Protection; SP = Structural Flood Control Projects; ES = Emergency Services

Volume I identifies evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 23-15 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 23-15. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Flood Control	Medium	High	6	1-5 years	7.462	High
Backup Power	Medium	High	1	1-5 years	7.077	High
Critical Infrastructure Hardening	High	High	1	1-5 years	6.077	Medium

Note: Volume I conveys guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

Action 2026-SRJC-01. Flood Control

Lead Agency:	SRJC Facilities Manager
Supporting Agencies:	-
Hazards of Concern:	Dam Failure, Flood, Sea Level Rise, Tsunami
Description of the Problem:	Streets around Shone Farm campus flood, restricting access to the campus.
Description of the Solution:	Culvert clearing and/or deepening on Eastside Road surrounding the campus to control sediment/debris blockage
Estimated Cost:	Medium
Potential Funding Sources:	College General Maintenance Funding
Implementation Timeline:	Within 18 months
Objectives Met:	6
Benefits:	Preserves the integrity of hands-on educational programs by preventing flood-related closures, allowing students to fully engage in experiential learning while the school remains compliant with state instructional requirements. Keeping school open during lesser flood events, preventing extended closure and fewer class offerings due to inaccessibility and potential annual inaccessibility issues.
Impact on Socially Vulnerable Populations:	Provides consistent access to hands-on learning opportunities for students, including those from socially vulnerable backgrounds, who may have limited access to similar resources outside of school—helping to close educational gaps.
Impact on Future Development:	Ensures the long-term viability and expansion of educational programs, particularly in environmental and agricultural studies, by maintaining reliable access to the campus and avoiding constraints on course offerings caused by flood-related disruptions
Impact on Critical Facilities/Lifelines:	Ensures reliable transportation routes for staff, students, and emergency services during moderate flood events. This helps maintain operational continuity of the educational facility, which sometimes also serves secondary functions, including community events and agricultural/large animal support during emergencies.
Impact on Capabilities:	Maintaining year-round access to the campus strengthens the institution's ability to deliver uninterrupted educational services. It also improves emergency preparedness by ensuring that staff and students are not isolated during flooding, preserving communication and response capabilities.
Climate Change Considerations:	Increasing frequency and intensity of extreme weather, especially heavy rainfall events, necessitates proactive culvert maintenance to enhance resilience to future flood risks. This mitigation effort anticipates greater stormwater volumes and aims to reduce sediment buildup, helping to ensure critical access routes to the campus.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measure, Structural Flood Control Projects, Emergency Services
Priority	High

Action 2026-SRJC-02. Backup Power

Lead Agency:	Santa Rosa Junior College Facilities Manager
Supporting Agencies:	-
Hazards of Concern:	Extreme Cold, Extreme Heat, Extreme Wind
Description of the Problem:	Natural hazards may cause power outages on campus.
Description of the Solution:	Obtain generators to provide back-up power to facilities.
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program
Implementation Timeline:	1-5 Years
Objectives Met:	6
Benefits:	This action will have an immediate reduction in risk.
Impact on Socially Vulnerable Populations:	Students without power will be able to access it at school facilities.
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	This action will benefit the Energy lifeline.
Impact on Capabilities:	This action will allow the school to provide services during power outages.
Climate Change Considerations:	Extreme weather events are expected to increase in frequency and severity in the future.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measure
Priority	High

Action 2026-SRJC-03. Critical Infrastructure Hardening

Lead Agency:	SRJC Facilities Manager
Supporting Agencies:	-
Hazards of Concern:	Earthquake, Landslide, Wildfire
Description of the Problem:	Existing facilities may be damaged in the event of a natural hazard.
Description of the Solution:	Retrofit critical campus facilities and infrastructure to be resilient to natural hazards.
Estimated Cost:	High
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program
Implementation Timeline:	1-5 Years
Objectives Met:	3
Benefits:	Action will have an immediate reduction in risk.
Impact on Socially Vulnerable Populations:	N/A
Impact on Future Development:	N/A
Impact on Critical Facilities/Lifelines:	N/A
Impact on Capabilities:	N/A
Climate Change Considerations:	Natural hazard events are expected to increase in frequency and severity in the future.
Mitigation Category	Structure and Infrastructure Projects
CRS Category	Property Protection
Priority	Medium

APPENDIX A. PARTICIPATING JURISDICTION LETTERS OF INTENT

CITY OF
CLOVERDALE

September 17, 2024

City of Cloverdale
124 N. Cloverdale Blvd.
Cloverdale, CA 95425

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, City of Cloverdale is submitting this letter of commitment to confirm that City of Cloverdale has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, City of Cloverdale agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

City of Cloverdale understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, David Kelley commit the City of Cloverdale to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

David Kelley

David Kelley
City Manager

C: Cloverdale City Council

City of Cotati

Sonoma County, California

6/6/2023
City of Cotati
201 West Sierra Avenue
Cotati, CA 94931

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, City of Cotati is submitting this letter of commitment to confirm that City of Cotati has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project. Furthermore, as a condition of participation in the mitigation planning, City of Cotati agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

City of Cotati understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Damien O'Bid, commit City of Cotati to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Damien O'Bid
City Manager
707-665-3622

June 2nd, 2023

City of Healdsburg

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, City of Healdsburg is submitting this letter of commitment to confirm that City of Healdsburg has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, City of Healdsburg agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

City of Healdsburg understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Kelsey Carreiro, commit City of Healdsburg to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

/s/

Kelsey Carreiro

Emergency Manager

707-955-6362

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CITY OF PETALUMA

POST OFFICE BOX 61
PETALUMA, CA 94953-0061

Kevin McDonnell
Mayor / Alcalde

Brian Barnacle
Janice Cader Thompson, *Dist. 1*
Mike Healy
Karen Nau, *Dist. 3*
Dennis Pocekay
John Shribbs, *Dist. 2*
Councilmembers

6/12/2023

California Governor's Office of Emergency Services
Hazard Mitigation (HM) Section
State Hazard Mitigation Officer

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, the City of Petaluma is submitting this letter of commitment to confirm that the City of Petaluma has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, the City of Petaluma agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

The City of Petaluma understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.

Fire Department
198 "D" Street
Petaluma, CA 94952

Phone (707) 778-4390
Fax (707) 931-0668

Email:
firedept@cityofpetaluma.org

Fire Prevention Bureau
11 English Street
Petaluma, CA 94952

Phone (707) 778-4389
Fax (707) 206-6036

Email:
firemarshal@cityofpetaluma.org

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- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).

- Documentation of an effective process to maintain and implement the plan.

- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Peggy Flynn, commit the City of Petaluma to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

DocuSigned by:

03D99C70B34748C...

Peggy Flynn
City Manager
707-778-4345

6/21/2024

City of Rohnert Park / Department of Public Safety

130 Avram Ave., Rohnert Park, CA 94928 (City Hall)

500 City Center Drive, Rohnert Park, CA 94928 (Public Safety Bldg)

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, the City of Rohnert Park is submitting this letter of commitment to confirm that the City of Rohnert Park has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, the City of Rohnert Park agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

City of Rohnert Park understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Aaron Johnson, commit City

of Rohnert Park / Department of Public Safety to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Aaron Johnson

Deputy Chief

707-588-3580

June 5, 2023

City of Santa Rosa

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, the City of Santa Rosa is submitting this letter of commitment to confirm that the City of Santa Rosa has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, the City of Santa Rosa agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

The City of Santa Rosa understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Maraskeshia Smith, commit the City of Santa Rosa to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Maraskeshia Smith (Jun 5, 2023 10:13 PDT)

Maraskeshia Smith
City Manager

Letter of Commitment State Hazard Mitigation

Final Audit Report 2023-06-05

Created:	2023-06-05
By:	Sadie Bracy (SBracy@srcity.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAAbGTqWmYWxegXnWN-7Ybd4rZH0fEFKb93

"Letter of Commitment State Hazard Mitigation" History

Document created by Sadie Bracy (SBracy@srcity.org)
2023-06-05 - 4:41:44 PM GMT

Document emailed to Maraskeshia Smith (msmith@srcity.org) for signature
2023-06-05 - 4:42:35 PM GMT

Email viewed by Maraskeshia Smith (msmith@srcity.org)
2023-06-05 - 5:06:24 PM GMT

Document e-signed by Maraskeshia Smith (msmith@srcity.org)
Signature Date: 2023-06-05 - 5:13:51 PM GMT - Time Source: server

Agreement completed.
2023-06-05 - 5:13:51 PM GMT

Adobe Acrobat Sign

SEBASTOPOL POLICE DEPARTMENT

6850 Laguna Park Way, Sebastopol, CA 95472

Telephone: (707) 829-4400 / Fax: (707) 829-0967 / City Hall: (707) 823-1153

Ronald Nelson
Chief of Police

August 1, 2024

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, City of Sebastopol is submitting this letter of commitment to confirm that City of Sebastopol has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, City of Sebastopol agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

City of Sebastopol understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Ronald Nelson, commit City of Sebastopol to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Ronald Nelson
Chief of Police/Emergency Operations Manager
(707) 829-4400

City of Sonoma

No. 1 The Plaza

Sonoma California 95476-6690

Phone (707) 938-3681 Fax (707) 938-8775

E-Mail: cityhall@sonomacity.org

June 2, 2023

City of Sonoma
No 1 The Plaza
Sonoma, CA 95476

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, City of Sonoma is submitting this letter of commitment to confirm that City of Sonoma has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, City of Sonoma agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

City of Sonoma understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, David M. Guhin, commit City of Sonoma to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

David M. Guhin, City Manager

TOWN OF WINDSOR

Town of Windsor
9291 Old Redwood Highway
P.O. Box 100
Windsor, CA 95492-0100
Phone: (707) 838-1000
Fax: (707) 838-7349
www.townofwindsor.com

Mayor
Rosa Reynoza

Vice Mayor, District 2
Sam Salmon

Councilmember District 1
Mike Wall

Councilmember District 3
Debora Fudge

Councilmember District 4
Tanya Potter

Town Manager
Jon Davis

June 6, 2023

Town of Windsor
9291 Old Redwood Highway
Windsor, CA 95492

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Town of Windsor is submitting this letter of commitment to confirm that Town of Windsor has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Town of Windsor agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

Town of Windsor understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Jon Davis, commit Town of Windsor to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Jon Davis (Jun 6, 2023 18:07 PDT)

Jon Davis
Town Manager
707-838-5335

9/9/2024

Cloverdale Fire Protection District

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Cloverdale Fire Protection District is submitting this letter of commitment to confirm that Cloverdale Fire Protection District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Cloverdale Fire Protection District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

Cloverdale Fire Protection District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Chief Jason Jenkins, commit Cloverdale Fire Protection District to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Jason Jenkins

Fire Chief

707 894-3545

GOLD RIDGE FIRE PROTECTION DISTRICT

4500 Hessel Road Sebastopol, CA 95472

Sta. 1 Headquarters (707) 823-1084 Fax (707) 829-1175

Jun 1, 2023

Gold Ridge Fire Protection District
4500 Hessel Road
Sebastopol, CA 95472

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Gold Ridge Fire Protection District is submitting this letter of commitment to confirm that Gold Ridge Fire Protection District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Gold Ridge Fire Protection District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

Gold Ridge Fire Protection District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Dave Bray, commit Gold Ridge Fire Protection District to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Dave Bray
Division Chief | Operations & Training
707-867-9053

North Sonoma Coast Fire Protection District
PO Box 386, The Sea Ranch CA 95497
(707) 639-0961 nscfpd.org

6/10/2023

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, North Sonoma Coast Fire Protection District is submitting this letter of commitment to confirm that North Sonoma Coast Fire Protection District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, North Sonoma Coast Fire Protection District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

North Sonoma Coast Fire Protection District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Bonnie Plakos, commit North Sonoma Coast Fire Protection District to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Bonnie Plakos

Bonnie Plakos, NSCFPD Fire Chief

NORTHERN SONOMA COUNTY FIRE PROTECTION DISTRICT
20975 Geyserville Avenue • PO Box 217 • Geyserville • California • 95441 • (707) 857-4373 • www.nosocofire.com

June 9, 2023

Northern Sonoma County Fire Protection District
Post Office Box 217
Geyserville, CA 95441

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, the Northern Sonoma County Fire Protection District is submitting this letter of commitment to confirm that Northern Sonoma County Fire Protection District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, the Northern Sonoma County Fire Protection District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

The Northern Sonoma County Fire Protection District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Marshall Turbeville, commit the Northern Sonoma County Fire Protection District to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Marshall Turbeville
Fire Chief
(707) 857-4373

6/2/2023

Rancho Adobe Fire Protection District – 11000 Main Street, Penngrove, CA, 94951

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Rancho Adobe Fire Protection District is submitting this letter of commitment to confirm that Rancho Adobe Fire Protection District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Rancho Adobe Fire Protection District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

Rancho Adobe Fire Protection District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Tim Caldwell, commit Rancho Adobe Fire Protection District to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Tim Caldwell

Tim Caldwell

(Captain)

(707-695-7414)

6/8/2023

Sonoma County Fire District
8200 Old Redwood Hwy
Windsor C a 95492

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Sonoma County Fire District is submitting this letter of commitment to confirm that Sonoma County Fire District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Sonoma County Fire District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

Sonoma County Fire District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, commit Cyndi Foreman to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

/s/

Cyndi Foreman

Division Chief/Fire Marshal

707-892-2003

Sonoma Valley Fire District

Serving the communities of
Sonoma, Valley of the Moon, Glen Ellen, and Mayacamas

June 5, 2023
Sonoma Valley Fire District

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:
As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Sonoma Valley Fire District is submitting this letter of commitment to confirm that Sonoma Valley Fire District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.
Furthermore, as a condition of participation in the mitigation planning, Sonoma Valley Fire District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.
Sonoma Valley Fire District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Sean Lacy, commit Sonoma Valley Fire District to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

630 Second Street West • Sonoma • California • 95476-6901
Business: (707) 996-2102 • Ambulance Billing: (707) 996-2821
svfra@svfra.org • Fax: (707) 996-2868

Sincerely,



Sean Lacy
Battalion Chief
707 721-2096

TIMBER COVE
F. P. D.

June 1, 2023

Timber Cove Fire Protection District
30800 Seaview Rd
Cazadero, CA 95421

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Timber Cove Fire Protection District is submitting this letter of commitment to confirm that Timber Cove Fire Protection District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Timber Cove Fire Protection District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

Timber Cove Fire Protection District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Mary Entriken, commit Timber Cove Fire Prevention District to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Mary Entriken

Mary Entriken
Board Chair
707-847-3299

TIMBER COVE FIRE PROTECTION DISTRICT

BODEGA BAY PUBLIC UTILITY DISTRICT
P.O. BOX 70 • 265 DORAN PARK ROAD • BODEGA BAY, CALIFORNIA 94923
TELEPHONE 707-875-3332
FAX 707-875-9610

August 2, 2023

County of Sonoma
Department of Emergency Management
2300 County Center Drive, Suite B220
Santa Rosa, CA 95403

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Bodega Bay Public Utility District is submitting this letter of commitment to confirm that Bodega Bay Public Utility District has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Bodega Bay Public Utility District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

Bodega Bay Public Utility District understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Jan Ames, commit Bodega Bay Public Utility District to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Jan Ames
General Manager
(707) 875-3332

Sonoma Water

Administrative Office 404 Aviation Boulevard Santa Rosa, CA 95403

June 5, 2023

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer,

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Sonoma County Water Agency is submitting this letter of commitment to confirm that Sonoma County Water Agency has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Sonoma County Water Agency agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements. Sonoma County Water Agency understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Steven Hancock, commit Sonoma County Water Agency to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Steven E. Hancock

Division Manager, Emergency Management, Security, and Project Management

(707) 292-1195

AG + OPEN SPACE
SONOMA COUNTY

June 5, 2023

Sonoma County Ag + Open Space
747 Mendocino Avenue, Suite 100
Santa Rosa, CA 95401

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:
As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level, Sonoma County Ag + Open Space is submitting this letter of commitment to confirm that Sonoma County Ag + Open Space has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.
Furthermore, as a condition of participation in the mitigation planning, Sonoma County Ag + Open Space agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.
Sonoma County Ag + Open Space understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
- Demonstration that there has been proactively offered an opportunity for participation in the planning process (attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
- Documentation of an effective process to maintain and implement the plan.
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Misti Arias, commit Sonoma County Ag + Open Space to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,



Misti Arias
General Manager
707-565-7264

Letter of Committment AOS

Final Audit Report 2023-06-02

Created:	2023-06-01
By:	Mariah Robson (Mariah.Robson@sonoma-county.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAAdb1Kv1m44Q6H7Ji_dicFZbXMyWsJYJRh

"Letter of Committment AOS" History

Document created by Mariah Robson (Mariah.Robson@sonoma-county.org)
2023-06-01 - 11:50:20 PM GMT- IP address: 209.77.204.154

Document emailed to Misti Arias (misti.arias@sonoma-county.org) for signature
2023-06-01 - 11:50:35 PM GMT

Email viewed by Misti Arias (misti.arias@sonoma-county.org)
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Document e-signed by Misti Arias (misti.arias@sonoma-county.org)
Signature Date: 2023-06-02 - 4:51:42 AM GMT - Time Source: server- IP address: 76.21.26.185

Agreement completed.
2023-06-02 - 4:51:42 AM GMT

SANTA ROSA JUNIOR COLLEGE

Robert Brownlee · Chief of Police
District Police Department
(707)524-1820
rbrownlee@santarosa.edu

6/5/2023

Sonoma County Junior College District Police
1501 Mendocino Ave
Santa Rosa, CA 95401

RE: Letter of Commitment as Participating Jurisdiction in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project

Dear State Hazard Mitigation Officer:

As the Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR §201.6 specifically identify criteria that allow for multi-jurisdictional mitigation plans and that many issues are better resolved by evaluating hazards more comprehensively by coordinating at the county, regional, or watershed level. Sonoma County Junior College District Police is submitting this letter of commitment to confirm that Sonoma County Junior College District Police has agreed to participate in the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning Project.

Furthermore, as a condition of participation in the mitigation planning, Sonoma County Junior College District Police agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6 and to provide such cooperation as is necessary and in a timely manner to the County of Sonoma to complete the plan in conformance with FEMA requirements.

Sonoma County Junior College District Police understands that it must engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Policy Guide (effective April 19, 2023), including, but not limited to:

·Identification of hazards unique to the jurisdiction and not addressed in the master planning document.
·The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area.
·The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction.
·Demonstration that there has been pro-actively offered an opportunity for participation in the planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc).
·Documentation of an effective process to maintain and implement the plan.
·Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdiction's governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan; I, Robert Brownlee, commit Sonoma County Junior College District Police to the Sonoma County Operational Area Multi-Jurisdictional Hazard Mitigation Planning effort.

Sincerely,

Robert Brownlee (Jun 5, 2023 11:04 PDT)
Robert Brownlee
Chief of Police
(707) 527-1000

APPENDIX B. ACTION WORKSHEET TEMPLATE AND INSTRUCTIONS

Complete this worksheet to update your mitigation strategy.

Return this worksheet to Tetra Tech Planner, Stacy Umbel, stacy.umbel@tetratech.com by Friday, April 4, 2025. If your municipality needs more time, please provide the date you will return the worksheet to Tetra Tech.

Municipality: _____

Name/Title of Individual Completing Worksheet: _____

What are the hazards we need to address?

FEMA requires each participating jurisdiction include at least one mitigation action for each of the hazards of concern. For the Sonoma County 2026 Hazard Mitigation Plan update, the hazards of concern are as follows:

Hazards of Concern

Dam Failure	Extreme Heat	Sea Level Rise
Drought	Extreme Wind	Tsunami
Earthquake	Flood	Wildfire
Extreme Cold	Landslide	

As you identify problems, consider a variety of action types that could be used to mitigate the problem including structural, plans and regulations, education and outreach, and natural systems protections. All actions will need to include detailed problems and solutions in order to meet FEMA's expectations.

Examples

Problem	Solution	Hazard(s) Addressed
The Public Works facility, located at 123 Main Street, is identified as a critical facility and lifeline for the jurisdiction. The facility does not have a back-up generator to maintain continuity of operations during an emergency event.	The Public Works Superintendent will work alongside the jurisdictional engineer to identify the necessary capacity for an emergency generator for the Public Works facility. Once identified, Public Works will have the emergency generator installed at its facility at 123 Main Street. Public Works will be responsible for maintaining the emergency generator.	Severe Storm, Severe Winter Storm, Utility Interruption
Officials in NFIP-participating communities are responsible for regulating all development in SFHAs by issuing permits and enforcing local floodplain requirements, including Substantial Damage, for the repairs of damaged buildings. The municipality does not have a Substantial Damage Management Plan in place, nor do they have a formal process in place when conducting substantial damage determinations.	The municipality will develop a Substantial Damage Management Plan, following the six-step planning process in 2021 Developing a Substantial Damage Management Plan. This plan will outline responsibilities for Substantial Damage determinations, determining market value, and permit approval processes following a disaster event.	Flood, Severe Storm

TYPES OF MITIGATION ACTIONS

A mitigation action is a specific action, project, activity, or process taken to reduce or eliminate long-term risk to people and property from hazards and their impacts. Implementing mitigation actions helps achieve the plan's mission and goals. The actions to reduce vulnerability to threats and hazards form the core of the plan and are a key outcome of the planning process. The primary types of mitigation actions to reduce long-term vulnerability are:

Mitigation Type	Description	Examples
Local Plans and Regulations	These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	▪ Comprehensive plans ▪ Land use ordinances ▪ Subdivision regulations ▪ Development review ▪ Building codes and enforcement ▪ NFIP Community Rating System ▪ Capital improvement programs ▪ Open space preservation ▪ Stormwater management regulations and master plans
Structure and Infrastructure Projects	These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct manmade structures to reduce the impact of hazards. Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.	▪ Acquisitions and elevations of structures in flood prone areas ▪ Utility undergrounding ▪ Structural retrofits ▪ Floodwalls and retaining walls ▪ Detention and retention structures ▪ Culverts ▪ Safe rooms
Natural Systems Protection	These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.	▪ Sediment and erosion control ▪ Stream corridor restoration ▪ Forest management ▪ Conservation easements ▪ Wetland restoration and preservation
Education and Awareness Programs	These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.	▪ Radio or television spots ▪ Websites with maps and information ▪ Real estate disclosure ▪ Presentations to school groups or neighborhood organizations ▪ Mailings to residents in hazard-prone areas ▪ StormReady ▪ Firewise Communities

MITIGATION ACTION WORKSHEET

Lead Agency:		
Supporting Agencies:		
Hazards of Concern:	☐Dam Failure ☐Drought ☐Earthquake ☐Extreme Cold ☐Extreme Heat ☐Extreme Wind	☐Flood ☐Landslide ☐Sea Leve Rise ☐Tsunami ☐Wildfire
Description of the Problem:		
Description of the Solution:		
Estimated Cost:		
Potential Funding Sources:		
Implementation Timeline:		
Objectives Met:		
Benefits:		
Impact on Socially Vulnerable Populations:		
Impact on Future Development:		
Impact on Critical Facilities/Lifelines:		
Impact on Capabilities:		
Climate Change Considerations:		
Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
CRS Category	☐Preventative Measures (PR) ☐Property Protection (PP) ☐Public Information (PI)	☐Natural Resource Protection (NR) ☐Structural Flood Control Projects (SP) ☐Emergency Services (ES)
Priority		

APPENDIX C. REPETITIVE LOSS DEFINITIONS

The following definitions of repetitive loss properties are use in the analysis of NFIP compliance for the County and municipal annexes included in this hazard mitigation plan:

- NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than $1,000 were paid by the NFIP within any rolling 10-year period since 1978.
- FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.
- NFIP Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over $5,000 each, and the cumulative amount of such claims payments exceeds $20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. In both instances, at least two of the claims must be within 10 years of each other, and claims made within 10 days of each other will be counted as one claim.
- FMA Definition of Severe Repetitive Loss: An NFIP-Insured structure that has incurred flood-related damage for which four or more separate claims payments have been made, with the amount of each claim (including building and contents payments) exceeding $5,000, and with the cumulative amount of such claims payments exceeding $20,000; or for which at least two separate claims payments (building payments only) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the building.

APPENDIX D. MITIGATION ACTION CATEGORIES

Tables in each of the jurisdictional annexes for this hazard mitigation plan indicate the range of action categories addressed by each jurisdiction's set of proposed mitigation actions. Four FEMA mitigation action categories and six CRS mitigation action categories are listed in the tables to demonstrate the wide range of activities and mitigation measures selected. These categories are described as follows:

- **FEMA Mitigation Action Categories**
  - Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
  - Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.
  - Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.
  - Education and Awareness Programs (EAP)—These are actions to inform and educate residents and visitors, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities
- **CRS Mitigation Action Categories**
  - Preventative Measures (PR)—Government, administrative or regulatory actions, or processes that influence the way land and buildings are developed and built. Examples include planning and zoning, floodplain local laws, capital improvement programs, open space preservation, and storm water management regulations.
  - Property Protection (PP)—These actions include public activities to reduce hazard losses or actions that involve (1) modification of existing buildings or structures to protect them from a hazard or (2) removal of the structures from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
  - Public Information (PI)—Actions to inform and educate residents and visitors, elected officials, and property owners about hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and educational programs for school-age children and adults.
  - Natural Resource Protection (NR)—Actions that minimize hazard loss and preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
  - Structural Flood Control Projects (SP)—Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, setback levees, floodwalls, retaining walls, and safe rooms.
  - Emergency Services (ES)—Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and the protection of essential facilities