

December 2024
Amended FEMA Review Draft

2024 NEVADA COUNTY HAZARD MITIGATION PLAN

Volume II—Jurisdictional Annexes



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2024 Nevada County Hazard Mitigation Plan

Volume II—Jurisdictional Annexes

Amended FEMA Review Draft

December 2024

#105s039542

PREPARED FOR

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Appendices

APPENDIX A: Participating Jurisdiction Letters of Intent



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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 in Title 44 of the Code of Federal Regulations, Part 201 (Mitigation Planning):

"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."

(44 CFR Section 201.2)

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 Nevada County 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. Nevada County was the lead agency for this planning effort and directed the planning process with assistance from a contract planning consultant (Tetra Tech). A Steering Committee 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 Nevada 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

Nevada 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 Nevada County HMP (see 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 Steering Committee:

- Nevada County
- City of Grass Valley
- City of Nevada City
- Town of Truckee
- Nevada Irrigation District
- Truckee Donner Public Utilities District
- Washington County Water District
- Nevada County Consolidated Fire District

1.2.2 Planning Partner Expectations

The following list of planning partner expectations was agreed to in each letter of intent to participate:

- Review of existing Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the HMP update
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the HMP update by the Planning Partner jurisdiction's governing body
- Tracking and monthly submission of personnel hours spent on the hazard mitigation planning effort.

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.

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 Nevada County HMP is organized so that there is an annex for Nevada County and for every participating jurisdiction. 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 Steering Committee throughout the planning process. Details regarding these meetings are described further in Volume I.

1.3.1 Incorporation of Information from Previous HMP

In order to facilitate the update of the jurisdictional annexes, data from the 2017 Nevada County HMP annexes 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 2017 HMP mitigation strategy
- A new mitigation strategy to address identified issues and to increase community resiliency

1.3.2 Kickoff Meeting

The County invited all municipalities to participate in a planning partner kickoff meeting held on August 28, 2023, 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 Mitigation Strategy Workshop

A mitigation strategy workshop was held was conducted on November 15, 2023, for all participating jurisdictions to support the development of focused problem statements based on the impacts of natural hazards in the County and its communities. These problem statements are intended to provide a detailed description of the problem area, including its impacts on the municipality/jurisdiction, past damages, loss of service, etc. An effort was made to include the street address of the property/project location, adjacent streets, water bodies, and well-known structures as well as a brief description of existing conditions (topography, terrain, hydrology) of the site. These problem statements form a bridge between the risk assessment (which quantifies impacts to each community) and the capability assessment (which identifies the capabilities that reduce hazard risks and support hazard mitigation) with the development of actionable mitigation strategies. The County and the mitigation consultant team worked with each jurisdiction to identify clear, implementable mitigation actions as well as 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 vulnerable populations.
- **Section X.3: 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.4: 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.5: Growth/Development Trends:** Summarizes recent and expected future development trends, including major residential/commercial development and major infrastructure development.
- **Section X.6: 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.
 - **Jurisdiction-Specific Hazard Risks:** Determines which of the hazards assessed for the overall County in Volume I are hazards of concern for the participant, based on mapping of hazard areas, the history of events in the local jurisdiction, and local consideration and revision of the risk ranking presented in Volume I.
 - **Vulnerability and Potential Impacts for Hazards of Local Concern:** Assesses the local jurisdiction's vulnerability to each hazard identified as a local hazard of concern and review potential impacts.



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- **Identified Issues:** Specific local issues related to the local hazards of concern are identified for consideration of possible mitigation actions.
- **Section X.7: 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.
 - **Additional Mitigation Efforts:** 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 HMP 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

All of the original planning partners fully met the participation requirements specified by the Steering Committee and have annexes included in this volume. 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.



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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)
Nevada County	N/A	X	X	X	X
Town of Truckee	X	X	X	X	X
City of Grass Valley	X	X	X	X	X
City of Nevada City	X	X	X	X	X
Nevada Irrigation District	X	X	X	X	X
Nevada County Consolidated Fire District	X	X	X	X	X
Truckee Donner Public Utility District	X	X	X	X	X
Washington Water District	X	X	X	X	X

2. Nevada County Annex

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

This annex is part of a multi-jurisdictional HMP that was developed to meet plan participation requirements for all participating jurisdictions while accommodating their specific needs and limitations. The planning process included establishing a Steering Committee and engaging a contract consultant to undertake certain elements of the plan update on behalf of the jurisdictions. These elements included outreach to stakeholders and the public, risk assessment for all countywide hazards of concern, initial ranking of hazard risks, updates of hazard mitigation goals and objectives, and establishment of procedures for implementing and maintaining the HMP. This annex presents only the information specific to Nevada County as a participating jurisdiction. All other plan elements are included in Volume I and are referenced in this annex as appropriate.

2.1 Hazard Mitigation Planning Team

Nevada County identified HMP primary and alternate points of contact and developed this plan over the course of several months with input from many County departments, including the Office of Emergency Services (OES) Program Manager. The Program Manager represented the County on the HMP Planning Partnership and Steering Committee and supported local planning process requirements 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. Table 2-1 summarizes County officials who participated in the development of the annex and in what capacity. Additional documentation of the County's planning activities through Planning Partnership meetings is also included in Volume I.



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TABLE 2-1. HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact	Alternate Point of Contact
Name/Title: Paul Cummings, Office of Emergency Services Program Manager Address: 950 Maidu Ave., Nevada City, CA 95959 Phone Number: 530-265-7015 Email: paul.cummings@nevadacountyca.gov	Name/Title: Brian Foss, Planning Director Address: 950 Maidu Ave., Nevada City, CA 95959 Phone Number: 530-265-1256 Email: brian.foss@nevadacountyca.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: Brian Foss, Planning Director Address: 950 Maidu Ave., Nevada City, CA 95959 Phone Number: 530-265-1256 Email: brian.foss@nevadacountyca.gov	
Contributions to the Annex	
Name/Title: Paul Cummings, OES Program Manager Method of Participation: Provided information on previous hazard events. Provided an update on the status of previous mitigation actions.	
Name/Title: Brian Foss, Planning Director Method of Participation: Provided information on NFIP administration and flood risk.	
Name/Title: Kyle Smith, Senior Planner Method of Participation: Provided data and information on new development.	

2.2 Community Profile

Nevada County, in northeastern California, is a strip of land 10 to 25 miles wide that extends some 70 miles across the north-central Sierra Nevada range from Yuba County to the California-Nevada State line. It is bordered by Washoe County, Nevada to the east; Sierra County to the north; Yuba County to the west; and Placer County to the south. The total land area of Nevada County is 625,920 acres, and it is one of the smaller counties in California. Nearly all of the County is mountainous. The main crest of the Sierra Nevada range extends across 9,000 feet. The County contains three incorporated jurisdictions: the cities of Grass Valley, Nevada City (the County seat), and the Town of Truckee. U.S. Highway 80 serves the area, supplemented by State Highways 20, 49, 89, and 174 which traverse the County.

Tributaries of the Yuba and Bear Rivers make up the major portion of the County's drainage system. The Truckee River enters Nevada County near the Town of Truckee and flows northeasterly to the California-Nevada State line. The eastern one-fourth of the County drains easterly into tributaries of the Truckee River. The Yuba and Bear Rivers drain the western portion of the county. Both rivers have been developed for irrigation and power. There are many lakes and reservoirs. Stampede Dam and Reservoir, northeast of Truckee, was completed in 1970 and is used for flood control, water storage and recreation.

According to the U.S. Census, the 2020 population for Nevada County was 102,241, a 0.079 percent increase from the 2010 Census. Data from the 2020 U.S. Census indicate that 4.1 percent of the population is 5 years of age or younger, 28.4 percent is 65 years of age or older, 1.0 percent is non-English speaking, 10.8 percent is below the poverty threshold, and 15.3 percent is considered disabled.

Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

2.3 Jurisdictional Capability Assessment and Integration

Nevada 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 their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Nevada County to identify opportunities for integrating mitigation concepts into ongoing County procedures.

2.3.1 Planning and Regulatory Capability

Table 2-2 summarizes the planning and regulatory tools that are available to the County. The table outlines the planning documents, codes, ordinances, and regulations to be reviewed and considered for update based upon any new data or information learned during the HMP update process.



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TABLE 2-2. PLANNING AND REGULATORY CAPABILITY

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	2022 California Building Standards Code	State & local	Building Department
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Wildland-Urban Interface (WUI) Code Standard. This provides minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures and certain equipment.</p>				
Zoning/Land Use Code	Yes	2024 Nevada County Zoning Code	Local	Planning
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Overlay zones for hazards are used to limit development in hazard prone areas.</p> <ul style="list-style-type: none"> • <i>Does the zoning ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas?</i> The General Plan and Zoning Regulations are consistent and require specific activities to occur prior to development within hazard areas. • <i>Does the ordinance contain natural hazard overlay zones that set conditions for land use within such zones?</i> The Zoning Regulations do not include hazard overlay zones but does set conditions for lands use within hazard areas (generally included in Division 4.3). • <i>Does the ordinance prohibit development within, or filling of, wetlands, floodways, and floodplains?</i> No. Additional regulatory requirements and permits are required prior to disturbance (Section 4.3.17) • <i>Is a zoning code in place to encourage resilient development through density bonuses for projects outside of natural hazard areas?</i> No. Local or state density bonus law does not include additional bonus for avoidance. • <i>Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use?</i> Yes. Standard permitting and environmental review practice. • <i>If applicable, is there a wildland-urban interface development code in place to prohibit or limit development in high wildfire risk areas?</i> No. Development in WUI areas have additional permitting and regulatory requirements (Section 4.3.18 and Buildings Article 5). 				
Subdivision Ordinance	Yes	Under Land Use and Development Code Article 14	State and County	Planning & Surveyor
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Serves to regulate and control the design and improvement of land being divided.</p>				
Site Plan Code	No	-	County	Building Department
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The county uses a site plan checklist.</p>				
Stormwater Management Code	No	Storm water management covered under building and PW codes	County	Building Department
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery/ Reconstruction Code	No	The county will implement event specific policies	County	Building Department/Planning/ Environmental Health
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Real Estate Disclosure Requirements	Yes	Used for hazard notifications for lots of things; for instance, airport for noise	County	Aligning with state standards
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Used for hazard notifications for lots of things; for instance, airport for noise				
Growth Management	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Environmental Protection Ordinance	Yes	Built into Zoning Ordinance; Land Use and Development Code	County & State, Federal	Planning Department
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> To preserve or enhance environmental areas of concern.				
Flood Damage Prevention Ordinance	Yes	In Land Use and Development Code Article 12	County, State, and Federal	Planning Department
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> To promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions. Adopts all subsequent amendments and/or revisions to Flood Insurance Rate Maps (FIRMs); County has adopted the most recent effective FIRM (February 2010).				
Wellhead Protection	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Emergency Management Ordinance	-	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> To integrate mitigation with day-to-day decision-making regarding land use planning, floodplain management, site design, and other functions.				
Climate Change Ordinance	No	In progress	County	Office of Emergency Services
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> County working to start those planning efforts.				
Other	Yes	(Defensible space): County Code; Hazardous Vegetation Reduction Ordinance	County	Office of Emergency Services
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The Hazardous Vegetation Reduction Ordinance is meant to reduce the wildfire risk.				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	2014 Nevada County General Plan	County/State	General Plan; Planning Department
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>A long-term policy guide for the physical, economic, and environmental future of the County.</p>				
Capital Improvement Plan	Yes	Department of Public Works, Sanitary Districts, Fire Districts	County	Public Works
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Mitigation projects can be funded through allocations in capital improvement planning.</p>				
Disaster Debris Management Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Floodplain Management or Watershed Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Stormwater Management Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Open Space Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Urban Water Management Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Habitat Conservation Plan	Yes	Most of western Nevada County part of Western Habitat Conservation Plan	State	District II California Fish and Wildlife
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>This will identify conservation objectives and analyze the natural resources issues on land related to soil, water, animals, plants, air, energy, and human interaction. This could include land use maps, photos, inventory of resources, economic costs, recommended practices and maintenance schedules.</p>				
Economic Development Plan	No	In draft	Local	Kimberly Parker
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>This plan is a comprehensive strategy used to foster economic growth and improvement in the County.</p>				
Community Wildfire Protection Plan	Yes	2024 Nevada County Community Wildfire Protection Plan (update in progress)	Local	Office of Emergency Services



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Community Forest Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Transportation Plan	Yes	Draft Nevada County Transportation Commission Regional Transportation Plan	Local	Nevada County Transportation Commission
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
As part of the regional transportation planning process, the Nevada County Transportation Commission (NCTC), in coordination with the County of Nevada, City of Grass Valley, City of Nevada City, and Town of Truckee, contracted with the consulting firm Fehr & Peers to prepare an Active Transportation Plan (ATP) covering Nevada County. The Plan combines previous bicycle and pedestrian planning efforts, evaluates needs, identifies projects, and recommends prioritization. Completion of the study will provide all necessary information and analysis required by the California Transportation Commission's state funding guidelines and assist local agency efforts to secure funding for bicycle and pedestrian projects. This plan will cover maintenance of roadways, buses, operations of all the facilities, and needed upgrades that are identified to accommodate the growth over the next 20 years.				
Agriculture Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Climate Action/Resiliency/Sustainability Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Tourism Plan	Yes	Recreation Resiliency Master Plan	County	Recreation Division
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Presents a cohesive and comprehensive approach for recreation in the County by coordinating recommendations and priorities with aligned planning efforts.				
Business/ Downtown Development Plan	N/A	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Other	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Community Wildlife Protection Plan, Emergency Operations Plan, Annexes to the Emergency Operations Plan, the Nevada-Yuba-Placer Unit (NEU) Plan, Nevada County Transportation Commission Transportation Plan, Recreation Master Plan				

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	2011 Nevada County Emergency Operations Plan	County	Office of Emergency Services
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Describes the responsibilities of First Responders and other response support organizations for natural disasters and manmade emergency incidents.</p>				
Continuity of Operations Plan	Yes	Each department has one	County	Department Heads
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Continuity of operations plans allow for critical services to be maintained during and after a hazard event.</p>				
Substantial Damage Response Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	State	California Governor's Office of Emergency Services
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>California Governor's Office of Emergency Services conducts THIRA for the State.</p>				
Post-Disaster Recovery Plan	Yes	Annex to the Emergency Operations Plan	County	Office of Emergency Services
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Identifies the responsibilities of County agencies and departments to help guide the decisions and actions of community leaders relative to long-term recovery following a disaster.</p>				
Public Health Plan	Yes	Various plans	County	Public Health
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>A comprehensive strategy designed to address public health needs during emergencies and disasters.</p>				
Other	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				

2.3.2 Integration

Table 2-2 describes how some local planning mechanisms have been integrated into this HMP and how information from this HMP can be integrated into these mechanisms when they are updated in the future. Procedures for this future integration are outlined in Section 21.2.2 of Volume I of this HMP. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings are as follows:

- Using HMP hazard assessment data and action item information for potential emergency plans and annex updates and/or emergency response plans



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- Incorporating hazard information, such as floodplain data, to potentially review and update zoning, land use, planning, and building codes; subdivision ordinance; and water management for new neighborhoods, communities, or other developments
- Using hazard analyses for general plan updates
- Updating capital improvement or strategic plans based on specific mitigation action items listed in this annex

2.3.3 Development and Permitting Capability

Table 2-3 summarizes the capabilities of Nevada County to oversee and track development.

TABLE 2-3. DEVELOPMENT AND PERMITTING CAPABILITY

	Yes/No	Comment
Do you issue development permits?	Yes	Planning and Building —
<ul style="list-style-type: none"> • If you issue development permits, what department is responsible? • If you do not issue development permits, what is your process for tracking new development? 		
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	This area needs improvement
Do you have a buildable land inventory?	Yes	Part of the General Plan
Describe the level of buildout in your jurisdiction.		Unknown. Rural Community

2.3.4 Administrative and Technical Capability

Table 2-4 summarizes potential staff and personnel resources available to Nevada County and their current responsibilities that contribute to hazard mitigation.

2.3.5 Fiscal Capability

Table 2-5 summarizes financial resources available to Nevada County.

2.3.6 Education and Outreach Capability

Table 2-6 summarizes the education and outreach resources available to Nevada County.

2.3.7 Community Classifications

Table 2-7 summarizes classifications for community programs available to Nevada County.

TABLE 2-4. ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Review and recommend actions to the Board of Supervisors for all General Plan Amendments, amendments to the Nevada County Zoning Ordinance, and approval or disapproval of all subdivisions filing of a final map and parcel map creating more than four lots and all major use permits, and site plans as provided in the Zoning Ordinance.
Zoning Board of Adjustment	Yes	Zoning Administrator considers all site plan approvals, certain use permit applications, as designed by the Zoning Ordinance, area variance applications, certificates of compliance, and environmental review concerning all projects and permits.
Planning Department	Yes	Applies community land-use policies and strives to meet the needs of individuals and businesses.
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	Standing one up in 2024. Promote economic development by emphasizing resiliency and entrepreneurship, retaining and attracting high quality jobs, investing in major infrastructure projects, and working with local, state and federal partners to support small businesses, nonprofit, and tourism sectors.
Public Works/Highway Department	Yes	Clearing and maintaining roads and key services during and after a disaster.
Construction/Building/Code Enforcement Department	Yes	Community Development Agency Code Compliance Division - The Division enforces County codes, state health and safety codes and state codes on building, mechanical, plumbing, electrical, and fire codes. Code also refers any noticed violations to the responsible agency (i.e.: Children safety/endangerment would be referred to CPS (Children's Protective Services); animal cruelty would be referred to Animal Control. etc.). Code staff members are mandatory reporters for these agencies. Staff would ensure compliance of building codes and standards that support hazard mitigation efforts.
Emergency Management/Public Safety Department	Yes	11 staff at the County.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Through Public Works Divisions: Engineering, Fleet Services, Road Maintenance, Solid Waste, Transit and Wastewater.



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Mutual aid agreements	Yes	Support all mission areas which can be established before, during, or after an incident.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Disaster Service Workers, all public employees impressed into service by a person having authority to command the air of citizens in the execution of his or her duties during a state of emergency, or a local emergency.
Other	No	-
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	Planning
Engineers or professionals trained in building or infrastructure construction practices	Yes	Planning and Building and Public Works
Planners or engineers with an understanding of natural hazards	Yes	Planning, Public Works
Staff with expertise or training in benefit/cost analysis	Yes	Office of Emergency Services, Planning, County as a whole
Professionals trained in conducting damage assessments	Yes	Building Department, Assessors Office
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Under Information and General Services
Staff that work with socially vulnerable populations or underserved communities	Yes	Department of Social Services, Public Health and OES
Environmental scientists familiar with natural hazards	Yes	Environmental Health
Surveyors	Yes	One on contract
Emergency manager	Yes	The Office of Emergency Services is responsible for coordinating with County departments, local cities, and special districts to prevent, protect, mitigate, respond to, and recover from disasters.
Grant writers	Yes	Multiple county agencies have grant writers. Office of Emergency Services has a Senior Administrative Analyst fully focused on grants.
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-



TABLE 2-5. FISCAL CAPABILITIES

Financial Resources	Accessible or Eligible to Use? (Yes/No)
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	Not sure
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

TABLE 2-6. EDUCATION AND OUTREACH CAPABILITIES

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	There is a county Public Information Office (PIO) and agency specific PIOs
Personnel skilled or trained in website development	Yes	On staff and on contract.
Hazard mitigation information available on your website	Yes	MyNevadaCounty.Com Office of Emergency Service page and ReadyNevadaCounty.Org have lots of pages of local hazard preparedness information.
Social media for hazard mitigation education and outreach	Yes	ReadyNevadaCounty.Org is robust and highly proliferated.
Citizen boards or commissions that address issues related to hazard mitigation	Yes	American Rivers, mitigation for stormwater issues
Warning systems for hazard events	Yes	CodeRED managed by Office of Emergency Service
Natural disaster/safety programs in place for schools	Yes	Programs have been offered through ReadyNevadaCounty.Org.



Outreach Resources	Available? (Yes/No)	Comment
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Department of Social Services – Public Assistance Program; Health and Human Services Agency, and Public health and County OES. Key non-profits doing this work are Gold Country Community Seniors, FREED Center for independent living, 211 Connecting Point, Color Me Human, and Sierra Services for the Blind.
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Public education efforts by County OES
If yes, please describe.		Yes, we use CodeRED, social media, variable message signs, direct mailers and local Firewise communities. We also provide notifications to local media sources (YubaNet.com online news and radio stations KNCO and KBMR)

TABLE 2-7. COMMUNITY CLASSIFICATIONS

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Fire Districts have their own	-
National Weather Service StormReady Certification	Yes	N/A	2023 Office of Emergency Services
Firewise Communities classification	Yes	N/A	Nevada County Fire Safe Council
Other: Organizations with mitigation focus (advocacy group, non-government)	-	-	-

N/A = Not applicable

2.3.8 Adaptive Capacity

Adaptive capacity is “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 combination of capabilities to adjust to, protect from, and withstand a hazard event, future conditions, and changing risk.

Table 2-8 summarizes the adaptive capacity for each identified hazard of concern and the County's capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

TABLE 2-8. ADAPTIVE CAPACITY

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Avalanche	Moderate
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flood	Moderate
Hazardous Materials Release	Moderate
Landslide	Moderate
Wildfire	Moderate
Winter Storm	Moderate
Volcano	Moderate

2.4 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 the table of planning team members at the beginning of this annex is responsible for maintaining this information.

2.4.1 NFIP Statistics

Table 2-9 summarizes the NFIP policy and claim statistics for Nevada County.

2.4.2 Flood Vulnerability Summary

Table 2-10 provides a summary of the NFIP program in Nevada County.

TABLE 2-9. NEVADA COUNTY NFIP SUMMARY OF POLICY AND CLAIM STATISTICS

# Policies	48
# Claims (Losses)	29
# Repetitive Loss Properties	1
# Severe Repetitive Loss Properties	0

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.

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. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: FEMA PIVOT 2024; CIS 2024

TABLE 2-10. NFIP SUMMARY

NFIP Topic	Comments
FLOOD VULNERABILITY SUMMARY	
Describe areas prone to flooding in your jurisdiction. <ul style="list-style-type: none"> Do you maintain a list of properties that have been damaged by flooding? 	Truckee River, South Fork Yuba River, South Fork Prosser Creek, Greenhorn Creek, North Fork Prosser Creek, Deer Creek, Summit Creek, Wolf Creek, Trout Creek, Little and South Forks of Wolf Creek, Little Truckee River, Squirrel Creek (and tributaries), Donner Creek, Clear Creek, South Fork Yuba River, Bear River. (See pages 10-9 to 10-11 of the Safety Element), No
Do you maintain a list of property owners interested in flood mitigation? <ul style="list-style-type: none"> If so, how many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? 	No
Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> If so, state what projects are underway. 	No
Do you have procedures established for Substantial Damage determinations following a disaster event? <ul style="list-style-type: none"> How many were declared for recent flood events in your jurisdiction? 	Yes, the Nevada County Emergency Operations Plan has a recovery annex and there are local checklists for working with CAL OES and FEMA on Public Assistance and Individual Assistance Programming. No known declared flood events.
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? <ul style="list-style-type: none"> If there are mitigation properties, how were the projects funded? 	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> If not, state why. 	Yes



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NFIP Topic	Comments
NFIP COMPLIANCE	
What local department is responsible for floodplain management?	Planning and Building - Zoning Administrator
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? <ul style="list-style-type: none"> • If so, what type of assistance/training is needed? 	Possibly. General overview of program and responsibilities and available resources.
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit Review to identify if property is located within an identified Floodplain
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Based on value of work
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? <ul style="list-style-type: none"> • If so, state the violations. 	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	August 2018
What is the local law number or municipal code of your flood damage prevention ordinance? <ul style="list-style-type: none"> • What is the date that your flood damage prevention ordinance was last amended? 	Article 1 of Chapter XII Land use and Development Code, November 2009; ordinance adopts all subsequent amendments and/or revisions of FIRMs, including most recent effective FIRM maps (February 2010)
Does your floodplain management program meet or exceed minimum requirements? <ul style="list-style-type: none"> • 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?	Zoning Ordinance requires a Use Permit any development within a floodplain and a Management Plan for any disturbance within 100 feet of a floodplain.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	No



2.5 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.

Since the previous HMP update, there have been no changes to construction or land use codes, and no unusual increase in permitting in potential hazard areas, indicating no significant increase in vulnerability from a land use perspective. While the total number of permits has increased, the proportion within the Special Flood Hazard Area (SFHA) remains minimal, reflecting a controlled and cautious approach to development in flood-prone areas. Continued applications for SFHA permits emphasizes the need for ongoing attention and enhanced mitigation strategies to manage and reduce flood risk effectively. Overall, the data highlights the importance of maintaining stringent building regulations and floodplain management practices to ensure that new developments do not significantly increase the community's vulnerability to flooding.

Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 2-11, Table 2-12, and Table 2-13.

TABLE 2-11. NUMBER OF BUILDING PERMITS FOR NEW CONSTRUCTION ISSUED SINCE THE PREVIOUS HMP

	New Construction Permits Issued			
	Single Family ^a	Multi-Family	Other (commercial, mixed-use, etc.) ^a	Total ^b
2018				
Total Permits	140	1	15	2,797
Permits within SFHA	0	0	0	4
2019				
Total Permits	102	0	17	3,217
Permits within SFHA	0	0	0	3
2020				
Total Permits	138	0	20	3,736
Permits within SFHA	0	0	0	3
2021				
Total Permits	100	31	19	3,680
Permits within SFHA	0	0	0	5
2022				
Total Permits	112	0	11	4,358
Permits within SFHA	0	0	0	6

	New Construction Permits Issued			
	Single Family ^a	Multi-Family	Other (commercial, mixed-use, etc.) ^a	Total ^b
2023				
Total Permits	105	2	14	4,059
Permits within SFHA	1	0	0	7

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

a. Values for 2018 – 2022 are estimates

b. Total indicates all issued permits (including electrical, plumbing, reroofs, etc.), not buildings alone

TABLE 2-12. RECENT MAJOR DEVELOPMENT AND INFRASTRUCTURE FROM 2017 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
NONE IDENTIFIED					

TABLE 2-13. 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
NONE IDENTIFIED					

2.6 Jurisdictional Risk Assessment

The risk assessment in Volume I provides information regarding the overall planning area's risks from the identified hazards, as well as quantitative vulnerability and impact estimates for municipalities and preliminary hazard rankings for all participating jurisdictions. Additional local risk assessment information for Nevada County is presented below.

2.6.1 Jurisdiction-Specific Hazard Risks

Volume I of this plan describes the 12 hazards identified as presenting the greatest risk to Nevada County overall. Refer to Volume I for detailed information on vulnerability to these hazards, including summaries of Nevada County's risk assessment results and data used to determine the hazard ranking.

Hazard Area

Figure 2-1 and Figure 2-2 illustrate locations that are at risk of a hazardous event occurring within the County. 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 Nevada County has significant exposure. City and town boundaries shown on the maps are the County's designated community boundaries, as defined in the Nevada County General Plan (Nevada County GIS 2020). High-hazard dams in the County are listed in Table 2-14.

Hazard Event History

The history of natural and non-natural hazard events in Nevada 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 2-15 provides details on loss and damage in Nevada County during hazard events since the last hazard mitigation plan update.

Hazard Ranking

The risk assessments for each hazard in Part 2 of Volume I of this HMP present evaluations of vulnerability and impact for unincorporated county areas and each participating municipality. 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.

Nevada County reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern for unincorporated County areas. The County agreed with most of the calculated hazard rankings. The rankings for flood and landslide were adjusted from low to medium due to the observed frequency and impacts of such events and the presence of critical facilities in hazard areas. The revised rankings also account for the increase in construction permits, mainly outside hazard areas, issued since the last plan, and the changes in community priorities described in Section 20.2 in Volume I of this HMP.

Table 2-16 shows Nevada County's final hazard rankings. Mitigation action development uses the ranking to target hazards with the highest risk.



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Figure 2-1. Nevada County Hazard Area Extent and Location Map 1

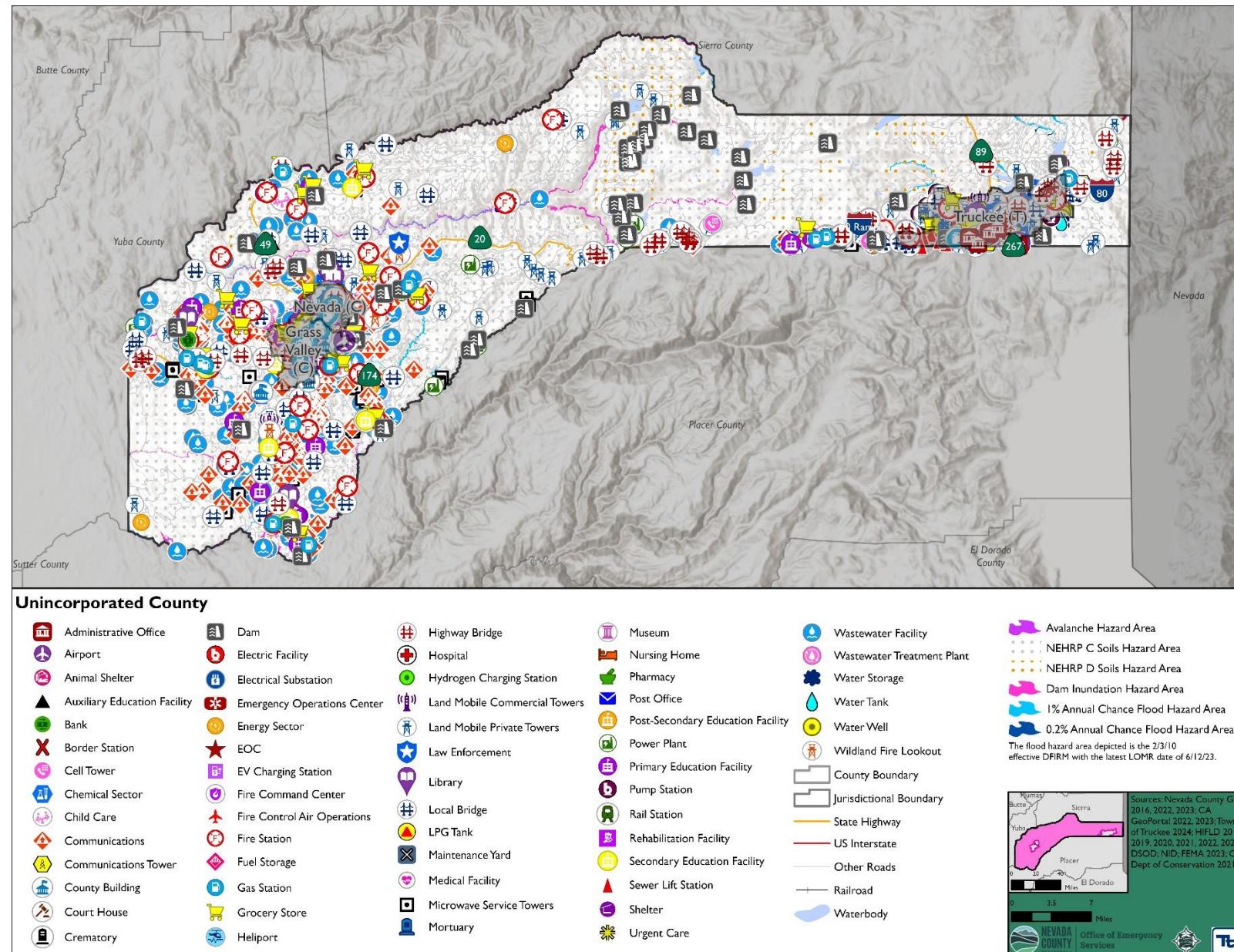


Figure 2-2. Nevada County Hazard Area Extent and Location Map 2

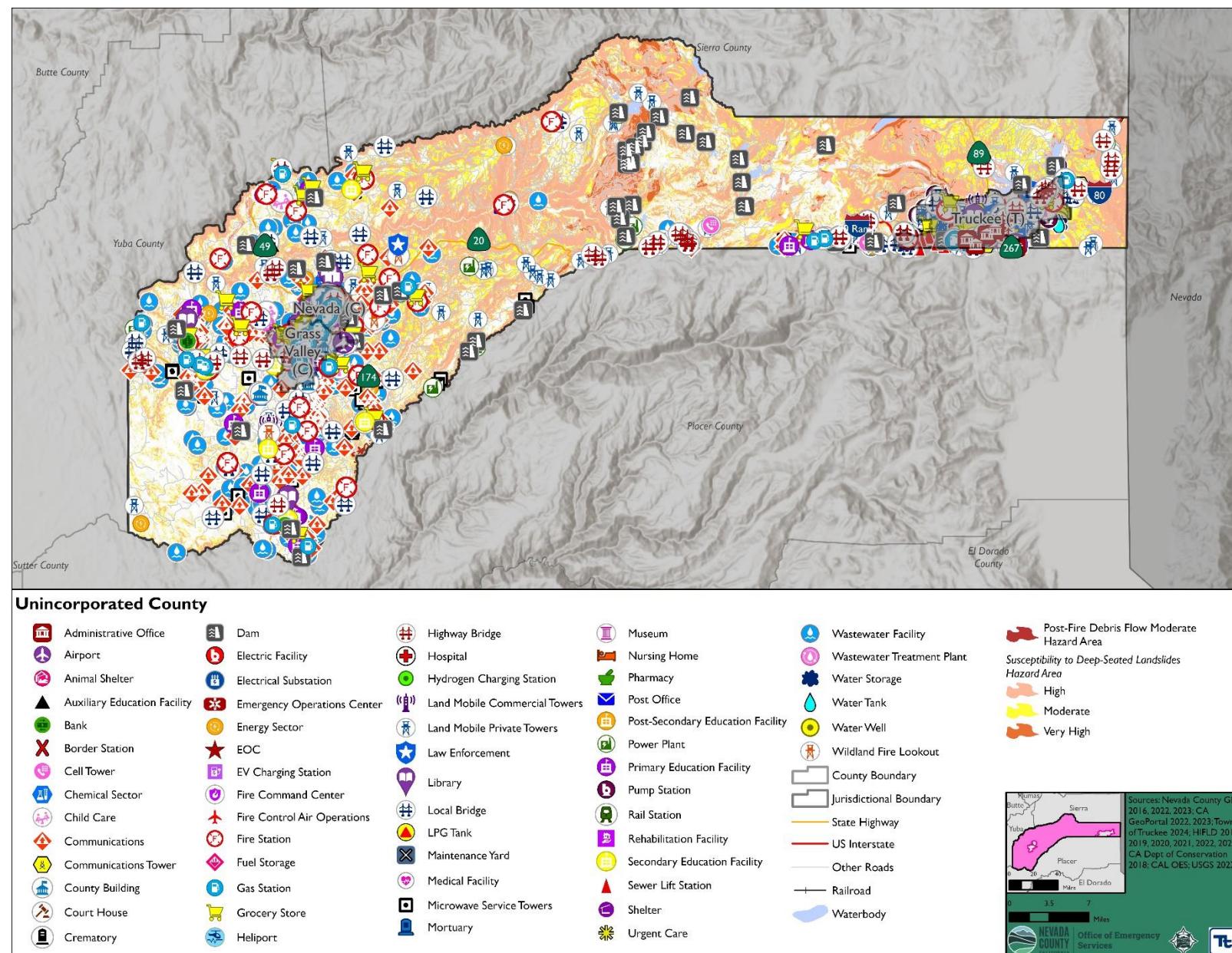


TABLE 2-14. HIGH HAZARD DAMS LOCATED IN NEVADA COUNTY

Dam Name	Hazard Rating	Dam Owner
Lake Spaulding	High (DSOD rating: Extremely High)	Pacific Gas and Electric Company
Rollins	High (DSOD rating: Extremely High)	Nevada Irrigation District
Jackson Meadows	High (DSOD rating: Extremely High)	Nevada Irrigation District
Scotts Flat	High (DSOD rating: Extremely High)	Nevada Irrigation District
Bowman Main	High (DSOD rating: Extremely High)	Nevada Irrigation District
Prosser Creek	High	Bureau of Reclamation
Lake Fordyce	High (DSOD rating: Extremely High)	Pacific Gas and Electric Company
Boca	High	Bureau of Reclamation
Martis Creek Dam	High	USACE
Lake Combie	High	Nevada Irrigation District
Our House	High	Yuba County Water Agency
French Lake	High (DSOD rating: Extremely High)	Nevada Irrigation District
Deer Creek Diversion	High	Nevada Irrigation District
Anthony House	High	Lake Wildwood Association
Magnolia	High	Lake of the Pines Association
Faucherie Lake Main	High	Nevada Irrigation District
Swan	High	Lakewood Association
Loma Rica Airport	High	Nevada Irrigation District
Jackson Lake	High	Nevada Irrigation District
Lake Angela	High	Donner Summit Public Utility District
Blue Lake	High	Pacific Gas and Electric Company
Rucker Lake	High	Pacific Gas and Electric Company
Bowman Arch	High	Nevada Irrigation District
Lake Spaulding No. 3 Auxiliary	High	Pacific Gas and Electric Company
Faucherie Spillway Auxiliary	High	Nevada Irrigation District

Source: (USACE n.d.)

Note: Hazard ratings shown are for both the federal and state classification systems except where noted as High (DSOD rating: Extremely High); those dams are rated high hazard under the federal system and extremely high hazard under California's system through the California Division of Safety of Dams (DSOD).



TABLE 2-15. HAZARD EVENT HISTORY IN NEVADA COUNTY

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nevada County
October 8 – October 31, 2017	Wildfires (DR-4344, FM-5271)	Yes	The 2017 California wildfire season resulted in nearly 1.6 million acres of burned land across 9,000+ wildfires. Nevada County experienced 7 wildfires during this season, with the most notable being the Lobo Fire (Wind Complex) and Pleasant Fire that burned a combined 1,000+ acres of land.	The County of Nevada supported this event by opening its Emergency Operations Center (EOC) and local emergency shelters, by sending Alert and Warning messages to the public and by leading evacuations and requesting law enforcement mutual aid.
Summer/Fall 2019 & 2020	Seasonal Public Safety Power Shutoff	Yes	PG&E in response to the Camp Fire began deenergizing its system in county's that had a high fire threat on days where there was an increased chance of fire weather.	County of Nevada costs were minimal mainly in the form of EOC support. Resident impacts were low but widespread as numerous multiday power outages impacted residents with lost food, durable medical equipment, heating and cooling, etc.
January 20, 2020 – May 11, 2023	Pandemic (DR-4482, EM-3428)	Yes	The coronavirus pandemic resulted in roughly 20,521 cases and 155 attributed deaths as of fall 2023.	
August 14 – September 26, 2020	Wildfires (DR-4558, FM-5332)	Yes	Historic wildfires swept across the State of California in 2020, resulting in over 4.3 million acres burned across the State. In Nevada County, the Jones Fire burned 705 acres and resulted in 7 injuries to civilians and fire personnel.	Impacts to the County of Nevada were minimal with less than \$200K in costs mainly in the form of emergency sheltering, law enforcement mutual aid and support to recovery programming.
July 14 – October 25, 2021	Wildfires (DR-4610)	Yes	The River Fire burned over 2,600 acres through Nevada County before being contained. At least 21 structures were damaged, 142 structures were destroyed, and 4 injuries were reported as a result of this fire.	While the River Fire did significant damage, this was restricted mainly to private residences and private property. The County of Nevada costs were in the form of animal and human sheltering of evacuees, County staff time in the EOC, Law Enforcement Mutual Aid supporting evacuations, and in support for recovery programming.



Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nevada County
December 27, 2021				Nevada County was hit with a winter storm that brought down trees and PG&E power poles, trapped residents in their homes and left some residents without power for almost 2 weeks. This event drove a local emergency proclamation and a Governors Declaration.
December 27, 2022 – January 31, 2023	Severe Storms (DR-4683)	Yes	Severe winter storms, flooding, landslides, and mudslides impacted residents and property across Nevada County.	The County of Nevada had minimal costs or impacts related to this storm event. Most of them were by the County Public Works in the form of debris removal, road/culvert damages and sign damages.
February 21 – July 10, 2023	Severe Storms (DR-4699, EM-3592)	Yes	Severe winter storms, straight-line winds, flooding, landslides, and mudslides impacted communities across Nevada County.	The County of Nevada incurred over \$1million dollars in costs mainly in the form of Public Works snow and debris removal. There were other costs related to emergency shelter for unhoused and vulnerable residents. The County EOC was open for over two weeks. The county also had some buildings with structural damage or full roof collapse from heavy/wet snow.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

TABLE 2-16. HAZARD RANKING

Hazard	Rank	Hazard	Rank
Avalanche	Low	Flood	Medium
Dam Failure	Low	Hazardous Materials Release	Low
Drought	Medium	Landslide	Medium
Earthquake	Low	Wildfire	High
Extreme Cold	Low	Winter Storm	High
Extreme Heat	Medium	Volcano	Low

2.6.2 Vulnerability and Potential Impacts for Hazards of Local Concern

Volume I describes countywide vulnerability and potential impacts for the hazards of concern to County.



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2.6.3 Identified Issues

After review of Nevada County's hazard event history, hazard rankings, hazard location, and current capabilities, Nevada County identified the following issues indicating the most important asset vulnerabilities and potential hazard impacts in the community:

- Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. Nevada County has 1 repetitive loss property, but other properties may be impacted by flooding as well.
- The County must adopt a local hazard mitigation plan in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan.
- The topography in Nevada County does not allow for normal communications coverage throughout the county. Mountains with steep canyons interfere with normal radio communications and coverage is very spotty in these areas. This is a great concern during emergency situations especially wildland fire incidents. There is no cell phone coverage in most of these areas. The Nevada County Sheriff's Office needs additional first responder repeater sites in areas where this is no radio signal coverage.
- There has been a history of hazard events in the canyon (fires, floods, landslides, mudslides, road damage, and stream bank erosion). There has been no formal recovery planning.
- Extended wet weather events are increasingly common, necessitating the expansion of wastewater treatment plants to handle the additional capacity required during these periods. Additionally, the aging Septic Tank Effluent Pump (STEP) tanks, many of which are situated within flood plains, are failing to keep stormwater out due to the higher frequency of extreme wet weather events and deteriorating infrastructure. The primary causes of these failures are deterioration and corrosion, leading to several issues:
 - Unnecessary conveyance and treatment of stormwater.
 - Premature aging and failure of infrastructure.
 - Capacity exceedance of lift stations, which are not designed to handle stormwater in addition to residential wastewater flows.
- Addressing these challenges is critical to maintaining the efficiency and reliability of the wastewater treatment system.
- The increasing frequency and complexity of hazardous materials (hazmat) incidents pose significant risks to public health, safety, and the environment across multiple counties. Currently, individual county resources and response capabilities are often insufficient to effectively manage large-scale or multi-jurisdictional hazmat emergencies. This fragmentation leads to delayed response times, inadequate resource allocation, and inconsistent communication and coordination among counties.
- The area lacks an organized effort to reduce ingress/egress fuels, with only limited post-winter storm grant funding used for storm-related debris removal. Situated in a wildland urban interface with high fire severity, the narrow, winding roads pose significant challenges for evacuation and emergency response. This route identified in the County Cement Hill, the North Bloomfield Evacuation Guide requires urgent attention to ensure safe and efficient evacuation and response during fire emergencies.



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- The Ponderosa West area, located within a wildland urban interface (WUI) and classified as a high fire severity zone, faces significant wildfire risks. Although a vegetation management project was successfully completed in 2020, the natural regrowth of vegetation necessitates maintenance treatments every five years. As a result, a critical maintenance treatment is required in 2024 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.
- The WUI in these high fire severity areas faces significant challenges due to narrow, winding roads that hinder evacuation and emergency response efforts. Despite the critical need for ingress/egress fuel reduction, there has been no organized effort to address this issue, except for limited post-winter storm grants focused on storm debris removal. This lack of comprehensive fuel management poses a severe risk to residents and emergency responders, especially during wildfire events. These areas are:
 - Red Dog/Buckeye
 - Scotts Flat/Cascade Shores
- Current green waste management programs are insufficient to handle the increasing volume of green waste generated by the community. This inadequacy leads to the accumulation of green waste, posing environmental and health risks, and limiting the effectiveness of existing waste management efforts. Without a scalable solution, the community will continue to face challenges in managing green waste sustainably and efficiently.
- The full Woodpecker Ravine project is a multifaceted \$43 million project that proposes geographically targeted fuel modification and home hardening in Woodpecker Ravine, coupled with a robust community education and engagement campaign. Nevada County will incorporate art and science to generate conversation and action around what it means to live in a forested landscape and how to create a more resilient, fire-adapted community in this environment.

The project will provide home-hardening to nearly 1,300 residences and defensible space assistance treating approximately 2,102 acres. Homeowners within the project footprint will have access to a cost-share program which will provide 70% cash-match incentives to residents up to \$20,000 for home-hardening and \$6,000 for defensible space implementation.

Additionally, selective thinning will take place on a total of 1,136 acres of land along critical evacuation routes and strategic ridges. This treatment has been scoped as consisting of 150 feet of treatment on either side of primary evacuation routes, 75 feet of treatment on either side of secondary evacuation routes, and 150 feet of treatment along strategic ridges. Treatment along strategic ridges will serve to tie road system arteries into a comprehensive shaded fuel break. 410 strategic acres will be treated in Phase I and 726 acres will be treated in Phase II.

- The South County Shaded Fuel Break is a 339-acre project designed to create safe ingress for first responders and egress for evacuating residents. The project, when complete, will treat 75-ft on either side of the roadway to create a shaded fuel break that is a total of 150-ft wide in the vicinity of Alta Sierra. The project runs west-east from HWY 49 along Buck mountain Road and Lodestar Drive to Dog Bar Rd. Additionally, this project includes a portion of Brewer Rd from intersection of Buck Mountain Rd and Lodestar south. With 181.7 acres already treated, the project remains incomplete and will require upkeep.

- The 2023 winter storm has left significant hazardous vegetation along county-maintained and private roads, posing a risk to public safety and increasing the potential for wildfires. The accumulation of debris and hazardous vegetation also hampers effective evacuation and emergency response efforts, particularly in highly impacted communities.
- The Sierra Nevada Foothill Forest is at risk due to dense vegetation, invasive species, and the impacts of climate change, including increased drought and pest infestations. These factors threaten forest health, wildlife habitat, and increase the severity of wildfires, posing a danger to local communities and schools.
- The North San Juan Ridge in Nevada County is highly susceptible to wildfires due to dense vegetation and lack of coordinated fuel management. This poses a significant threat to the safety of residents, critical infrastructure, and the environment. The area requires a comprehensive and strategic approach to reduce hazardous fuels and mitigate wildfire risks.
- Housing development in the WUI in a high fire severity area poses significant risks to residents and properties. Nevada County lacks a comprehensive forest management plan to address these risks and ensure the health and sustainability of its woodlands.
- The original Ponderosa West project requires a second-pass implementation on its 1,200-acre treatment zone to ensure the effectiveness and sustainability of the initial treatments.
- The areas around Lake Wildwood, including Pleasant Valley Road, Mooney Flat Road, and the Deer Creek Canyon above and below Lake Wildwood, are at risk of wildfire due to overgrown roadside vegetation and lack of shaded fuel breaks.
- Nevada County and the Tahoe National Forest face significant challenges in maintaining healthy forest, rangeland, and watershed ecosystems. These challenges include the presence of insect and disease-infected trees, hazardous fuel accumulation, and the degradation of fish and wildlife habitats. Without a coordinated effort, these issues increase the risk of wildfires and negatively impact the overall health of the environment.

Addressing these issues is an important community priority for Nevada County, and the mitigation strategy has been developed to incorporate, where feasible, actions that would help to resolve one or more of these issues.

2.7 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.

2.7.1 Past Mitigation Action Status

Table 2-17 indicates progress on the County's mitigation strategy identified in the 2017 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 2-17. STATUS OF PREVIOUS MITIGATION ACTIONS

A1—Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	
Hazards Addressed	Multi-Hazard
Responsible Party	Nevada County Planning Department
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	The 2020 rewrite of the County of Nevada Safety Element included information from the 2018 HMP. Would be good to carry this recommendation forward into the next HMP to ensure the Safety Element is again updated.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Integrate Local Hazard Mitigation Plan into Safety Element of General Plan
If discontinue, explain why	
A2—Public awareness, education, outreach, and preparedness program enhancements.	
Hazards Addressed	Multi-Hazard
Responsible Party	Nevada County Office of Emergency Services
Action Review	
Status	Ongoing Capability
Progress, or obstacles that have prevented implementation	The County of Nevada has made great progress in this area over the last 5 years. This has been mainly through the creation of the Ready Nevada County website and brand. This is an award-winning program that has taken Planning, Preparedness, Mitigation, Response and Recovery and made it available to every resident in an easy to access way. This will be an ongoing and essential annual program.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This project is an ongoing effort to maintain this outreach program.

A3—Install additional repeater sites in areas where there is no radio signal coverage.	
Hazards Addressed	Multi-Hazard
Responsible Party	Nevada County Sheriff's Office
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	The Sheriff's Office does have a project in place to add radios and repeaters.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Install additional first responder repeater sites in areas where there is no radio signal coverage.
If discontinue, explain why	
A4—Conduct evacuation and shelter planning for all communities and populations (to include all critical hazards, at risk populations, medical, ADA, animals, and an outreach component).	
Hazards Addressed	Multi-Hazard
Responsible Party	Nevada County Office of Emergency Services
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Nevada County has recently completed work on a grant funded Evacuation Annex that focused on critical communities, not the fully county. There needs to be more community focused shelter planning, this is being done by the county but is limited. This will be an ongoing and essential annual program. Nevada County Evacuation Route Planning Funder: California Firesafe Council (via CAL FIRE) Grant Agreement #: 5GG21105 Amount: \$135,422 Description: To complete wildfire and traffic modeling to develop an Evacuation Route Improvement Plan. Will pair evacuation planning with community education to make egress routes safer and evacuations smoother. Timeline: July 2022-March 15, 2024
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep wording, specific task.
If discontinue, explain why	



A5—Recovery planning	
Hazards Addressed	Multi-Hazard
Responsible Party	Nevada County Office of Emergency Services
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	There has been no formal recovery planning. There have been some localized procedures created and some work has gone into an evergreen website.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Write a countywide recovery plan that factors in all relevant disaster types and clearly outlines and integrates State and Federal disaster recovery programs.
If discontinue, explain why	
A6—Tree mortality: Chipping/Grinding Program	
Hazards Addressed	Agricultural
Responsible Party	Tahoe National Forest
Action Review	
Status	Ongoing Capability
Progress, or obstacles that have prevented implementation	
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Ongoing capability
A7—Washington community warning system in the event of an up stream dam failure	
Hazards Addressed	Dam Failure
Responsible Party	Sheriff's Office
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	Deferred to the Washington Water District.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Not a county project. This will be deferred to Washington Water District.

A8—Public outreach/Preparedness/Backup Generator	
Hazards Addressed	Extreme Cold, Snow, and Freeze
Responsible Party	Nevada County Office of Emergency Services
Action Review	
Status	Ongoing Capability
Progress, or obstacles that have prevented implementation	The county of Nevada Ready Set Go campaign has focused on generator safety over the last few years and while this is an ongoing messaging component it does not need to be carried forward in the next HMP.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Ongoing capability
A9—Public awareness, education, outreach, & preparedness program	
Hazards Addressed	Flood and Localized Flood
Responsible Party	Nevada County Office of Emergency Services
Action Review	
Status	Ongoing Capability
Progress, or obstacles that have prevented implementation	The County of Nevada has made great progress in this area over the last 5 years. This has been mainly through the creation of the Ready Nevada County website and brand. This is an award-winning program that has taken Planning, Preparedness, Mitigation, Response and Recovery and made it available to every resident in an easy to access way. This will be an ongoing and essential annual program.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Ongoing capability

A10—Retrac Way at Wolfe Creek Bridge replacement	
Hazards Addressed	Flood and Localized Flood
Responsible Party	Nevada County Public Works
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	The bridge on Retrac Way @ Wolf Creek was replaced in 2018.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	The action has been completed.
A11—Maybert Road Improvements	
Hazards Addressed	Flood and Localized Flood
Responsible Party	Nevada County Public Works
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	The Maybert Bridge at Canyon Creek was replaced in 2017. The only other recent road work on Maybert Road was just repair work from the 2017 floods.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	The action has been completed.
A12—Backup power for critical wastewater infrastructure	
Hazards Addressed	Flood and Localized Flood
Responsible Party	Nevada County Sanitation District
Action Review	
Status	Ongoing Capability
Progress, or obstacles that have prevented implementation	This will be a continuing need for the District. NCSD is working to replace aging standby generators within the District. We are working to fund replacements for two to three generators per year. This ongoing plan will allow full replacement of all of the Districts generators every 10-12 years.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This is an ongoing action.



A13—Wastewater Treatment Plants (WWTP) Improvements Project and Implement Sewer Master Plans	
Hazards Addressed	Flood and Localized Flood
Responsible Party	Nevada County Sanitation District
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	<p>This will also be an ongoing plan to deal with both aging infrastructure, as well as developments related to climate change. We are seeing extended wet weather events that will require expansion of the plants to accommodate the additional capacity of the plant to be able to treat increased wastewater flows during these events.</p> <p>Replacement of aging Septic Tank Effluent Pump (STEP) tanks. Many of these tanks are located within a flood plain and due to higher frequency of extreme wet weather events, and aging infrastructure, the ability to keep stormwater out of these tanks is beginning to fail. Deterioration and corrosion are the primary causes for failures in this system. This leads to unnecessary conveyance and treatment of stormwater, premature aging and failure of infrastructure and capacity exceedance of the lift stations that are not designed to convey storm water in addition to residential wastewater flows.</p>
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Complete necessary WWTP improvement projects to address climate change stressors and aging infrastructure.
If discontinue, explain why	
A14—Establish Haz Mat Task Force	
Hazards Addressed	Hazardous Material
Responsible Party	Nevada County Office of Emergency Services
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	<p>There has not been any funding or capacity to complete this project. There is an ongoing need to address local countywide Hazmat challenges.</p>
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Establish a joint, countywide Haz Mat Task Force
If discontinue, explain why	

A15—Roadside Vegetation Management	
Hazards Addressed	Wildfire
Responsible Party	County of Nevada
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	The county of Nevada has been providing microgrants to local Firewise communities to do the work required to reduce roadside vegetation along private roadways. The county, in partnership with local nonprofit partners, has also conducted public no cost green waste events to offer residents a solution to clear their roadside vegetation. Lastly the county has a defensible space ordinance that addresses roadside vegetation clearing requirements for private roadways.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Countywide Public and Private Roadside Vegetation Management
If discontinue, explain why	
A16—Fuel Break-Town of Washington/S Yuba Canyon	
Hazards Addressed	Wildfire
Responsible Party	Tahoe National Forest
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	Deferred to the Washington Water District
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Not a county project. This will be deferred to Washington Water District.



A17—Juniper Hills (developed housing area) Ingress/Egress Improvement	
Hazards Addressed	Wildfire
Responsible Party	TBD
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Phase 1 was completed 2023, 30 feet either side of the road. Completed by Truckee Fire Protection District. Phase 2 is being led by the Firewise Community to develop a Forest Management Plan grant funded by Truckee Tahoe Community Foundation Truckee North Tahoe Forest Management Program
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Juniper Hills Ingress/Egress Improvement, Phase 2
If discontinue, explain why	
A18—North Bloomfield/Harmony Ridge Ingress/Egress Fuels Reduction	
Hazards Addressed	Wildfire
Responsible Party	TBD
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	There has not been an organized effort to reduce ingress/egress fuels in this area except for some post winter storm grant dollars focused on picking up and disposing of storm related debris.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Reduce fuels along county maintained and private roads to comply with county and state defensible space standards of a minimum of 10 feet horizontally and 15 feet vertically or greater as required based on fuel loading and slope.
If discontinue, explain why	



A19—Ponderosa West Grass Valley Defense Zone	
Hazards Addressed	Wildfire
Responsible Party	TBD
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	<p>This project was completed in 2020 but vegetation grows back every 5 years and maintenance treatment will need to be completed in 2024. Ponderosa West Funder: CAL FIRE Grant Agreement #: 5GG18114 Amount: \$2,536,477 + \$1,000,000 in a separate contract Description: 1,200-acre shaded fuel break (fuels management defense zone) adjacent to Grass Valley on both private and Nevada County maintained lands. Timeline: Closed March 15, 2022</p>
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Yes, include in the 2024 HMP as this is a strategic fuel break. There are USFS grants that have been awarded to expand the footprint of this project (Ponderosa Phase II) and to do maintenance on Phase I (Ponderosa West Phase I Maintenance).
If discontinue, explain why	
A20—Red Dog/Buckeye Ingress/Egress Improvement	
Hazards Addressed	Wildfire
Responsible Party	TBD
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	<p>There has not been an organized effort to reduce ingress/egress fuels in this area with the exception of some post winter storm grant dollars focused on picking up and disposing of storm related debris.</p>
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Reduce fuels along county maintained and private roads to comply with county and state defensible space standards of a minimum of 10 feet horizontally and 15 feet vertically or greater as required based on fuel loading and slope.
If discontinue, explain why	



A21—Scotts Flat/Cascade Shores Ingress/Egress Fuels Reduction	
Hazards Addressed	Wildfire
Responsible Party	TBD
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	There has not been an organized effort to reduce ingress/egress fuels in this area with the exception of some post winter storm grant dollars focused on picking up and disposing of storm related debris.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Reduce fuels along county maintained and private roads to comply with county and state defensible space standards of a minimum of 10 feet horizontally and 15 feet vertically or greater as required based on fuel loading and slope.
If discontinue, explain why	
A22—Tahoe Donner Fuel Reduction Project	
Hazards Addressed	Wildfire
Responsible Party	TBD
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	76.4 acres treated.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This action has been completed.
A23—Glenshire Green Belt Fuels Reduction	
Hazards Addressed	Wildfire
Responsible Party	TBD
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	Completed an 1,100 acre shaded fuel break.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This action has been completed.



2.7.2 Additional Mitigation Efforts

In addition to the mitigation actions completed from the previous plan, Nevada County identified the following mitigation efforts completed since the last HMP:

- Nevada County developed an Evacuation Study with a grant from CAL FIRE. The Study utilized behavior and traffic analyses of the top five highest priority areas which were the outcomes of the Landris analysis. These scenarios were analyzed by a licensed traffic engineer and certified Fire Behavior Analyst and the outcome was the identification of defensible projects that may be put forward as projects for future funding.
- Truckee Fire Protection District (TFPD) did fund Tahoe Prosperity Center Early Fire Detection Camera-Serene Lakes with Measure T that plans to install a new Wildfire Detection Camera at Soda Springs Ski Resort. This is located on the county line and has benefit to both counties.
- TFPD created defensible space countywide in fire prone communities with a focus on low income & AFN; Projects, Green waste programming, Access & Functional Needs Phase I & II HMGP Grant; bio-mass solutions
 - With funding from Local Special Tax - Measure T there have been substantial developments in Truckee Fire.
 - In 2022, TFPD has deployed Fire Aside software for Defensible Space inspections, curbside Green waste pick-up, Home Hardening rebates, and other assistance grants, and has shifted to a 3-year Defensible Space Inspection cycle in the District. There have been 10,000+ inspection completed in this new software.
 - Starting in 2022 TFPD created a curbside residential green waste pick-up program. This utilizes a grapple truck to efficiently pick-up and dispose/utilize residential biomass generated by defensible space mitigation efforts of the property owner. This has resulted in over 5,000 piles picked up over 2022 & 2023.

Since the adoption of the County's first HMP, Nevada County has made significant mitigation progress in the following areas:

- The County has made great progress in the areas of Public Awareness, Education, Outreach and Preparedness programs through the creation of Ready Nevada County website and brand. This is an award-winning program that has taken Planning, Preparedness, Mitigation, Response and Recovery and made it available to every resident in an accessible way.

2.7.3 Proposed Hazard Mitigation Actions for the HMP Update

The action worksheets included at the end of this annex list the mitigation actions that Nevada 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 2-18 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.

TABLE 2-18. ANALYSIS OF MITIGATION ACTIONS BY HAZARD AND CATEGORY

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Avalanche	X				X					X
Dam Failure	X				X					X
Drought	X		X		X			X		X
Earthquake	X				X					X
Extreme Cold	X				X					X
Extreme Heat	X				X					X
Flood	X	X	X		X	X	X			X
Hazardous Materials Release	X				X		X			X
Landslide	X				X		X			X
Wildfire	X	X	X	X	X	X	X	X		X
Winter Storm	X				X					X
Volcano	X				X					X

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 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 and Firewise Communities

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 citizens, 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

Volume I identifies 14 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 (-1, 0, or 1) for each of the evaluation criteria. Table 2-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.



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TABLE 2-19. SUMMARY OF PRIORITIZATION OF ACTIONS

Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2024-NevCo-01	Repetitive Loss Mitigation	1	1	1	0	0	0	1	1	1	0	1	0	0	1	8	Medium
2024-NevCo-02	Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	High
2024-NevCo-03	Install Additional First Responder Repeater Sites	1	0	1	0	1	1	0	1	1	1	0	0	1	0	8	Medium
2024-NevCo-04	Countywide Recovery Plan	1	0	1	1	1	1	1	1	1	1	1	0	1	1	12	High
2024-NevCo-05	Wastewater Treatment Plants Improvements Project and Implement Sewer Master Plans	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-06	Establish a Joint, Countywide HazMat Task Force	0	0	1	0	1	0	1	0	1	0	0	0	1	0	5	Low
2024-NevCo-07	North Bloomfield/Harmony Ridge Ingress/Egress Fuels Reduction	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-08	Ponderosa West Grass Valley Defense Zone	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-09	Red Dog/Buckeye Ingress/Egress Improvement	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium



Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2024-NevCo-10	Biomass Solutions	0	0	1	0	1	1	1	1	1	1	1	0	1	1	10	Medium
2024-NevCo-11	Woodpecker Ravine Shaded Fuel Break	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-12	South County Shaded Fuel Break	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-13	Winter Storm Hazardous Vegetation Clean-Up	0	1	1	0	1	1	1	1	1	0	1	0	1	0	9	Medium
2024-NevCo-14	Sierra Foothill Forest Climate Resilience Project	1	1	1	0	1	1	1	1	1	1	1	0	1	1	12	High
2024-NevCo-15	South Yuba Rim Hazardous Fuels Reduction, Phase 1	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-16	Juniper Hills Ingress/Egress Improvement, Phase 2	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-17	West Grass Valley Defense Zone Extension, Phase 1 Maintenance	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-18	Lower Deer Creek-Penn Valley Hazardous Fuels Reduction Project	1	1	1	0	1	1	1	1	1	0	1	0	1	0	10	Medium
2024-NevCo-19	Wildfire Resilient Communities and Landscapes Collaboration	1	1	1	1	1	1	1	1	1	0	1	0	1	0	11	High

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



2024-NEVCO-01. REPETITIVE LOSS MITIGATION

Lead Agency:	Nevada County OES	
Supporting Agencies:	Private homeowners	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. Nevada County has 1 repetitive loss property, but other properties may be impacted by flooding as well.	
Description of the Solution:	Conduct outreach to 10 flood-prone property owners, including repetitive loss/severe repetitive loss property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information, and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, FMA, HMGP, match from property owners	
Implementation Timeline:	Within 5 years	
Goals Met:	6, 10	
Benefits:	Eliminates flood damage to homes and residences, which 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	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



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2024-NEVCO-02. INTEGRATE LOCAL HAZARD MITIGATION PLAN INTO SAFETY ELEMENT OF GENERAL PLAN

Lead Agency:	Planning Department	
Supporting Agencies:	-	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	The County must adopt a local hazard mitigation plan in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan.	
Description of the Solution:	The Nevada County Planning Department will incorporate the HMP, once adopted, into the Safety Element of the General Plan.	
Estimated Cost:	Medium	
Potential Funding Sources:	Local Budget	
Implementation Timeline:	1-5 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	By integrating the HMP into the Safety Element of the General Plan, this will help jurisdictions maximize the cost recovery potential following a disaster.	
Impact on Socially Vulnerable Populations:	By identifying and addressing specific vulnerabilities, these plans help ensure that everyone, especially the most at-risk, receives the necessary support and protection.	
Impact on Future Development:	HMPs help communities plan and develop to minimize risk and enhance resilience. They integrate mitigation strategies into land use, building codes, and infrastructure projects, protecting new developments from future hazards.	
Impact on Critical Facilities/Lifelines:	By prioritizing critical lifelines, HMPs enable faster community recovery from disasters. This involves retrofitting infrastructure to withstand natural hazards and ensuring emergency services remain operational.	
Impact on Capabilities:	Local jurisdictional reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (AB 2140).	
Climate Change Considerations:	Climate change is likely to increase the frequency and severity of natural hazards like floods, wildfires, and extreme heat events. This requires the HMP to adopt more robust and adaptive mitigation strategies to manage these evolving risks.	
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-NEVCO-03. INSTALL ADDITIONAL FIRST RESPONDER REPEATER SITES

Lead Agency:	Nevada County Sheriff's Office	
Supporting Agencies:	Nevada County OES	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>The topography in Nevada County does not allow for normal communications coverage throughout the county. Mountains with steep canyons interfere with normal radio communications and coverage is very spotty in these areas. This is a great concern during emergency situations especially wildland fire incidents. There is no cell phone coverage in most of these areas. The Nevada County Sheriff's Office needs additional first responder repeater sites in areas where this is no radio signal coverage.</p>	
Description of the Solution:	<p>Install repeater sites to allow for radio communications in non-radio coverage areas within the county, bolster telecommunications across rural sections of Nevada County by conducting a study to map local commercial networks and bolster gaps and increase law/fire radio and telephony redundancy.</p>	
Estimated Cost:	Medium	
Potential Funding Sources:	Homeland Security Grants, County General Fund, other grants	
Implementation Timeline:	Within 5 years	
Goals Met:	1, 2, 7	
Benefits:	<p>This project aims to prevent loss of life, property and impacts to the environment.</p>	
Impact on Socially Vulnerable Populations:	<p>Reliable communication networks keep socially vulnerable groups informed about emergencies and safety measures, in return, helping to reduce their risk during disasters.</p>	
Impact on Future Development:	<p>Having a reliable communication system can attract businesses and investors, supporting future development.</p>	
Impact on Critical Facilities/Lifelines:	<p>Repeater sites maintain effective communication channels, ensuring that critical services like healthcare and public safety remain operational during emergencies.</p>	
Impact on Capabilities:	<p>By installing repeater sites, the county can significantly enhance its communication capabilities, ensuring better emergency response and public safety.</p>	
Climate Change Considerations:	<p>Climate change can lead to more intense weather events, the County must adapt its' communication infrastructure to remain effective.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVCO-04. COUNTYWIDE RECOVERY PLAN

Lead Agency:	Nevada County OES	
Supporting Agencies:	FEMA, CAL-OES, and other Federal & State Agencies	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>There has been a history of local hazards occurring in the canyon (fires, floods, landslides, mudslides, road damage, and stream bank erosion). Additionally, there has been no formal recovery planning.</p>	
Description of the Solution:	Nevada County OES will write a countywide recovery plan that factors in all relevant disaster types. This plan will outline and integrate State and Federal disaster recovery programs.	
Estimated Cost:	Medium	
Potential Funding Sources:	HMGP, State Funding	
Implementation Timeline:	1-5 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	<p>The county-wide recovery plan strengthens Nevada County's resilience, supports vulnerable populations, promotes sustainable development, and ensures the continuity of critical services.</p>	
Impact on Socially Vulnerable Populations:	A recovery plan guarantees that socially vulnerable populations receive timely and sufficient assistance during and after disasters.	
Impact on Future Development:	This plan will integrate mitigation strategies aimed to enhance future development by ensuring new projects are disaster resilient.	
Impact on Critical Facilities/Lifelines:	<p>This project will emphasize safeguarding and swiftly restoring critical lifelines like transportation, utilities, and communication networks, ensuring they stay functional during and after disasters.</p>	
Impact on Capabilities:	A recovery plan can ensure efficient resource allocation, enabling the County to respond effectively to various disaster types and recover more quickly.	
Climate Change Considerations:	Having a recovery plan in place would allow the County to account for heightened risks associated with climate change and incorporate adaptive strategies to manage those risks effectively.	
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-NEVCO-05. WASTEWATER TREATMENT PLANTS IMPROVEMENTS PROJECT AND IMPLEMENT SEWER MASTER PLANS

Lead Agency:	Nevada County Sanitation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Extended wet weather events are increasingly common, necessitating the expansion of wastewater treatment plants to handle the additional capacity required during these periods.</p> <p>Additionally, the aging Septic Tank Effluent Pump (STEP) tanks, many of which are situated within flood plains, are failing to keep stormwater out due to the higher frequency of extreme wet weather events and deteriorating infrastructure. The primary causes of these failures are deterioration and corrosion, leading to several issues:</p> <ul style="list-style-type: none"> • Unnecessary conveyance and treatment of stormwater. • Premature aging and failure of infrastructure. • Capacity exceedance of lift stations, which are not designed to handle stormwater in addition to residential wastewater flows. <p>Addressing these challenges is critical to maintaining the efficiency and reliability of the wastewater treatment system.</p>	
Description of the Solution:	<p>To address the challenges posed by extended wet weather events and aging infrastructure, the Nevada County Sanitation District (NCSD) will propose expanding the capacity of wastewater treatment plants to handle the increased flows during these periods. This will ensure efficient treatment without compromising performance. Additionally, NCSD will replace deteriorating Septic Tank Effluent Pump (STEP) tanks, especially those in flood plains, with new, more resilient tanks to prevent stormwater infiltration. Implementing corrosion-resistant materials and technologies in the new STEP tanks and other critical infrastructure will enhance durability and longevity, minimizing future failures. NCSD will also introduce flood mitigation measures around vulnerable infrastructure, such as elevating tanks and improving drainage systems, to protect against extreme wet weather events. Upgrading lift stations to handle both residential wastewater and potential stormwater inflows will ensure efficient operation during peak flow conditions.</p>	
Estimated Cost:	High	
Potential Funding Sources:	Sanitation District Grants	
Implementation Timeline:	1-5 years	
Goals Met:	1, 3, 6, 7, 8	
Benefits:	Implementing these solutions will enhance the resilience and efficiency of the wastewater treatment system, ensuring reliable service during extreme weather events.	



Impact on Socially Vulnerable Populations:	Expanding wastewater treatment capacity and replacing aging STEP tanks will significantly benefit socially vulnerable populations by providing reliable wastewater services.		
Impact on Future Development:	This project will enable new and existing infrastructure to manage increased wastewater flows from extended wet weather events, promoting economic growth through enhanced resilience.		
Impact on Critical Facilities/Lifelines:	By upgrading lift stations and implementing flood mitigation measures, the project ensures that critical lifelines—such as transportation, utilities, and communication networks—remain operational during and after extreme weather events.		
Impact on Capabilities:	The project boosts the county's capabilities by making its wastewater management system more efficient and resilient. This leads to better resource allocation, lower risk of infrastructure failure, and improved emergency response during extreme weather events.		
Climate Change Considerations:	With a higher likelihood of extreme wet weather, the improvements within this project will protect infrastructure from flooding.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



2024-NEVCO-06. ESTABLISH A JOINT, COUNTYWIDE HAZMAT TASK FORCE

Lead Agency:	Nevada County Environmental Health	
Supporting Agencies:	Local Government Fire Departments	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The increasing frequency and complexity of hazardous materials (hazmat) incidents pose significant risks to public health, safety, and the environment across multiple counties. Currently, individual county resources and response capabilities are often insufficient to effectively manage large-scale or multi-jurisdictional hazmat emergencies. This fragmentation leads to delayed response times, inadequate resource allocation, and inconsistent communication and coordination among counties.</p>	
Description of the Solution:	<p>To address these challenges, the Nevada County OES will establish a joint, countywide hazmat task force. This task force will unify resources, expertise, and response efforts across all participating counties, ensuring a more efficient, coordinated, and effective approach to hazmat incidents. By leveraging shared training, equipment, and communication protocols, the task force will enhance overall preparedness, reduce response times, and mitigate the impact of hazardous materials on communities and the environment.</p>	
Estimated Cost:	Medium	
Potential Funding Sources:	US DOT Pipeline and Hazardous Materials Safety Administration HazMat Emergency Preparedness Grant	
Implementation Timeline:	1-5 years	
Goals Met:	2, 3, 4, 5, 8	
Benefits:	<p>Establishing a joint, countywide hazmat task force will significantly enhance the ability to respond to hazardous materials incidents across multiple counties.</p>	
Impact on Socially Vulnerable Populations:	<p>A well-coordinated response will mitigate the impact of hazardous materials on communities, including socially vulnerable populations, reducing potential health risks and environmental damage.</p>	
Impact on Future Development:	<p>Effective hazmat incident management averts long-term environmental harm and health hazards, which can have substantial economic repercussions. A secure and well-maintained environment draws businesses and residents, promoting economic growth and stability.</p>	
Impact on Critical Facilities/Lifelines:	<p>By consolidating resources and expertise, the task force guarantees that all participating counties are better equipped to handle hazmat incidents. This readiness is vital for sustaining essential services like healthcare, utilities, and transportation during emergencies.</p>	



Impact on Capabilities:	Sharing resources and expertise among counties will reduce duplication of efforts and lower overall costs associated with hazmat response and management.	
Climate Change Considerations:	By consolidating resources and expertise within the task force, it will be better equipped to manage the impacts of hazmat incidents during extreme weather events driven by climate change.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Low	



2024-NEVCO-07. NORTH BLOOMFIELD/HARMONY RIDGE INGRESS/EGRESS FUELS REDUCTION

Lead Agency:	County of Nevada, Nevada County OES	
Supporting Agencies:	Nevada County Public Works	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The area lacks an organized effort to reduce ingress/egress fuels, with only limited post-winter storm grant funding used for storm-related debris removal. Situated in a wildland urban interface with high fire severity, the narrow, winding roads pose significant challenges for evacuation and emergency response. This route identified in the County Cement Hill, the North Bloomfield Evacuation Guide requires urgent attention to ensure safe and efficient evacuation and response during fire emergencies.</p>	
Description of the Solution:	<p>Nevada County will reduce fuels along county maintained and private roads to comply with county and state defensible space standards of a minimum of 10 feet horizontally and 15 feet vertically or greater as required based on fuel loading and slope.</p> <p>For this project, the recently completed Evacuation Study will be referenced for continuity of operations.</p>	
Estimated Cost:	High	
Potential Funding Sources:	State Responsibility Area Grants, Sierra Nevada Conservancy Grant, Federal Title II & III, Fire Safe California Grants Clearinghouse, Proposition 1 & 40, Western States Wildland-Urban Interface Grants	
Implementation Timeline:	Within 5 Years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	Fuels reduction and improved access will safeguard community housing, enhance life safety, and protect the environment.	
Impact on Socially Vulnerable Populations:	Ensuring clear and accessible roads enhances evacuation routes, making it easier for vulnerable individuals to evacuate safely during emergencies.	
Impact on Future Development:	Implementing defensible space standards supports sustainable development practices, ensuring that new developments are built with fire safety in mind.	
Impact on Critical Facilities/Lifelines:	Reducing fuels around roads helps protect critical infrastructure such as power lines, communication networks, and transportation routes from fire damage.	
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:	Climate change is intensifying wildfires, making effective fuel reduction crucial to prevent devastating fires. Regular maintenance will keep roads clear and safe.	

Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NEVCO-08. PONDEROSA WEST GRASS VALLEY DEFENSE ZONE

Lead Agency:	County of Nevada	
Supporting Agencies:	Nevada County Public Works, Nevada County OES	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Ponderosa West area, located within a wildland urban interface and classified as a high fire severity zone, faces significant wildfire risks. Although a vegetation management project was successfully completed in 2020, the natural regrowth of vegetation necessitates maintenance treatments every five years. As a result, a critical maintenance treatment is required in 2024 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.</p>	
Description of the Solution:	<p>To mitigate wildfire risks in the high fire severity area adjacent to Grass Valley, a 1,200-acre shaded fuel break (fuels management defense zone) will be established on both private and Nevada County maintained lands. This strategic fuel break aims to create a 300-foot wide landscape shaded fuel break, insulating higher density community developments to the east from large public lands in a vegetation transition zone from moderate to high hazard levels. The project area spans from McCourtney Road and South Ponderosa Way to Highway 20, incorporating the historic South Ponderosa Way road, originally part of the 1933 California Conservation Corps (CCC) 800-mile long fire break through the Sierra foothills.</p> <p>To support this initiative, USFS grants have been awarded to expand the project's footprint (Ponderosa Phase II) and to conduct maintenance on Phase I (Ponderosa West Phase I Maintenance). This comprehensive approach will enhance the area's resilience to wildfires, protect community developments, and maintain the effectiveness of the fuel break over time.</p>	
Estimated Cost:	High	
Potential Funding Sources:	State Responsibility Area Grants, Sierra Nevada Conservancy Grant, Federal Title II & III, Fire Safe California Grants Clearinghouse, Proposition 1 & 40, Western States Wildland-Urban Interface Grants, FEMA HMGP, USFS and CAL FIRE	
Implementation Timeline:	1-5 years	
Goals Met:	1,2,3,6,7,8,9	
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	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



2024-NEVCO-09. RED DOG/BUCKEYE INGRESS/EGRESS IMPROVEMENT

Lead Agency:	County of Nevada, Nevada County OES	
Supporting Agencies:	Nevada County Public Works	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The wildland urban interface in these high fire severity areas faces significant challenges due to narrow, winding roads that hinder evacuation and emergency response efforts. Despite the critical need for ingress/egress fuel reduction, there has been no organized effort to address this issue, except for limited post-winter storm grants focused on storm debris removal. This lack of comprehensive fuel management poses a severe risk to residents and emergency responders, especially during wildfire events.</p> <p>These areas are:</p> <ol style="list-style-type: none"> 1. Red Dog/Buckeye 2. Scotts Flat/Cascade Shores 	
Description of the Solution:	<p>To enhance safety and accessibility, a roadside fuel break clearance project will be implemented, providing emergency access from the backside of Banner Mountain to You Bet Road and onto Highway 174. This project will include the reconstruction of the historically failed bridge crossing Greenhorn Creek and the establishment of 4WD emergency evacuation routes for summer months. Additionally, a 300-foot wide landscaped shaded fuel break will be created from Highway 20 to Pasquale Road, encompassing NID property and private lands. By reducing fuels along county-maintained and private roads to meet county and state defensible space standards (minimum of 10 feet horizontally and 15 feet vertically, or greater as required), the project will ensure safe evacuation routes and improve emergency response capabilities, ultimately protecting the community from wildfire threats.</p> <p>For this project, the recently completed Evacuation Study will be referenced for continuity of operations.</p>	
Estimated Cost:	High	
Potential Funding Sources:	State Responsibility Area Grants, Sierra Nevada Conservancy Grant, Federal Title II & III, Fire Safe California Grants Clearinghouse, Proposition 1 & 40, Western States Wildland-Urban Interface Grants, FEMA HMGP, CAL FIRE	
Implementation Timeline:	1-5 years	
Goals Met:	1,2,3,6,7,8,9	
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	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



2024-NEVCO-10. BIOMASS SOLUTIONS

Lead Agency:	Nevada County OES	
Supporting Agencies:	Waste Management of Nevada County, CAL FIRE, City of Grass Valley, City of Nevada City, and Nevada County Consolidated Fire District	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Current green waste management programs are insufficient to handle the increasing volume of green waste generated by the community. This inadequacy leads to the accumulation of green waste, posing environmental and health risks, and limiting the effectiveness of existing waste management efforts. Without a scalable solution, the community will continue to face challenges in managing green waste sustainably and efficiently.</p>	
Description of the Solution:	<p>Implementing a large-scale biomass solution, such as a cogeneration plant, will effectively process the excess volume of green waste that existing programs cannot handle. A cogeneration plant will convert green waste into energy, providing a sustainable and efficient method for waste management. This solution will not only reduce the environmental and health risks associated with green waste accumulation but also contribute to renewable energy production, supporting the community's sustainability goals and enhancing overall waste management capabilities.</p>	
Estimated Cost:	High	
Potential Funding Sources:	Federal and state grants, potential private industry agreements	
Implementation Timeline:	6 months – 2 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	<p>Diverting trees and woody debris to the production of biochar can be a multi-solution approach to reducing wildfire risks, climate change impacts and forest health. Biochar has the potential to strengthen wildfire mitigation and prevention efforts through hazardous fuels reduction on public lands as well as limit the amount of greenhouse gasses released when burning hazardous fuels and reducing the carbon footprint of current vegetation management programs. Overall, biomass projects have the potential to increase cost effectiveness of wood management, improve the safety of existing wood management efforts (to include the number of road miles traveled to support these efforts), eliminate GHG emissions associated with wood management, and lastly find productive end uses for woody biomass created (i.e. biochar).</p>	
Impact on Socially Vulnerable Populations:	<p>There is a potential for Nevada County residents to receive free green-waste pickup and access to biochar leading to reduced fire risks, alleviating economic burdens as well as promoting personal and environmental health and equity.</p>	
Impact on Future Development:	<p>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.</p>	

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:	Strengthening environmental management (waste management and soil health improvement), fostering economic development (local business growth and employment opportunities), and building disaster resilience (fire hazard reduction and emergency preparedness).		
Climate Change Considerations:	Biochar is a type of charcoal produced by heating organic materials, such as wood or plant waste, in a low-oxygen environment, a process called pyrolysis. This process preserves from one-third to half of the carbon in the wood, compared to slash pile burning where all of the material is converted to smoke. The stable carbon left behind can be held in soil for hundreds of years under the right circumstances, and the product offers a host of benefits for soil health, water quality and soil productivity.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



2024-NEVCO-11. WOODPECKER RAVINE SHADED FUEL BREAK

Lead Agency:	County of Nevada	
Supporting Agencies:	CAL FIRE Nevada-Yuba-Placer Unit, South Yuba River Citizens League, Sierra Streams Institute	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The full Woodpecker Ravine project is a multifaceted \$43 million project that proposes geographically targeted fuel modification and home hardening in Woodpecker Ravine, coupled with a robust community education and engagement campaign. Nevada County will incorporate art and science to generate conversation and action around what it means to live in a forested landscape and how to create a more resilient, fire-adapted community in this environment.</p> <p>The project will provide home-hardening to nearly 1,300 residences and defensible space assistance treating approximately 2,102 acres. Homeowners within the project footprint will have access to a cost-share program which will provide 70% cash-match incentives to residents up to \$20,000 for home-hardening and \$6,000 for defensible space implementation.</p> <p>Additionally, selective thinning will take place on a total of 1,136 acres of land along critical evacuation routes and strategic ridges. This treatment has been scoped as consisting of 150 feet of treatment on either side of primary evacuation routes, 75 feet of treatment on either side of secondary evacuation routes, and 150 feet of treatment along strategic ridges. Treatment along strategic ridges will serve to tie road system arteries into a comprehensive shaded fuel break. 410 strategic acres will be treated in Phase I and 726 acres will be treated in Phase II.</p>	
Description of the Solution:	<p>To mitigate wildfire risk and enhance the safety of evacuation routes, the Woodpecker Ravine Shaded Fuel Break project aims to complete 410 acres of shaded fuel break treatment. This involves strategically thinning vegetation and removing hazardous fuels while preserving the canopy to reduce fire intensity and improve the effectiveness of evacuation corridors.</p> <p>For this project, the recently completed Evacuation Study will be referenced for continuity of operations.</p>	
Estimated Cost:	High	
Potential Funding Sources:	<p>Requested Grant Funds:</p> <p>FEMA: \$31,000,000 (Awarded, pending environmental and cultural review)</p> <p>CAL FIRE Phase I: \$2,178,004 (Awarded)</p> <p>CAL FIRE Phase II: \$3,914,536 (Awarded)</p> <p>Remaining Required Local Match: \$5,907,464</p> <p>CAL FIRE Grant</p>	
Implementation Timeline:	1-5 years	



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Goals Met:	1,2,3,6,7,8,9		
Benefits:	This project not only mitigates immediate wildfire risks but also contributes to long-term community resilience and development.		
Impact on Socially Vulnerable Populations:	Lowering the likelihood of wildfires can reduce smoke and air pollution, improving respiratory health for those with pre-existing conditions.		
Impact on Future Development:	Reduced wildfire risk can stabilize or even increase property values, making the area more attractive for future residents and businesses.		
Impact on Critical Facilities/Lifelines:	Protecting critical infrastructure like power lines, water supply systems, and communication networks from fire damage ensures continuity of essential services.		
Impact on Capabilities:	By reducing the frequency and severity of wildfires, the county can allocate resources more efficiently, focusing on prevention and other community needs.		
Climate Change Considerations:	Climate change is leading to higher average temperatures, which can dry out vegetation and increase the likelihood of wildfires.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



2024-NEVCO-12. SOUTH COUNTY SHADED FUEL BREAK MAINTENANCE

Lead Agency:	Firesafe Council of Nevada County	
Supporting Agencies:	Nevada County Public Works, Nevada County OES	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The South County Shaded Fuel Break is a 339-acre project designed to create safe ingress for first responders and egress for evacuating residents. The project, when complete, will treat 75-ft on either side of the roadway to create a shaded fuel break that is a total of 150-ft wide in the vicinity of Alta Sierra. The project runs west-east from HWY 49 along Buck mountain Road and Lodestar Drive to Dog Bar Rd. Additionally, this project includes a portion of Brewer Rd from intersection of Buck Mountain Rd and Lodestar south. With 181.7 acres already treated, the project remains incomplete and will require upkeep.</p>	
Description of the Solution:	<p>To address wildfire safety concerns, the South County Shaded Fuel Break project must continue maintenance efforts until all 339 acres are treated. Additionally, the county plans to apply for funding in 2027-2028 to ensure ongoing maintenance, keeping the fuel break effective for safe ingress of first responders and egress of evacuating residents.</p>	
Estimated Cost:	High	
Potential Funding Sources:	CAL FIRE Grant	
Implementation Timeline:	1-5 years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	<p>This project not only mitigates immediate wildfire risks but also contributes to long-term community resilience and development.</p>	
Impact on Socially Vulnerable Populations:	<p>Lowering the likelihood of wildfires can reduce smoke and air pollution, improving respiratory health for those with pre-existing conditions.</p>	
Impact on Future Development:	<p>Reduced wildfire risk can stabilize or even increase property values, making the area more attractive for future residents and businesses.</p>	
Impact on Critical Facilities/Lifelines:	<p>Protecting critical infrastructure like power lines, water supply systems, and communication networks from fire damage ensures continuity of essential services.</p>	
Impact on Capabilities:	<p>By reducing the frequency and severity of wildfires, the county can allocate resources more efficiently, focusing on prevention and other community needs.</p>	
Climate Change Considerations:	<p>Climate change is leading to higher average temperatures, which can dry out vegetation and increase the likelihood of wildfires.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)



CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	



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TETRA TECH

2024-NEVCO-13. WINTER STORM HAZARDOUS VEGETATION CLEAN-UP

Lead Agency:	Nevada County OES	
Supporting Agencies:	Nevada County Public Works, Nevada County OES	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The 2023 winter storm has left significant hazardous vegetation along county-maintained and private roads, posing a risk to public safety and increasing the potential for wildfires. The accumulation of debris and hazardous vegetation also hampers effective evacuation and emergency response efforts, particularly in highly impacted communities.</p>	
Description of the Solution:	<p>The Winter Storm Hazardous Vegetation Clean-Up project aims to mitigate these risks by removing hazardous vegetation from 100 miles of county-maintained roadways, deploying 54 green waste bins in 25 locations, and supporting 8 highly impacted communities. This ongoing project includes winter storm clean-up along roads, support for West and East County Green Waste events, and the deployment of green waste bins into communities to address wildfire mitigation concerns and enhance public safety. Currently under this program, 62 bins and 95 tons of waste have been removed.</p>	
Estimated Cost:	High	
Potential Funding Sources:	CAL FIRE Grant	
Implementation Timeline:	Within 5 Years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	<p>This project not only mitigates immediate wildfire risks but also contributes to long-term community resilience and development.</p>	
Impact on Socially Vulnerable Populations:	<p>Removing hazardous vegetation reduces the risk of wildfires, directly protecting vulnerable populations who may have limited means to evacuate quickly. The project also directly assists vulnerable populations who did not have the finances available to hire a contractor to remove the hazardous vegetation along their evacuation route.</p>	
Impact on Future Development:	<p>Safer and well-maintained roads can encourage responsible development and investment in the area.</p>	
Impact on Critical Facilities/Lifelines:	<p>Protecting critical infrastructure like power lines, water supply systems, and communication networks from fire damage ensures continuity of essential services.</p>	
Impact on Capabilities:	<p>By reducing the frequency and severity of wildfires, the county can allocate resources more efficiently, focusing on prevention and other community needs.</p>	
Climate Change Considerations:	<p>Climate change is leading to higher average temperatures, which can dry out vegetation and increase the likelihood of wildfires.</p>	

Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NEVCO-14. SIERRA FOOTHILL FOREST CLIMATE RESILIENCE PROJECT

Lead Agency:	Sierra Streams Institute	
Supporting Agencies:	Nevada County OES	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Sierra Nevada Foothill Forest is at risk due to dense vegetation, invasive species, and the impacts of climate change, including increased drought and pest infestations. These factors threaten forest health, wildlife habitat, and increase the severity of wildfires, posing a danger to local communities and schools.</p>	
Description of the Solution:	<p>The Sierra Foothill Forest Climate Resilience Project, led by Sierra Streams Institute, aims to improve forest health and wildlife habitat by treating 625 acres of forest through targeted hand-thinning, mastication of shrubs, small trees, and invasive species, application of prescribed fire, planting of native species, and targeted herbicide application. The project will create diverse vegetation arrangements to reduce wildfire severity and enhance wildlife habitat. Native plant species will be selected for their drought resilience. The project also includes outreach and education efforts, with funding managed by OES, to ensure long-term sustainability and community involvement.</p> <p>Sierra Foothill Forest Climate Resilience Project Nevada County, CA (nevadacountyca.gov)</p>	
Estimated Cost:	High	
Potential Funding Sources:	Wildlife Conservation Board Grant	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	<p>This project will address immediate wildfire risks and contribute to long-term environmental health, community safety, and sustainable development.</p>	
Impact on Socially Vulnerable Populations:	<p>Reducing wildfire risk protects vulnerable populations, such as the elderly, disabled, and low-income families, who may have limited means to evacuate quickly.</p>	
Impact on Future Development:	<p>Enhanced forest resilience and reduced fire risk can stabilize or increase property values, making the area more attractive for future residents and businesses.</p>	
Impact on Critical Facilities/Lifelines:	<p>Protecting critical infrastructure like power lines, water supply systems, and communication networks from fire damage ensures continuity of essential services.</p>	
Impact on Capabilities:	<p>Outreach and education efforts included in the project foster community involvement in forest management and wildfire mitigation, enhancing overall resilience.</p>	



Climate Change Considerations:	By accounting for climate change, the project not only addresses current risks but also builds a more resilient and sustainable forest ecosystem for the future.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-NEVCO-15. SOUTH YUBA RIM HAZARDOUS FUELS REDUCTION, PHASE 1

Lead Agency:	Yuba Watershed Institute	
Supporting Agencies:	Nevada County Public Works, Nevada County OES	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The North San Juan Ridge in Nevada County is highly susceptible to wildfires due to dense vegetation and lack of coordinated fuel management. This poses a significant threat to the safety of residents, critical infrastructure, and the environment. The area requires a comprehensive and strategic approach to reduce hazardous fuels and mitigate wildfire risks.</p>	
Description of the Solution:	<p>The South Yuba Rim Hazardous Fuels Reduction Project aims to address these risks by implementing a 6,000-acre landscape-level fuel reduction strategy. This project, developed through years of coordination among community leaders, 13 Firewise Communities, the Bureau of Land Management, CAL FIRE, and the Yuba Watershed Institute, seeks to connect existing and planned treatment areas into a strategic, contiguous shaded fuel break.</p> <p>The County of Nevada has secured funding for Phase 1, which includes scoping the project area, conducting community outreach and engagement, identifying appropriate treatment designs, and performing environmental and cultural reviews. Upon completion of this planning phase, the community will have an approximately 800-acre "shovel-ready" project, setting the stage for effective wildfire mitigation and enhanced community safety.</p>	
Estimated Cost:	High	
Potential Funding Sources:	CAL FIRE, FEMA HMGP	
Implementation Timeline:	Within 5 Years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	<p>Creating a landscape-scale swath of healthy, thinned, wildfire-resilient vegetation across the rugged South Yuba Rim will guard against the uncontrolled spread of future wildfires that will ultimately save lives.</p>	
Impact on Socially Vulnerable Populations:	<p>This project not only mitigates immediate wildfire risks but also contributes to long-term community resilience and development.</p>	
Impact on Future Development:	<p>Lowering the likelihood of wildfires can reduce smoke and air pollution, improving respiratory health for those with pre-existing conditions.</p>	
Impact on Critical Facilities/Lifelines:	<p>Reduced wildfire risk can stabilize or even increase property values, making the area more attractive for future residents and businesses. This project will also protect the Yuba Watershed.</p>	
Impact on Capabilities:	<p>Protecting critical infrastructure like power lines, water supply systems, and communication networks from fire damage ensures continuity of essential services.</p>	

Climate Change Considerations:	By reducing the frequency and severity of wildfires, the county can allocate resources more efficiently, focusing on prevention and other community needs.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NEVCO-16. JUNIPER HILLS INGRESS/EGRESS IMPROVEMENT, PHASE 2

Lead Agency:	Firewise Community		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	Housing development within the wildland urban interface in a high fire severity area poses significant risks to residents and properties. Nevada County lacks a comprehensive forest management plan to address these risks and ensure the health and sustainability of its woodlands.		
Description of the Solution:	To mitigate wildfire risks and enhance forest health, Nevada County will implement a two-phase project. Phase one, completed in 2023, involved creating a 300-foot wide shaded fuel break adjacent to roadways for landscape fuel reduction and improved access for firefighting equipment. Phase two, led by the Firewise Community, will develop a Forest Management Plan (FMP). The FMP will be a site-specific plan tailored to landowners' management objectives, leveraging the expertise of skilled foresters to achieve long-term forest management goals and ensure the health and potential of the woodlands.		
Estimated Cost:	High		
Potential Funding Sources:	Grant funded by Truckee Tahoe Community Foundation Truckee North Tahoe Forest Management Program		
Implementation Timeline:	Within 5 Years		
Goals Met:	1,2,3,6,7,8,9		
Benefits:	This project not only mitigates immediate wildfire risks but also contributes to the long-term safety, health, and prosperity of Nevada County's residents and natural landscapes.		
Impact on Socially Vulnerable Populations:	Reducing wildfire risk directly protects vulnerable populations who may have limited resources to evacuate or recover from wildfire damage.		
Impact on Future Development:	Enhanced safety measures can be integrated into future development plans, ensuring long-term sustainability and resilience.		
Impact on Critical Facilities/Lifelines:	Protecting roads, utilities, and communication lines from wildfire damage ensures that essential services remain operational during emergencies.		
Impact on Capabilities:	Strengthening wildfire defenses enhances the county's overall disaster preparedness and resilience.		
Climate Change Considerations:	Climate change is leading to longer and more intense fire seasons. This increases the need for continuous maintenance of fuel breaks and vegetation management.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	



CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NEVCO-17. WEST GRASS VALLEY DEFENSE ZONE EXTENSION, PHASE 1 MAINTENANCE

Lead Agency:	County of Nevada	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The original Ponderosa West project requires a second-pass implementation on its 1,200-acre treatment zone to ensure the effectiveness and sustainability of the initial treatments.	
Description of the Solution:	Conduct a second-pass implementation on the 1,200-acre treatment zone of the original Ponderosa West project to reinforce and enhance the initial treatments, ensuring long-term effectiveness and sustainability.	
Estimated Cost:	High	
Potential Funding Sources:	U.S. Department of Agriculture Forest Service, Pacific Southwest Region, Fire and Aviation Management	
Implementation Timeline:	1-3 years	
Goals Met:	1,2,3,6,7,8,9	
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	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)



CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NEVCO-18. LOWER DEER CREEK-PENN VALLEY HAZARDOUS FUELS REDUCTION PROJECT

Lead Agency:	County of Nevada	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The areas around Lake Wildwood, including Pleasant Valley Road, Mooney Flat Road, and the Deer Creek Canyon above and below Lake Wildwood, are at risk of wildfire due to overgrown roadside vegetation and lack of shaded fuel breaks.	
Description of the Solution:	Implement roadside vegetation abatement and establish shaded fuel breaks around Lake Wildwood, including Pleasant Valley Road, Mooney Flat Road, and the Deer Creek Canyon above and below Lake Wildwood, to reduce wildfire risk and enhance community safety.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA HMGP	
Implementation Timeline:	3 years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	Strengthening wildfire defenses enhances the overall disaster preparedness of the community, making it more resilient to future challenges.	
Impact on Socially Vulnerable Populations:	Reducing wildfire risk directly protects vulnerable populations who may have limited resources to evacuate or recover from wildfire damage.	
Impact on Future Development:	A safer, well-maintained area can attract new residents and businesses, promoting economic growth and community development.	
Impact on Critical Facilities/Lifelines:	Protecting roads, utilities, and communication lines from wildfire damage ensures that essential services remain operational during emergencies.	
Impact on Capabilities:	Strengthening wildfire defenses enhances the county's overall disaster preparedness and resilience.	
Climate Change Considerations:	Climate change is leading to longer and more intense fire seasons, this project can better protect the community and environment from the growing threat of wildfires.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NEVCO-19. WILDFIRE RESILIENT COMMUNITIES AND LANDSCAPES COLLABORATION

Lead Agency:	County of Nevada	
Supporting Agencies:	US Forest Service, Tahoe National Forest	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Nevada County and the Tahoe National Forest face significant challenges in maintaining healthy forest, rangeland, and watershed ecosystems. These challenges include the presence of insect and disease-infected trees, hazardous fuel accumulation, and the degradation of fish and wildlife habitats. Without a coordinated effort, these issues increase the risk of wildfires and negatively impact the overall health of the environment.</p>	
Description of the Solution:	<p>The Wildfire Resilient Communities and Landscapes Collaboration, through the Good Neighbor Agreement, aims to address these challenges by providing a framework for cooperative forest, rangeland, and watershed restoration services. This includes treating insect and disease-infected trees, reducing hazardous fuels, and implementing activities to restore or improve forest, rangeland, and watershed health. By working together, the parties involved will enhance the resilience of these ecosystems, reduce wildfire risks, and improve habitats for fish and wildlife on and off National Forest System lands within Nevada County, California.</p>	
Estimated Cost:	High	
Potential Funding Sources:	USDA Forest Service	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	<p>Decreasing the amount of flammable material in forests and rangelands lowers the risk of catastrophic wildfires, protecting both natural and human-made environments.</p>	
Impact on Socially Vulnerable Populations:	<p>Reducing wildfire risks directly benefits socially vulnerable populations who may have limited resources to recover from disasters. Improved forest health also ensures cleaner air and water, which are crucial for community well-being.</p>	
Impact on Future Development:	<p>By maintaining healthy ecosystems, the project supports sustainable land use and development. This ensures that future growth does not compromise environmental integrity, allowing for balanced economic and community development.</p>	
Impact on Critical Facilities/Lifelines:	<p>Reducing wildfire risks helps safeguard critical facilities such as hospitals, schools, and emergency services. Ensuring these facilities remain operational during and after environmental events is vital for community resilience.</p>	



Impact on Capabilities:	The cooperative framework allows for better allocation and use of resources, ensuring that restoration activities are well-coordinated and effective. This improves the overall capability to manage and protect forest, rangeland, and watershed areas.		
Climate Change Considerations:	Climate change is leading to higher temperatures and prolonged droughts, which increase the risk and intensity of wildfires. The project's focus on reducing hazardous fuels and restoring ecosystem health is critical in mitigating these heightened risks.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	High		



3. City of Grass Valley Annex

This section presents the jurisdictional annex for the City of Grass Valley that provides resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions to reduce or eliminate damage to property and people that can be implemented prior to a disaster. Information presented includes a general overview of the City of Grass Valley, who in the City participated in the planning process, an assessment of Grass Valley's risk and vulnerability, the different capabilities used in the City, and an action plan that will be implemented to achieve a more resilient community.

This annex is part of a multi-jurisdictional HMP that was developed to meet plan participation requirements for all participating jurisdictions while accommodating their specific needs and limitations. Because many participating jurisdictions are rural agencies with limited staff, the planning process included establishing a Steering Committee and engaging a contract consultant to work with Nevada County in undertaking certain elements of the plan update on behalf of the jurisdictions. These elements included outreach to stakeholders and the public, risk assessment for all countywide hazards of concern, initial ranking of hazard risks, updates of hazard mitigation goals and objectives, and establishment of procedures for implementing and maintaining the HMP. This annex presents only the information specific to Grass Valley as a participating jurisdiction. All other plan elements are included in Volume I and are referenced in this annex as appropriate.

3.1 Hazard Mitigation Planning Team

The City of Grass Valley identified the hazard mitigation plan (HMP) primary and alternate points of contact and developed this plan over the course of several months with input from many City departments, including the Fire Department. The Fire Chief represented the community on the Nevada County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements 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.

Table 3-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

TABLE 3-1. HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact	Alternate Point of Contact
Name/Title: Mark Buttron, Fire Chief Address: 125 East Main, Grass Valley, CA 95945 Phone Number: (530) 274-4380 Email: markb@cityofgrassvalley.com	Name/Title: Amy Wolfson, City Planner Address: 125 East Main, Grass Valley, CA 95945 Phone Number: (530) 274-4711 Email: awolfson@cityofgrassvalley.com
National Flood Insurance Program Floodplain Administrator	
Name/Title: Bjorn Jones, City Engineer Address: 125 East Main, Grass Valley, CA 95945 Phone Number: (530) 274-4353 Email: bjornj@cityofgrassvalley.com	
Contributions to the Annex	
Name/Title: Mark Buttron, Fire Chief Method of Participation: Provided updated information on previous events, capabilities, and mitigation actions.	
Name/Title: Amy Wolfson, City Planner Method of Participation: Provided updated information on capabilities and building permits.	
Name/Title: Lucy Rollins, Senior Planner Method of Participation: Provided updated information on capabilities.	
Name/Title: Bjorn Jones, City Engineer Method of Participation: Provided updated information on capabilities and NFIP.	

3.2 Community Profile

The City of Grass Valley is located approximately 88 miles west of Reno, Nevada in the western foothills of the Sierra Nevada Mountain Range. Sitting at approximately 2,500 feet in elevation, this mountain city provides the opportunity for many outdoor activities year-round. As a city said to be named by settlers after they wandered away from their Greenhorn Creek campsite to a “grassy valley”, Grass Valley is rich in history and surrounded by nearby forest (City of Grass Valley 2023)

According to the U.S. Census, the 2020 population for Grass Valley was 14,016, a 7.4 percent increase from the 2010 Census. Data from the 2020 U.S. Census indicate that 6.2 percent of the population is 5 years of age or younger, 29.0 percent is 65 years of age or older, 0.7 percent is non-English speaking, 17.4 percent is below the poverty threshold, and 21.1 percent is considered disabled. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

3.3 Jurisdictional Capability Assessment and Integration

Grass Valley performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1, Section 19 (Capability Assessment) describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment includes the following analyses:

- An assessment of legal and regulatory capabilities.



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- Development and permitting capabilities.
- An assessment of administrative and technical capabilities.
- An assessment of fiscal capabilities.
- An assessment of education and outreach capabilities.
- Classification under various community mitigation programs.
- The community's adaptive capacity to withstand hazard events.

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

3.3.1 Planning and Regulatory Capability

Table 3-2 summarizes the planning and regulatory tools that are available to Grass Valley. The table outlines the various planning documents, codes, and regulations to be reviewed and considered for update based upon any new data or information learned during the HMP Update process.

3.3.2 Integration

Table 3-2 describes how some local planning mechanisms have been integrated into this HMP and how information from this HMP can be integrated into these mechanisms when they are updated in the future. Procedures for this future integration are outlined in Section 21.2.2 of Volume I of this HMP. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings are as follows:

- Using HMP hazard assessment data and action item information for potential emergency plans and annex updates and/or emergency response plans
- Incorporating hazard information, such as floodplain data, to potentially review and update zoning, planning, and building codes that might affect new buildings or redevelopment projects
- Utilizing hazard analyses for future plan development of neighborhoods and communities or potential city expansion, growth, or annexation
- Updating capital improvement or strategic plans based on listed mitigation action items



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TABLE 3-2. PLANNING AND REGULATORY CAPABILITY

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	2022 California Building Standards Code	State	Jon May/Building
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Stronger, more resilient buildings codes strengthen community lifelines, reduce community risk and reduce overall disaster recovery costs.</p>				
Zoning/Land Use Code	Yes	Title 17 of the City of Grass Valley Municipal Code	Local	Amy Wolfson/Planning
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The Zoning Code includes ordinances (i.e., Article 5) with the express intent to protect watercourse and riparian resources, including provisions for adequate buffers between watercourses and adjacent development. The purpose of this is to promote public health and safety as well as retain valuable natural amenities. Further, the Zoning Code includes an Open Space zone that is applied to largely unimproved properties for the preservation of natural resources and habitats and reduce risk by promoting development in more suitable areas. The rezoning process includes an analysis of the existing conditions of the subject parcel as well as considers potential future impacts of the rezone on and by the environment, including exposure to natural hazards.</p>				
Subdivision Ordinance	Yes	Title 17, Article 8 of the City of Grass Valley Municipal Code	Local	Amy Wolfson/Planning
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The subdivision ordinance considers public health, safety and welfare and grants the approval body authority to impose conditions of approval to that end and the authority to deny maps that are “likely to result in serious public health or safety problems.” The Subdivision Ordinance requires applicants to submit supplemental information such as a soils or geological hazards report. The City also has a “Planned Development” process (Chapter 17.72.050 of the development code) that may be combined with a subdivision proposal that allows flexibility in standards in order to preserve and avoid development on hazardous or environmentally sensitive areas. A density transfer can be accomplished through a Development Agreement.</p>				
Site Plan Code	Yes	Title 17, Article 3, City of Grass Valley Municipal Code	Local	Amy Wolfson/Planning
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The site plan regulations include building setback and height limitations which reduce risk by maintaining building separation and ensuring site distance around street corners are maintained. This chapter requires a building permit for fences or walls that are located within a flood hazard area. It also includes a requirement for fences and walls around potentially hazardous features such as commercial storage, and swimming pools. Outdoor lighting is also regulated to reduce glare and light spillage. Chapter 17.30.070 includes performance standards that are intended to minimize potential operational impacts from land uses that have the potential to be incompatible with surrounding land uses, including limiting air emissions, dust, combustibles and explosives, ground vibration, light and glare, liquid waste, noise, odor, radioactivity, electrical disturbance or electromagnetic interference.</p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Stormwater Management Code	Yes	Chapter 12.06 of City of Grass Valley Municipal Code	Local	Bjorn Jones/Engineering
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The stormwater management and discharge ordinance regulate activities, practices, and procedures to reduce risk by preventing or reducing discharge of pollutants into municipal storm drain systems and watercourses, ensuring safety of the city's water supply. This section prohibits the discharge of source pollutants and regulates emergency maintenance or work within, upon, over, under or through any watercourse or drain system. Further, waste may not be kept or thrown on any public or private property in such a way to cause pollution.</p>				
Post-Disaster Recovery/ Reconstruction Code	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Real Estate Disclosure Requirements	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Growth Management	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Environmental Protection Ordinance	Yes	Title 17, Article 5	Local	Amy Wolfson, Planning
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Title 17, Article 5 provides standards for protection, and limits development of creek and riparian resources, historical resources, and steep hillsides.</p>				
Flood Damage Prevention Ordinance	Yes	Chapter 15.52 of City of Grass Valley Municipal Code	Local	Bjorn Jones/Engineering
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>This ordinance is intended to minimize public and private losses due to flood conditions in specific areas by provisions designed to protect human life and health, minimize expenditure of public money for costly flood control projects, minimize need for rescue and relief efforts associated with flooding, and minimize damage to public facilities and utilities. The ordinance adopts all subsequent amendments and/or revisions of Flood Insurance Rate Maps (FIRMs), including the most recent effective FIRM adopted in February 2010.</p>				
Wellhead Protection	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Emergency Management Ordinance	Yes	Chapter 8.12 of the City of Grass Valley Municipal Code	Local	Disaster Council
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The emergency services ordinance establishes a Disaster Council to develop and carry out the city emergency plan to provide for the effective mobilization of all resources of the city to respond to local or state emergencies. Further, the ordinance creates the offices of the director of emergency services and assistant director of emergency services. Together, these roles reduce risk through provision of a clear mechanism for declaring and responding to local emergencies and carrying out plans for the protection of persons and property.</p>				
Climate Change Ordinance	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Other	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
PLANNING DOCUMENTS				
General/Comprehensive Plan				
	Yes	2020 General Plan	County	All staff
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
The 2020 General Plan includes maps of flood zones, known mining claim, known mine tailings, potential evacuation routes, the Nevada County Airport Land Use Compatibility Plan, Airport noise contours, traffic noise contours, wetlands, creeks and canals, circulation plan, and fringe communities, all of which are consulted during development planning proposals and development code updates in order to avoid conflicts, including avoiding safety hazards.				
Capital Improvement Plan	No	-	Local	Bjorn Jones/Engineering
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
A City Capital Improvement Plan (CIP) was last adopted in 2015 and is now out of date. Staff plan to prepare an updated CIP for the upcoming fiscal year.				
Disaster Debris Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Floodplain Management or Watershed Plan	No	-	Local/State	Bjorn Jones/Engineering
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
No master Floodplain Management Plan exists. Individual plans are prepared as necessary on a project-by-project basis. Caltrans and Federal Emergency Management Agency guidance manuals and handbooks are utilized as best practices for City construction projects and for use and regulation of private development projects.				
Stormwater Management Plan	Yes	Strom Drainage Master Plan, March 1986	Local	Bjorn Jones/Engineering
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
The Storm Drainage Master Plan contains an analysis of the existing city drainage system, a priority list for improvements and technical criteria for analyzing and designing storm drainage facilities. By prioritizing repairs the City's limited budget can be applied to those facilities most at risk of failure. Evaluating and categorizing existing facilities can ensure that new improvements do not negatively contribute to areas with prevailing deficiencies. Also, by establishing technical standards, new improvements can be constructed to function effectively and minimize the risk of future failures.				
No master Stormwater Pollution Prevention Plan exists. Individual SWPPP are prepared as necessary on a project-by-project basis. Caltrans and Water Quality Control Board guidance manuals and stormwater handbooks are utilized as best practices for City construction projects and for use and regulation of private development projects.				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Open Space Plan	Yes	General Plan Chapter 5	Local	Planning Commission
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The city's General Plan includes a Conservation/ Open Space Element which establishes an Open Space Opportunity Overlay in order to designate areas such as vacant land, lands with natural resources, environmental constraints, and connectivity to existing parks and open space. This designation can then be used to establish open space restrictions when identified land is proposed for development.</p>				
Urban Water Management Plan	Yes	Water System Master Plan, May 2016	Local	Bjorn Jones/Engineering
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The Water System Master Plan contains an analysis of the existing city water distribution system, a priority list for improvements and technical criteria for analyzing and designing storm drainage facilities. By prioritizing repairs the City's limited budget can be applied to those facilities most at risk of failure. Evaluating and categorizing existing facilities can ensure that new improvements do not negatively contribute to areas with prevailing deficiencies. Also, by establishing technical standards, new improvements can be constructed to function effectively and minimize the risk of future failures.</p>				
Habitat Conservation Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Economic Development Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Community Wildfire Protection Plan	Yes	Community Wildfire Protection Plan	Local/ County	Currently updating with Nevada County and partner agencies
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Community Forest Management Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Transportation Plan	Yes	Street System Master Plan, October 2004, Active Transportation Plan, July 2019	Local/County	Bjorn Jones/Engineering
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Various transportation plans have been adopted by the City over the years. Most plans contain analysis of the existing City street system, priorities for improvements and technical criteria for analyzing and designing new street improvements. By prioritizing repairs the City's limited budget can be applied to those facilities most at risk of failure. Evaluating and categorizing existing facilities can ensure that new improvements do not negatively contribute to areas with prevailing deficiencies. Also, by establishing technical standards, new improvements can be constructed to function effectively and minimize the risk of future failures. No transportation planning documents specifically speak to functionality in hazard areas or evacuation plans at this time.</p>				
Agriculture Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Climate Action/Resiliency/Sustainability Plan	Yes	READY Nevada County, May 2022	County	Mike Woodman/Nevada County Transportation Commission
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
The City collaborated with the Nevada County Transportation Commission (NCTC) in preparation of READY Nevada County, an Extreme Climate Event Mobility and Adaptation Plan. The Plan takes a proactive approach to improving the resiliency of Nevada County's transportation infrastructure in the face of increasing climate fueled threats. The Plan adopts cross-disciplinary approaches that use the best available science to prioritize the most vulnerable people, places, and infrastructure most at risk.				
Tourism Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Business/ Downtown Development Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Other	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Nevada County Emergency Operations Plan (EOP), 2011	County	Craig Griesbach/Office of Emergency Services
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
The EOP is intended to streamline and organize response to the impacts of natural disasters and human-caused incidents. Through established protocols for initiating assessment of damage and recovery efforts and dissemination of information, resources, and assistance, the post-disaster recovery plan reduces ongoing exposure to hazardous conditions with the goal of returning an impacted area, residents, and public services to pre-disaster condition. The plan identifies short- and long-term priorities, responsible agencies, means of communication, and an operation plan, all of which aid in streamlining response in the event of a disaster and expedites response time.				
Continuity of Operations Plan	Yes	Nevada County Emergency Operations Plan (EOP), Annex A, 2011	County	Craig Griesbach/Office of Emergency Services
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
The EOP also includes Annex A for the continuity of government and operations plans.				
Strategic Recovery Planning Report	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Post-Disaster Recovery Plan	Yes	Nevada County Emergency Operations Plan (EOP), Annex C, 2011	County	Craig Griesbach/Office of Emergency Services
		<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Develops strategies to assist with rebuilding after a disaster occurs.		
Public Health Plan	No	-	-	-
		<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>		
Other	No	-	-	-
		<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>		

3.3.3 Development and Permitting Capability

Table 3-3 summarizes the capabilities of Grass Valley to oversee and track development.

3.3.4 Administrative and Technical Capability

Table 3-4 summarizes potential staff and personnel resources available to Grass Valley and their current responsibilities that contribute to hazard mitigation.

3.3.5 Fiscal Capability

Table 3-5 summarizes financial resources available to Grass Valley.

3.3.6 Education and Outreach Capability

Table 3-6 summarizes the education and outreach resources available to Grass Valley.

3.3.7 Community Classifications

Table 3-7 summarizes classifications for community programs available to Grass Valley.

3.3.8 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 3-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement.



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TABLE 3-3. DEVELOPMENT AND PERMITTING CAPABILITY

	Yes/No	Comment:
Do you issue development permits? <ul style="list-style-type: none"> 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 Department —
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	SFHA
Do you have a buildable land inventory? <ul style="list-style-type: none"> If you have a buildable land inventory, please describe 	Yes	The City has a vacant lands inventory, which provides an estimate of realistic capacity based on site constraints.
Describe the level of build-out in your jurisdiction.		N/A

TABLE 3-4. ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	The Planning Commission is responsible for reviewing and acting on matters related to planning and development in the City of Grass Valley.
Zoning Board of Adjustment	No	—
Planning Department	Yes	The Planning Department implements land use policies and guides development activities in the City of Grass Valley. Planning identifies the appropriate review authority and issues permits related to land use approval, zoning, and development projects.
Mitigation Planning Committee	No	—
Environmental Board/Commission	No	—
Open Space Board/Committee	No	—
Economic Development Commission/Committee	No	—

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Public Works/Highway Department	Yes	The City of Grass Valley Public Works Department is responsible for maintaining the City's infrastructure and ensuring storm drains, water and sewer systems, street signs and lights, sidewalks and more are always operable and in good condition. Public Works is dedicated to keeping our city streets and parks clean and safe. They also manage the maintenance of the City's fleet of vehicles and various building facilities.
Construction/Building/Code Enforcement Department	Yes	The Grass Valley Building Department manages plan reviews, permit issuance, building inspections, and code compliance for all properties in the City of Grass Valley (3-4 digit Grass Valley addresses). Code Enforcement is done by the respective department that oversees the code section in violation.
Emergency Management/Public Safety Department	Yes	The Grass Valley Police Department is a full-service, community policing organization. The department is comprised of 44 paid positions including 28 sworn police officers, 7 reserve officers, 3 animal control officers, and several civilian support staff. The Police Department also has a volunteer program with 12 active volunteers who assist with police services.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works is responsible for hazard tree mitigation due to bark beetle and mitigation for clearance of drainage.
Mutual aid agreements	Yes	Fire boundary drop, Auto Aid, Mutual Aid closest resource dispatching with CAD
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	—
Other	Yes	<p>The Engineering Division provides professional engineering services to support the maintenance and improvement of the City's existing infrastructure, facilities, and public spaces. Primary responsibilities of the Engineering Division are the execution of the City's Capital Improvement Program and administration of development services. Staff review, inspect and accept development improvement projects.</p> <p>The Historical Commission's function is to identify and verify historical resources within the City of Grass Valley and encourage their preservation.</p>



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	Bjorn Jones/Engineering
Engineers or professionals trained in building or infrastructure construction practices	Yes	Bjorn Jones/Engineering
Planners or engineers with an understanding of natural hazards	Yes	Bjorn Jones/Engineering
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	Yes	Bjorn Jones/Engineering
Staff that work with socially vulnerable populations or underserved communities	No	—
Environmental scientists familiar with natural hazards	No	—
Surveyors	No	—
Emergency manager	Yes	Mark Buttron, Fire Chief
Grant writers	Yes	Bjorn Jones/Engineering The City's Finance Department monitors and maintains the general ledger and all sources of revenue for the City. They also manage fundamental components of the City's business operations such as accounts payable and accounts receivable and preparation of the City's annual budget.
Resilience Officer	No	—
Other (this could include stormwater engineer, environmental specialist, etc.)	No	—



TABLE 3-5. FISCAL CAPABILITIES

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community Development Block Grants (CDBG, CDBG-DR)	Yes
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	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	—
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	—

TABLE 3-6. EDUCATION AND OUTREACH CAPABILITIES

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	No	—
Personnel skilled or trained in website development	No	—
Hazard mitigation information available on your website	Yes	Grass Valley Fire Department website
Social media for hazard mitigation education and outreach	Yes	City and Fire Social Media
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Various organizations throughout County focus on environmental concerns.
Warning systems for hazard events	No	—
Natural disaster/safety programs in place for schools	Yes	Fire Prevention/Education, as requested
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Various: Habitat for Humanity, FREED Center for Independent Living, Foothill House of Hospitality.
Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events?	Yes	The City has social media accounts that can serve as a mechanism to get out safety information in real time

Outreach Resources	Available? (Yes/No)	Comment
If yes, please describe.	N/A	Through Nevada County Office of Emergency Services and specifically requested City education in preparation of events.

TABLE 3-7. COMMUNITY CLASSIFICATIONS

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	—	—
Building Code Effectiveness Grading Schedule (BCEGS)	No	—	—
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	City is an ISO 2	—
National Weather Service StormReady Certification	No	—	—
Firewise Communities classification	No	—	—
Other: Organizations with mitigation focus (advocacy group, non-government)	No	—	—

N/A = Not applicable

TABLE 3-8. ADAPTIVE CAPACITY

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Avalanche	Moderate
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flood	Moderate
Hazardous Materials Release	Moderate
Landslide	Moderate
Wildfire	Moderate
Winter Storm	Moderate
Volcano	Moderate

3.4 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 the table of planning team members at the beginning of this annex is responsible for maintaining this information.

3.4.1 NFIP Statistics

Table 3-9 summarizes the NFIP policy and claim statistics for Grass Valley.

TABLE 3-9. GRASS VALLEY NFIP SUMMARY OF POLICY AND CLAIM STATISTICS

# Policies	15
# Claims (Losses)	13
# Repetitive Loss Properties	3
# Severe Repetitive Loss Properties	0

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.

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. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: FEMA PIVOT 2024; CIS 2024

3.4.2 Flood Vulnerability Summary

Table 3-10 provides a summary of the NFIP program in Grass Valley.

TABLE 3-10. NFIP SUMMARY

NFIP Topic	Comments
FLOOD VULNERABILITY SUMMARY	
Describe areas prone to flooding in your jurisdiction. <ul style="list-style-type: none"> Do you maintain a list of properties that have been damaged by flooding? 	Areas adjacent to Wolf Creek, Little Wolf Creek, South Fork Wolf Creek and Peabody Creek. The City does not maintain a list.
Do you maintain a list of property owners interested in flood mitigation? <ul style="list-style-type: none"> If so, how many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? 	No
Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> If so, state what projects are underway. 	No

NFIP Topic	Comments
<p>Do you have procedures established for Substantial Damage determinations following a disaster event?</p> <p>How many were declared for recent flood events in your jurisdiction?</p>	<p>No procedures have been established.</p> <p>No substantial damage declarations have been made for recent events.</p>
<p>How many properties have been mitigated (elevation or acquisition) in your jurisdiction?</p> <ul style="list-style-type: none"> • If there are mitigation properties, how were the projects funded? 	<p>8 properties have been mitigated with Prop 1 Grant Funding</p>
<p>Do your flood hazard maps adequately address the flood risk within your jurisdiction?</p> <ul style="list-style-type: none"> • If not, state why. 	<p>Yes</p>
NFIP COMPLIANCE	
<p>What local department is responsible for floodplain management?</p>	<p>Public Works</p>
<p>Are any certified floodplain managers on staff in your jurisdiction?</p>	<p>No</p>
<p>Do you have access to resources to determine possible future flooding conditions from climate change?</p>	<p>No</p>
<p>Does your floodplain management staff need any assistance or training to support its floodplain management program?</p> <ul style="list-style-type: none"> • If so, what type of assistance/training is needed? 	<p>No</p>
<p>Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)</p>	<p>Permit Review, Education</p>
<p>How do you determine if proposed development on an existing structure would qualify as a substantial improvement?</p>	<p>Defined in Municipal Code</p>
<p>What are the barriers to running an effective NFIP program in the community, if any?</p>	<p>Time</p>
<p>Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed?</p> <ul style="list-style-type: none"> • If so, state the violations. 	<p>No</p>
<p>When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?</p>	<p>Unknown</p>
<p>What is the local law number or municipal code of your flood damage prevention ordinance?</p> <ul style="list-style-type: none"> • What is the date that your flood damage prevention ordinance was last amended? 	<p>Municipal Code Chapter 15.52-Flood Damage, 1-29-2008; The ordinance adopts all subsequent amendments and/or revisions of Flood Insurance Rate Maps (FIRMs), including the most recent effective FIRM adopted in February 2010.</p>
<p>Does your floodplain management program meet or exceed minimum requirements?</p> <ul style="list-style-type: none"> • If exceeds, in what ways? 	<p>Meets minimum requirements</p>



NFIP Topic	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?	No
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	

3.5 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.

From 2018 to 2023, new construction in the community has increased, with notable developments in Very High Fire Hazard Severity Zones (FHSZ). Key projects include Berriman Ranch Phases and Timberwood Estates, both adding residential units in high-risk areas. This concentration of new development in hazard zones has increased the jurisdiction's exposure to fire risks, highlighting the need for fire-resistant building materials and construction practices to mitigate these risks.

Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 3-11, Table 3-12, and Table 3-13.

TABLE 3-11. NUMBER OF BUILDING PERMITS FOR NEW CONSTRUCTION ISSUED SINCE THE PREVIOUS HMP

	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2018				
Total Permits	2	0	0	2
Permits within SFHA	1	0	0	1
2019				
Total Permits	1	0	0	1
Permits within SFHA	0	0	0	0
2020				
Total Permits	1	0	1	2
Permits within SFHA	0	0	0	0

	New Construction Permits Issued				Total
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)		
2021					
Total Permits	4	1	0		5
Permits within SFHA	0	0	0		0
2022					
Total Permits	3	3	3		9
Permits within SFHA	0	0	0		0
2023					
Total Permits	6	3	0		9
Permits within SFHA	1	0	0		1

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

TABLE 3-12. RECENT MAJOR DEVELOPMENT AND INFRASTRUCTURE FROM 2017 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
Berriman Ranch Phases	Residential	102 units/ structures	022-140-055,056,057	Very High Fire Hazard Severity Zone (FHSZ)	30 units developed, second and third phase entitled but not recorded.
Timberwood Estates	Residential	49 units / structures	035-640-050	Very High FHSZ	Recorded, 35 lots developed

* Only location-specific hazard zones or vulnerabilities identified.

TABLE 3-13. 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
Dorsey Market Place	Mixed	172 units/ 15 structures	035-260-077,064,062	Very High FHSZ	EIR Pending Updated Air Quality Study
Loma Rica specific plan	Mixed	700 units entitled, 235 approved by tentative map /unknown structures	035-412-026, 014	Very High FHSZ	Phase 1 Tentative Map approved not recorded; applicant is completing Infrastructure Improvements

* Only location-specific hazard zones or vulnerabilities identified.

3.6 Jurisdictional Risk Assessment

The risk assessment in Volume I provides information regarding the overall planning area's risks from the identified hazards, as well as quantitative vulnerability and impact estimates for municipalities and preliminary hazard rankings for all participating jurisdictions. Key local risk assessment information for Grass Valley is presented below.

3.6.1 Jurisdiction-Specific Hazard Risks

Volume I of this plan describes the 12 hazards identified as presenting the greatest risk to Nevada County overall. The City of Grass Valley identified how its local risks differ from the overall planning area based on mapping of hazard areas, a review of hazard events that specifically affected the City, and consideration of the hazard ranking defined in Volume I. Each of these is described below.

Hazard Area

Figure 3-1 and Figure 3-2 illustrate locations that are at risk of a hazardous event occurring 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 Grass Valley has significant exposure. City boundaries shown on the maps are the County's designated community boundaries, as defined in the Nevada County General Plan (Nevada County GIS 2020).

Hazard Event History

The history of natural and non-natural hazard events in Grass Valley is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 3-14 provides details on loss and damage in Grass Valley during hazard events since the last hazard mitigation plan update.

Hazard Ranking

The risk assessments for each hazard in Part 2 of Volume I of this HMP present evaluations of vulnerability and impact for unincorporated county areas and each participating municipality. 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.

Figure 3-1. Grass Valley Hazard Area Extent and Location Map 1

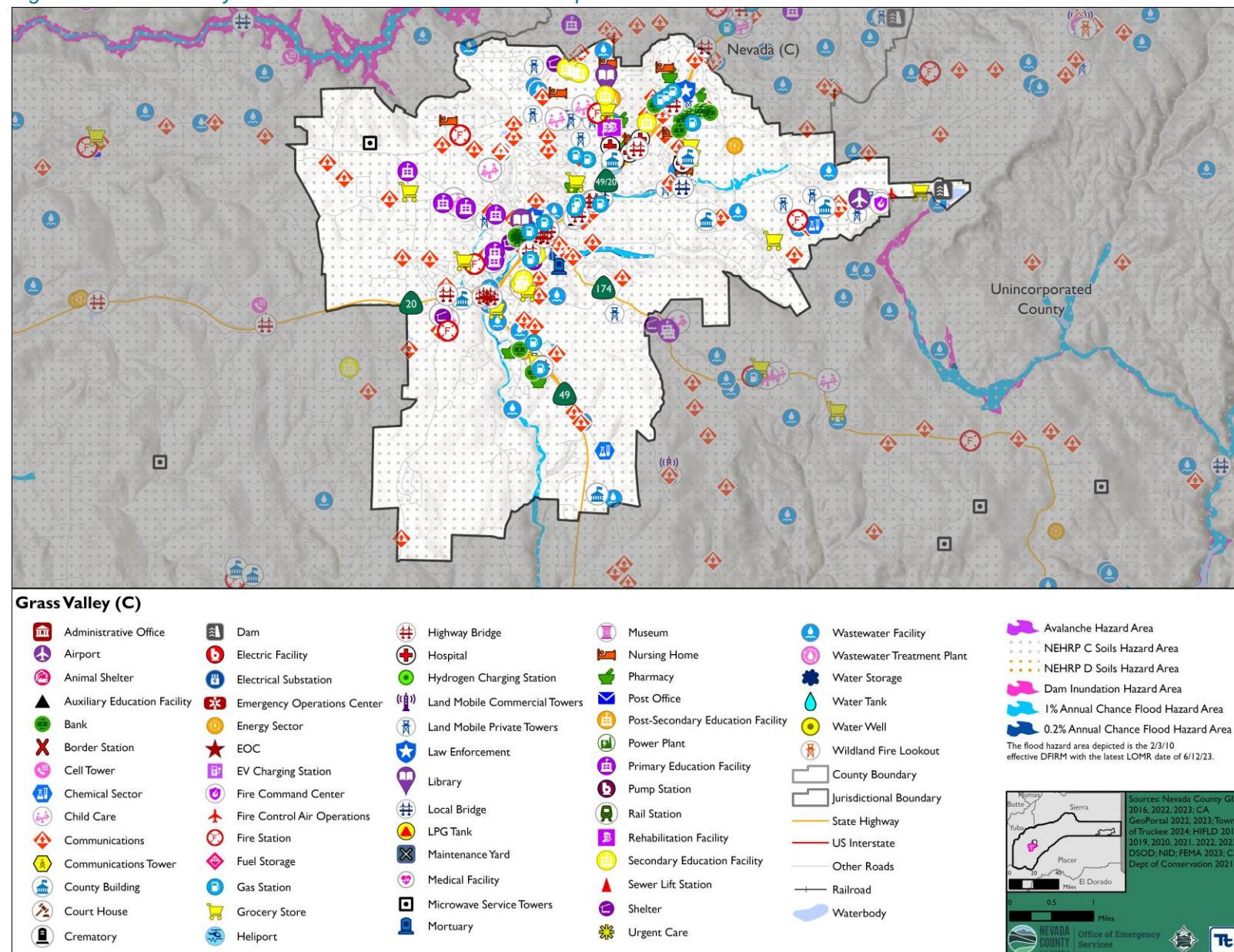


Figure 3-2. Grass Valley Hazard Area Extent and Location Map 2

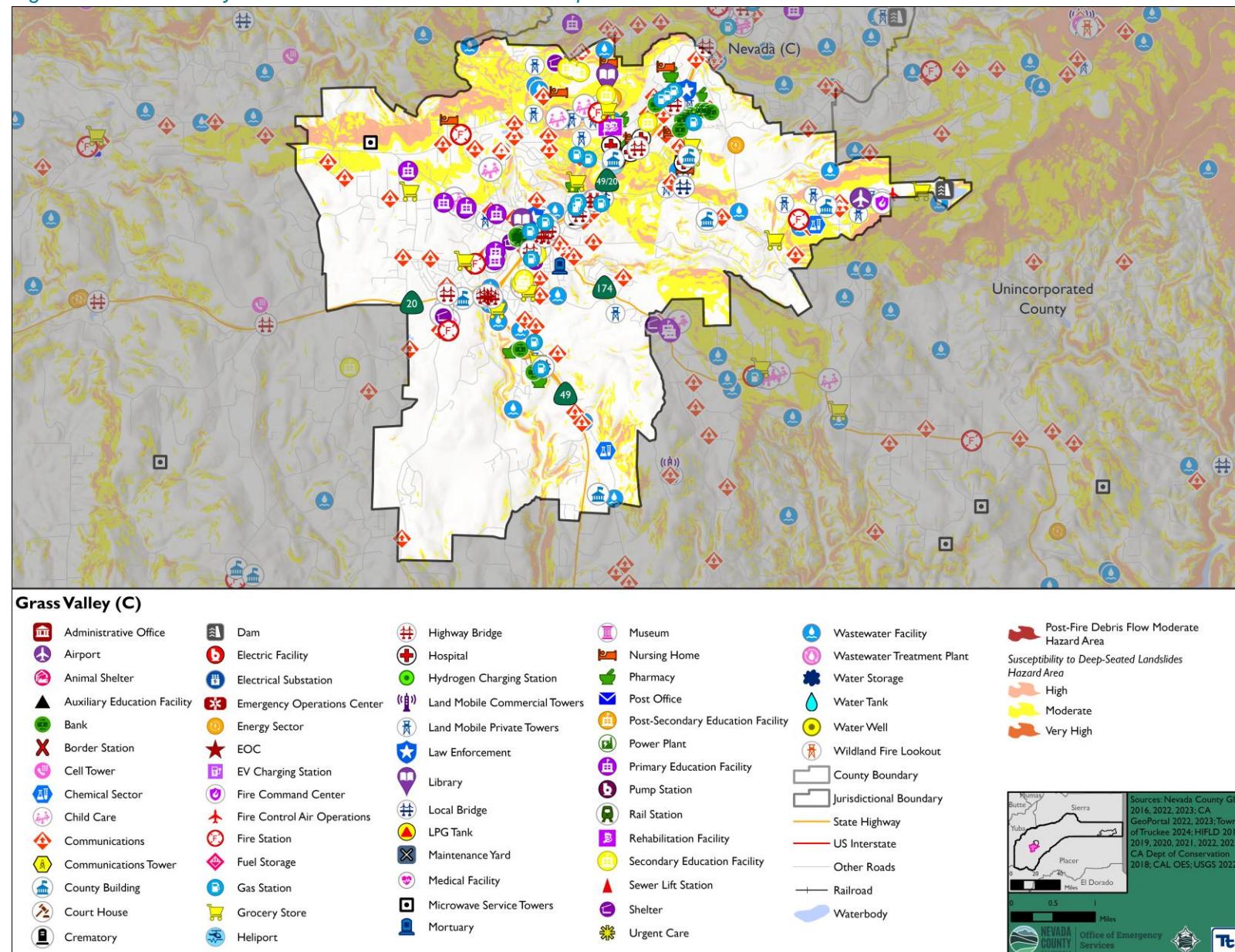


TABLE 3-14. HAZARD EVENT HISTORY IN GRASS VALLEY

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Grass Valley
October 8 – October 31, 2017	Wildfires (DR-4344, FM-5271)	Yes	The 2017 California wildfire season resulted in nearly 1.6 million acres of burned land across 9,000+ wildfires. Nevada County experienced 7 wildfires during this season, with the most notable being the Lobo Fire (Wind Complex) and Pleasant Fire that burned a combined 1,000+ acres of land.	McCourtney Fire burned just outside City limits. Fires impacted community due to proximity. Fire Department was heavily involved in suppression and rescue for these and other incidents.
January 20, 2020 – May 11, 2023	Pandemic (DR-4482, EM-3428)	Yes	The coronavirus pandemic resulted in roughly 20,521 cases and 155 attributed deaths as of fall 2023.	Significant impact to continuity of services and critical services such as fire, police, wastewater 2020-2021. Community impacts varied, all impacted.
August 14 – September 26, 2020	Wildfires (DR-4558, FM-5332)	Yes	Historic wildfires swept across the State of California in 2020, resulting in over 4.3 million acres burned across the State. In Nevada County, the Jones Fire burned 705 acres and resulted in 7 injuries to civilians and fire personnel.	Impacts noted in City were increased population due to evacuations. Fire Department heavily involved in suppression efforts.
July 14 – October 25, 2021	Wildfires (DR-4610)	Yes	The River Fire burned over 2,600 acres through Nevada County before being contained. At least 21 structures were damaged, 142 structures were destroyed, and 4 injuries were reported as a result of this fire.	River Fire impact on the City was increased population from evacuation of fire area. The Fire Department contributed all its resources to the River Fire
August 25, 2021	N/A	N/A	The Bennett Fire burned 59 acres east of the downtown area of Grass Valley	Bennett Fire impacted the City immediately upon ignition with spot fires, evacuations, traffic. No structures were lost in City.
December 27, 2022 – January 31, 2023	Severe Storms (DR-4683)	Yes	Severe winter storms, flooding, landslides, and mudslides impacted residents and property across Nevada County.	
February 21 – July 10, 2023	Severe Storms (DR-4699, EM-3592)	Yes	Severe winter storms, straight-line winds, flooding, landslides, and mudslides impacted communities across Nevada County.	Structural damage to buildings and homes. Localized flooding, down trees, debris & debris removal, impact to continuity of operations. \$242,000 in damage reported.

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

Grass Valley reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the City. The City agreed with many of the calculated hazard rankings and decided to adjust the rankings for earthquake, extreme heat, and flood. The flood ranking was escalated from Low to Medium due to the observed frequency and impacts of past events and the small number of new construction permits issued in the floodplain. The earthquake ranking was increased from Low to Medium due to infrastructure vulnerabilities and the potential for more intense impacts, despite that no earthquakes have occurred in recent history. The extreme heat ranking was lowered from Medium to Low because the City has no specific history of significant heat events and no identified needs for measures to mitigate the extreme heat hazard. The revised rankings also account for the changes in community priorities described in Section 20.2 in Volume I of this HMP.

Table 3-15 shows Grass Valley's final hazard rankings. Hazards with a high or medium risk ranking are those of greatest concern to the city. Mitigation actions target those hazards, though some of the identified actions also provide potential risk-reduction benefits for lower-ranked hazards.

TABLE 3-15. HAZARD RANKING

Hazard	Rank	Hazard	Rank
Avalanche	Low	Flood	Medium
Dam Failure	Low	Hazardous Materials Release	Low
Drought	Medium	Landslide	Low
Earthquake	Medium	Wildfire	High
Extreme Cold	Low	Winter Storm	High
Extreme Heat	Low	Volcano	Low

3.6.2 Vulnerability and Potential Impacts for Hazards of Local Concern

Based on the above jurisdiction-specific information, the following sections describe vulnerability and potential impacts for the hazards of greatest concern to the City of Grass Valley (listed alphabetically, not in order of risk ranking).

Drought

All people and structures in the City are equally vulnerable to drought. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Grass Valley.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Grass Valley. In addition, lower groundwater levels that can result from drought have the potential to cause subsidence in the vicinity of former mines under Grass Valley.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect



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on drought impacts for Grass Valley is assumed to be the same as described for all of Nevada County in Volume I. Droughts are likely to become more frequent and more severe, and the availability of surface water supplies is likely to decrease.

- Population changes—Grass Valley’s population has slightly declined in recent years, as discussed in Volume I (refer to Table 3-3). A continued decline would generally represent a decrease in overall risk from drought.
- Future development—Proposed new development for Grass Valley could increase the demand on water supply, increasing the potential need for water restrictions during drought.

Earthquake

All people and structures in the City are equally vulnerable to earthquake. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Grass Valley.

Older buildings in the City’s downtown area, constructed prior to current building standards, are more likely to experience impacts from an earthquake. Similarly, old sewer lines in the City that are nearing the end of their useful lifespans can be damaged by earth shaking. Seismic shaking also has the potential to cause subsidence in the vicinity of former mines under Grass Valley. The risk assessment in Volume I identifies quantitative citywide estimates of potential impacts specific to Grass Valley as estimated by Hazus.

Potential future changes in impacts have been assessed as follows:

- Climate change—Climate change is unlikely to have a significant effect on earthquake impacts in Grass Valley.
- Population changes—Grass Valley’s population has slightly declined in recent years, as discussed in Volume I (refer to Table 3-3). A continued decline would generally represent a decrease in overall risk from earthquake.
- Future development—New development in Grass Valley may increase the number and value of structures at risk from earthquake, but building codes enforced by the City should limit impacts in the form of structural damage.

Flood

The city assets (people and structures) most vulnerable to flood are those located within mapped flood hazard areas: areas adjacent to Wolf Creek, Little Wolf Creek, South Fork Wolf Creek and Peabody Creek. The risk assessment in Volume I provides quantitative estimates of the number of people and structures within these hazard areas specific to Grass Valley.

Older buildings in the City’s downtown area, constructed prior to current building standards, are more likely to experience impacts from flooding. The risk assessment in Volume I presents city-specific quantitative estimates from Hazus for potential impacts on people and structures.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on flood impacts for Grass Valley is assumed to be the same as described for all of Nevada County in Volume I. Flood risks are projected to increase within and downstream from the Sierra Nevada as climate change increases storm intensities and temperatures.
- Population changes—Grass Valley’s population has slightly declined in recent years, as discussed in Volume I (refer to Table 3-3). A continued decline would generally represent a decrease in overall risk from flood.
- Future development—The City may continue to see occasional permit applications for homes in mapped floodplains. Ongoing NFIP compliance and the City’s existing building code will continue to mitigate risks associated with such developments.

Wildfire

The analysis of wildfire vulnerability in this HMP is based on hazard mapping previously performed for Nevada County that provides results for four forecast zones that cover Nevada County, as described in Volume I (Nevada County OES 2023). One forecast zone includes Grass Valley, Nevada City, and the unincorporated area surrounding those two cities. Volume I provides a detailed description of the mapping of wildfire hazard priority areas and quantitative estimates of the associated vulnerability of people and structures in that forecast zone. CAL FIRE’s fire hazard severity zone mapping shows little variation across the city. It shows all of Grass Valley as a very high hazard area except for the highly developed area along State Route 49, which is excluded from the CAL FIRE mapping because it is outside of the state responsibility areas for wildfire.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Grass Valley. Older buildings in the City’s downtown area, constructed prior to current building standards, are more likely to experience impacts from wildfire. The City also can be indirectly impacted by a temporary influx of population when people in surrounding rural areas need to evacuate from fires outside the city.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on wildfire impacts for Grass Valley is assumed to be the same as described for all of Nevada County in Volume I. It is predicted that the number of large fires and total area burned will increase with the changing climate.
- Population changes—Grass Valley’s population has slightly declined in recent years, as discussed in Volume I (refer to Table 3-3). A continued decline would generally represent a decrease in overall risk from wildfire.
- Future development—Planned projects in Grass Valley will add residential units in the very high fire hazard area that covers most of the city. This will increase the exposure to fire risks,



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highlighting the need for fire-resistant building materials and construction practices to mitigate these risks. The City is participating in the update of Nevada County's community wildfire protection plan, which will prioritize areas for hazardous fuels reduction treatments, address community preparedness, and recommend actions homeowners and communities can take to reduce structure ignitability.

Winter Storm

All people and structures in the City are equally vulnerable to winter storm. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Grass Valley.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Grass Valley. Older buildings in the City's downtown area, constructed prior to current building standards, are more likely to experience impacts from winds or snow loads associated with a winter storm.

Potential future changes in impacts have been assessed as follows:

- Climate change—Warming temperatures are projected to raise the divide between rain and snow by as much as 3,000 feet. Being in the lower elevation portion of the County, Grass Valley is less likely to see this effect than higher-elevation areas to the east. Countywide, climate change is predicted to bring more extreme storms in winter.
- Population changes—Grass Valley's population has slightly declined in recent years, as discussed in Volume I (refer to Table 3-3). A continued decline would generally represent a decrease in overall risk from winter storm.
- Future development—Grass Valley enforces current building codes designed to protect structures from storm-related damage. New development under these codes is unlikely to change the City's overall impacts from winter storms.

3.6.3 Identified Issues

Table 3-16 lists issues related to the top hazards of concern for the City of Grass Valley. These issues were identified based on local knowledge, the hazard event history, hazard rankings, hazard location, current capabilities, and the assessments of hazard vulnerability and potential impacts described in detail in Volume I. Addressing these issues is an important community priority for the City, and the mitigation strategy has been developed to incorporate, where feasible, actions that would help to resolve one or more of these issues.



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TABLE 3-16. HAZARD ISSUES

Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Local jurisdiction reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (AB 2140). This section requires that each jurisdiction adopt a local hazard mitigation plan in accordance with Federal Disaster Mitigation of 2000 as part of the Safety Element of its General Plan.	All hazards of local concern		X
Age and construction of buildings in Grass Valley, especially in the “downtown” area, are outside of current best construction practices.	Earthquake, Wildfire	X	
Clay sewer pipes that route under streams and waterways were installed over 80 years ago and are currently failing.	Flood, Earthquake		
During heavy rain events storm drainage systems become overwhelmed and cause localized flooding in many areas of the City.	Flood	X	
Grass Valley has several hundred miles of mine shafts under the City from past mining operations. Environmental factors impacting the mine shaft or other issues can lead to subsidence. Subsidence is recognized as a cascading impact of the drought and earthquake hazards	Drought, Earthquake	X	
There is a need to enhance public awareness of fire safety, fire protection, and emergency preparedness, especially for situations necessitating evacuation and self-sustaining before accessing emergency shelters.	All hazards of local concern		X
The City's Capital Improvement Plan was last adopted in 2015 and is currently out of date.	All hazards of local concern		X
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. After any disaster event, they must: Determine where the damage occurred within the community and if the damaged structures are in an SFHA; Determine what to use for “market value” and cost to repair; uniformly applying regulations will protect against liability and promote equitable administration; Determine if repairing plus improving the damaged structure equals or exceeds 50% of the structure’s pre-damage value; Require permits for floodplain development. The City 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 City is in need of a formal process and plan to provide a framework for conducting such inspections and determinations.	Dam Failure, Earthquake Flood, Landslide, Wildfire, Winter Storm		X



Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Frequent flooding events have resulted in damage to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. Grass Valley has 3 repetitive loss properties, but other properties may be impacted by flooding as well.	Flood	X	

3.7 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.

3.7.1 Past Mitigation Action Status

Table 3-17 indicates progress on the City's mitigation strategy identified in the 2017 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 3-17. STATUS OF PREVIOUS MITIGATION ACTIONS

A1—Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	
Hazards Addressed	All Hazards
Responsible Party	City of Grass Valley Planning Department
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	The City plans to engage in a Safety Element Update after adoption of the 2024 HMP.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Integrate Local Hazard Mitigation Plan into Safety Element of General Plan.
If discontinue, explain why	N/A

A2—Inventory Unreinforced Masonry structures within the city limits. Retrofit Unreinforced Masonry Historical structures within the city	
Hazards Addressed	Earthquake and Fire
Responsible Party	City of Grass Valley
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Fire to develop list of buildings with unreinforced masonry and categorize.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Inventory and Categorize Unreinforced Masonry structures within the city limits. Retrofit Unreinforced Masonry Historical structures within the City.
If discontinue, explain why	N/A
A3—Improve (relocate) sewer pipes in identified problem areas near waterways and other sensitive areas	
Hazards Addressed	Flood and Earthquake
Responsible Party	City of Grass Valley
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Annual improvement program delivered as staffing allows.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Several budgeted sewer rehabilitation and lining projects are prioritized in the coming years.
If discontinue, explain why	N/A
A4—Storm Water Drainage Improvements	
Hazards Addressed	Flood/Localized Flooding
Responsible Party	City of Grass Valley
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	Nominal funding does not allow for annual improvements outside of emergency repairs.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Update Storm Drainage Master Plan to prioritize repairs and upgrades
If discontinue, explain why	N/A



A5—Subsidence	
Hazards Addressed	Subsidence
Responsible Party	City of Grass Valley
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	No subsidence conditions necessitated repair in the last 3-4 years.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Subsidence events are generally localized sinkholes that are repaired on a case-by-case basis.
If discontinue, explain why	N/A
A6—Public Education- Fire, other events	
Hazards Addressed	Fire, All Hazards
Responsible Party	City of Grass Valley
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Will include outreach and education on preparedness, hazard mitigation, home hardening, vegetation management and explain the benefits of being a Firewise and Firesafe community.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Public Outreach and Education on Preparedness, Hazard Mitigation, Home Hardening, Vegetation Management, Benefits of Firewise and Firesafe Communities.
If discontinue, explain why	N/A

3.7.2 Additional Mitigation Efforts

Grass Valley has not undertaken any mitigation efforts since the last HMP other than the mitigation actions from the previous plan.

3.7.3 Proposed Hazard Mitigation Actions for the HMP Update

The action worksheets included at the end of this annex list the mitigation actions that Grass Valley 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 3-18 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.

TABLE 3-18. ANALYSIS OF MITIGATION ACTIONS BY HAZARD AND CATEGORY

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Avalanche	X			X	X		X			X
Dam Failure	X			X	X		X			X
Drought	X		X	X	X		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
Flood	X	X		X	X	X	X		X	X
Hazardous Materials Release	X			X	X		X			X
Landslide	X			X	X		X			X
Wildfire	X	X		X	X	X	X			X
Winter Storm	X			X	X		X			X
Volcano	X			X	X		X			X

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 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 and Firewise Communities

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 citizens, 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

Volume I identifies 14 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 (-1, 0, or 1) for each of the evaluation criteria. Table 3-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.



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TABLE 3-19. SUMMARY OF PRIORITIZATION OF ACTIONS

Project Number	Project Name	Scores for Evaluation Criteria													High / Medium / Low		
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
2024-Grass Valley-01	Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	1	1	1	0	0	1	1	1	1	1	1	0	1	1	11	High
2024-Grass Valley-02	Assessing Unreinforced Masonry Structures in the City	1	1	1	0	0	1	1	1	1	1	1	0	1	1	11	High
2024-Grass Valley-03	Improve (relocate) sewer pipes in identified problem areas near waterways and other sensitive areas	1	1	1	0	1	1	1	1	1	1	1	0	1	1	12	High
2024-Grass Valley-04	Storm Water Drainage Improvements	1	1	1	0	0	1	1	1	1	1	0	1	0	1	10	Medium
2024-Grass Valley-05	Subsidence	1	1	1	0	0	1	1	1	1	1	1	0	1	1	11	High
2024-Grass Valley-06	Public Education – Fire, Other Events	1	0	1	1	0	1	1	1	1	1	0	0	1	1	10	Medium
2024-Grass Valley-07	Substantial Damage Management Plan	1	1	1	0	0	1	1	1	1	1	1	0	1	1	11	High
2024-Grass Valley-08	Capital Improvement Plan (CIP) Update	1	0	1	1	0	1	1	1	1	1	1	0	1	1	11	High
2024-Grass Valley-09	Repetitive Loss Mitigation	1	1	1	0	0	0	1	1	1	0	1	0	0	1	8	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



2024-GRASS VALLEY-01. INTEGRATE LOCAL HAZARD MITIGATION PLAN INTO SAFETY ELEMENT OF GENERAL PLAN

Lead Agency:	City of Grass Valley Planning Department	
Supporting Agencies:	-	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>Local jurisdiction reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (AB 2140). This section requires that each jurisdiction adopt a local hazard mitigation plan in accordance with Federal Disaster Mitigation of 2000 as part of the Safety Element of its General Plan. Incorporating the HMP in the General Plan will improve the City's ability to incorporate hazard mitigation considerations into future development and growth, such as limiting density or development in areas susceptible to avalanches, dam failures, earthquakes, floods, landslides, and wildfires and in the path of potential hazardous materials releases or volcano events; as well as limiting uses or requiring proactive mitigation measures for uses that are especially vulnerable to adverse impacts from drought, extreme cold or heat events, and winter storms.</p>	
Description of the Solution:	Adoption of the HMP into the Safety Element of the General Plan.	
Estimated Cost:	Staff time	
Potential Funding Sources:	City Budgets – General Fund	
Implementation Timeline:	1-5 years.	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	<p>Incorporation of an adopted HMP into the Safety Element of the General Plan will help jurisdictions maximize the cost recovery potential following a disaster.</p>	
Impact on Socially Vulnerable Populations:	Hazard information can influence land use policies helping to protect vulnerable communities from risks to life and property.	
Impact on Future Development:	Future development has to be in accordance with the General Plan.	
Impact on Critical Facilities/Lifelines:	Can ensure that critical facilities consider the hazards that can affect them and take actions to withstand these hazards and build overall resilience.	
Impact on Capabilities:	Integration of the HMP in the General Plan will require the incorporation of risk reduction activities.	
Climate Change Considerations:	Climate change considerations will potentially be included under each hazard in the HMP, allowing the community to better prepare.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)

CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-GRASS VALLEY-02. ASSESSING UNREINFORCED MASONRY STRUCTURES IN THE CITY.

Lead Agency:	City of Grass Valley Engineering Division	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Age and construction of buildings in Grass Valley, especially in the “downtown” area, are outside of current best construction practices, increasing their vulnerability to possible damage caused by earthquake or wildfire events	
Description of the Solution:	Preserving the structures against seismic or fire events in protection of life safety and economic benefits by inventorying and retrofitting these unreinforced masonry structures.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA HMGP	
Implementation Timeline:	Within 5 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
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:	Pose challenges regarding planning towards future developments towards decision making, and land use.	
Impact on Critical Facilities/Lifelines:	A retrofitted structure will provide safe and secure locations to the community and critical facilities.	
Impact on Capabilities:	Building local resilience.	
Climate Change Considerations:	Climate change can cause more extreme weather events, making unreinforced structures more vulnerable.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-GRASS VALLEY-03. IMPROVE (RELOCATE) SEWER PIPES IN IDENTIFIED PROBLEM AREAS NEAR WATERWAYS AND OTHER SENSITIVE AREAS.

Lead Agency:	City of Grass Valley Engineering Division		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	Clay sewer pipes that route under streams and waterways were installed over 80 years ago and are currently failing, elevating the risk for overflows during extreme precipitation or damage during earthquakes.		
Description of the Solution:	Replace/reinforce or relocate sewer pipes to ensure adequate capacity during extreme storm events and mitigate during earthquake events.		
Estimated Cost:	Medium		
Potential Funding Sources:	BRIC, HMGP, City Budget – General Fund		
Implementation Timeline:	1-5 years		
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10		
Benefits:	No water contamination, critical infrastructure loss and avoids losing service to the sewers.		
Impact on Socially Vulnerable Populations:	Improving sewer pipes can offer clean water access and help prevent the spread of diseases.		
Impact on Future Development:	Enhancing the sewer pipes can promote sustainable development.		
Impact on Critical Facilities/Lifelines:	This improvement will reduce disruption of critical services.		
Impact on Capabilities:	Through implementation within the Capital Improvement Plan to assist in identifying and prioritizing improvement of sewer pipes.		
Climate Change Considerations:	Climate change can lead to intense rainfall events leading to sewer systems becoming overwhelmed. Can cause structural issues such as cracks, or faulty seals.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Priority	High		



2024-GRASS VALLEY-04. STORM WATER DRAINAGE IMPROVEMENTS

Lead Agency:	City of Grass Valley Engineering Division	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	During heavy rain events, storm drainage systems become overwhelmed and cause localized flooding in many areas of the City.	
Description of the Solution:	Improve stormwater drainage system by increasing capacity through upsizing to reduce flooding in known areas of Mill Street and Idaho Maryland Road.	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, City Funds – General Fund	
Implementation Timeline:	1-5 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	Reduction in flood risk to critical infrastructure, and personal property, and avoid water contamination.	
Impact on Socially Vulnerable Populations:	Storm water drainage can cause flooding which can impact socially vulnerable inhabit flood-prone areas.	
Impact on Future Development:	Storm water drainage can significantly impact downstream properties or existing infrastructure.	
Impact on Critical Facilities/Lifelines:	Can cause service loss to critical facilities.	
Impact on Capabilities:	Implemented through the Capital Improvement Plan to address improvement activities of storm water drains.	
Climate Change Considerations:	Climate change can cause frequent and intense storms and extreme flooding events which can increase stormwater runoff.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-GRASS VALLEY-05. SUBSIDENCE

Lead Agency:	City of Grass Valley Engineering Division	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Grass Valley has several hundred miles of mine shafts under the City from past mining operations. These mine shafts are no longer use or maintained, elevating the risk for potential failure or damage when environmental factors change, such as soil aridity due to drought or soil stability due to earthquakes.	
Description of the Solution:	Evaluate, identify and if possible, mitigate potential known subsidence conditions and locations.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA HMGP	
Implementation Timeline:	1-5 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	By identifying and mitigating areas of concern, this can enhance life safety, protect critical infrastructure, and avoid economic hardship and displacement from residence or business.	
Impact on Socially Vulnerable Populations:	Subsidence can cause limited access to mobilization or medical resources.	
Impact on Future Development:	Due to subsidence, depth and size of an area could increase causing flooding concerns.	
Impact on Critical Facilities/Lifelines:	There could be significant impact on major roads, bridges, power line towers, and water and sewer infrastructure.	
Impact on Capabilities:	Can lead to major economic losses such as structural damages and maintenance costs.	
Climate Change Considerations:	Climate change can bring drought to areas causing significant drawdowns of groundwater.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-GRASS VALLEY-06. PUBLIC EDUCATION – FIRE, OTHER EVENTS

Lead Agency:	City of Grass Valley Emergency Manager	
Supporting Agencies:	Outside Agencies	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>There is a need to enhance public awareness of fire safety, fire protection, and emergency preparedness, especially for situations necessitating evacuation and self-sustaining before accessing emergency shelters. Additionally, there is a need to enhance public awareness of less frequent hazards, such as avalanches, extreme cold or heat, hazardous materials release, and volcano events, all of which may require evacuation or sheltering due to impacts such as road closures or utility and power failures.</p>	
Description of the Solution:	<p>Expand delivery of programs to inform public of best practices related to fire safety, preparation for emergencies, evacuation planning, and related issues. A unified message, inclusive of all agencies, delivered by chosen representatives of agencies and delivered to the public at scheduled times and locations.</p>	
Estimated Cost:	Medium	
Potential Funding Sources:	WMD Grant, SHS Grant, FMA Grant, EMPG Grant	
Implementation Timeline:	1-5 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	To better prepare and protect life, personal property and infrastructure.	
Impact on Socially Vulnerable Populations:	Can help provide knowledge and resources to help evaluate their risk and make decisions on evacuating or seeking additional assistance.	
Impact on Future Development:	Can help with choice of building materials to withstand impacts of a fire.	
Impact on Critical Facilities/Lifelines:	Wildfires can have an impact on water supplies, transportation routes and can isolate residents and emergency service providers.	
Impact on Capabilities:	Engaging with residents and organizations can help with informed decision making, promote equity and inclusion in planning, and provide resources and opportunities to the community.	
Climate Change Considerations:	Climate change will make areas more susceptible to severe fires due to changing precipitation patterns.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-GRASS VALLEY-07. SUBSTANTIAL DAMAGE MANAGEMENT PLAN

Lead Agency:	City of Grass Valley Floodplain Administrator	
Supporting Agencies:	City of Grass Valley OEM	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>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. After any disaster event, they must:</p> <ul style="list-style-type: none"> • Determine where the damage occurred within the community and if the damaged structures are in an SFHA. • Determine what to use for “market value” and cost to repair; uniformly applying regulations will protect against liability and promote equitable administration. • Determine if repairing plus improving the damaged structure equals or exceeds 50% of the structure’s pre-damage value. • Require permits for floodplain development. <p>The City 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 City is in need of a formal process and plan to provide a framework for conducting such inspections and determinations. Such a plan will enable the City to assist property owners to implement mitigation measures or construction techniques that reduce the future risk to physical property damage caused by dam failures, flooding, earthquakes, landslides, wildfires, and winter storms.</p>	
Description of the Solution:	The City will establish substantial damage management procedures.	
Estimated Cost:	Low	
Potential Funding Sources:	City Budget – General Fund	
Implementation Timeline:	Within 5 years to develop; ongoing to maintain and update.	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	To better prepare and protect life, personal property and infrastructure.	
Impact on Socially Vulnerable Populations:	Substantially damaged structures are required to be rebuilt to be compliant with current codes. Socially vulnerable populations may not have the financial means to make these improvements. This action may allow for the identification of potential resources to address substantial damages to structures owned by socially vulnerable populations.	
Impact on Future Development:	A Substantial Damage Management Plan would include all existing, current, and future development in the municipality.	
Impact on Critical Facilities/Lifelines:	A Substantial Damage Management Plan would include all critical facilities and lifelines in the municipality.	
Impact on Capabilities:	This action improves disaster recovery capabilities.	
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action provides additional planning for disaster recovery.	



Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-GRASS VALLEY-08. CAPITAL IMPROVEMENT PLAN (CIP) UPDATE

Lead Agency:	City of Grass Valley Administration	
Supporting Agencies:	-	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>The City's Capital Improvement Plan was last adopted in 2015 and is currently out of date. The City can integrate the HMP into the CIP by identifying projects that mitigate the risk to human life and safety and property caused by avalanches, dam failure, drought, earthquake, extreme cold or heat, flood, hazardous materials release, landslide, wildfire, winter storms, and volcano events. Examples of these projects may include increasing stormwater capacity, retrofits to protect critical functions during extreme cold or heat events, or improved warning systems for avalanches, earthquakes, hazardous materials releases, landslides, wildfire, winter storms, and volcano events.</p>	
Description of the Solution:	The City plans to update the CIP for this upcoming fiscal year.	
Estimated Cost:	Low	
Potential Funding Sources:	City Budget – General Fund	
Implementation Timeline:	Within 5 years to develop; ongoing to maintain and update.	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	To coordinate the location, timing and finances of capital improvements over a multi-year period.	
Impact on Socially Vulnerable Populations:	This plan can allocate funding to improve infrastructure, invest in affordable housing projects and enhance accessibility and quality of life.	
Impact on Future Development:	This plan will influence future development by providing a strategic roadmap for managing capital assets.	
Impact on Critical Facilities/Lifelines:	This plan allocates resources for critical facilities such as fire stations and water supply systems, and addresses utility needs.	
Impact on Capabilities:	A CIP strengthens capabilities, making it more resilient and efficient, by prioritizing infrastructure upgrades, allocating funds for critical projects and enhancing economic growth for the City.	
Climate Change Considerations:	Climate change poses challenges for CIPs, including the impact of extreme weather on infrastructure and subsequent economic implications. Climate change poses uncertainty which creates issues for long-term planning.	
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)



Priority	High
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2024-GRASS VALLEY-09. REPETITIVE LOSS MITIGATION

Lead Agency:	Public Works	
Supporting Agencies:	Private homeowners	
Hazards of Concern:	Flood	
Description of the Problem:	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. Grass Valley has 3 repetitive loss properties, but other properties may be impacted by flooding as well.	
Description of the Solution:	Conduct outreach to 10 flood-prone property owners, including repetitive loss/severe repetitive loss property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information, and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, FMA, HMGP, match from property owners	
Implementation Timeline:	Within 5 years	
Goals Met:	6, 10	
Benefits:	Eliminates flood damage to homes and residences, which 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	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	

4. City of Nevada City Annex

This section presents the jurisdictional annex for the City of Nevada City that provides resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions to reduce or eliminate damage to property and people that can be implemented prior to a disaster. Information presented includes a general overview of the City of Nevada City, who in the City participated in the planning process, an assessment of Nevada City's risk and vulnerability, the different capabilities used in the City, and an action plan that will be implemented to achieve a more resilient community.

This annex is part of a multi-jurisdictional HMP that was developed to meet plan participation requirements for all participating jurisdictions while accommodating their specific needs and limitations. Because many participating jurisdictions are rural agencies with limited staff, the planning process included establishing a Steering Committee and engaging a contract consultant to work with Nevada County in undertaking certain elements of the plan update on behalf of the jurisdictions. These elements included outreach to stakeholders and the public, risk assessment for all countywide hazards of concern, initial ranking of hazard risks, updates of hazard mitigation goals and objectives, and establishment of procedures for implementing and maintaining the HMP. This annex presents only the information specific to City of Nevada City as a participating jurisdiction. All other plan elements are included in Volume I and are referenced in this annex as appropriate.

4.1 Hazard Mitigation Planning Team

The City of Nevada City identified the hazard mitigation plan (HMP) primary and alternate points of contact and developed this plan over the course of several months with input from many City departments, including Fire, Police, the Nevada City Office of Emergency Services and the City Manager's Office. The City Manager represented the community on the Nevada County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements 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.

Table 4-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume I.

TABLE 4-1. HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact	Alternate Point of Contact
Name/Title: Sean Grayson, City Manager Address: 317 Broad Street, Nevada City, CA 95959 Phone Number: 530-265-2496 Email: Sean.Grayson@nevadacityca.gov	Name/Title: Evan McLenithan, Risk Reduction Officer Address: 317 Broad Street, Nevada City, CA 95959 Phone Number: 530-265-2496 Email: evan.mclenithan@nevadacityca.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: Bryan McAlister, City Engineer Address: 317 Broad Street, Nevada City, CA 95959 Phone Number: 530-265-2496 Email: bryan.mcalister@nevadacityca.gov	
Contributions to the Annex	
Name/Title: Sean Grayson, City Manager Method of Participation: Provided updated information on hazard event history, capabilities, and mitigation actions.	
Name/Title: Bryan McAlister, City Engineer Method of Participation: Provided updated information hazard event history, NFIP, mitigation actions and building permits.	
Name/Title: Lisa McCandless, City Planner Method of Participation: Provided updated information on building permits.	
Name/Title: Sam Goodspeed, Fire Division Chief Method of Participation: Provided review of content.	
Name/Title: Evan McLenithan, Risk Reduction Officer Method of Participation: Provided risk analysis and review of content.	

4.2 Community Profile

Nevada City is located in the center of the western half of Nevada County. The City is bordered by the City of Grass Valley to the southeast. Nevada City is a historic mining town located 60 miles northeast of Sacramento and approximately 84 miles southwest of Reno, Nevada. The City is located at 2,500 feet above sea level and nestled in a basin on the Western Slope of the Sierra Nevada Mountain Range. Originally settled in 1849 as a mining camp, Nevada City maintains a well-preserved Downtown Historic District and is rich in local history. Prior to the Gold Rush, the area this is now Nevada City was inhabited by the indigenous Nisenan people.

According to the U.S. Census, the 2020 population for Nevada City was 3,152, a 2.7 percent increase from the 2010 Census. Data from the 2020 U.S. Census indicate that 3.5 percent of the population is 5 years of age or younger, 42.0 percent is 65 years of age or older, 0 percent is non-English speaking, 9.5 percent is below the poverty threshold, and 8.3 percent is considered disabled. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.



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4.3 Jurisdictional Capability Assessment and Integration

Nevada City 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 their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Nevada City to identify opportunities for integrating mitigation concepts into ongoing City procedures.

4.3.1 Planning and Regulatory Capability

Table 4-2 summarizes the planning and regulatory tools that are available to Nevada City. The table outlines the various planning documents, codes, and regulations to be reviewed and considered for update based upon any new data or information learned during the HMP Update process.

4.3.2 Integration

Table 4-2 describes how some local planning mechanisms have been integrated into this HMP and how information from this HMP can be integrated into these mechanisms when they are updated in the future. Procedures for this future integration are outlined in Section 21.2.2 of Volume I of this HMP. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings are as follows:

- Using HMP hazard assessment data and action item information for potential emergency plans and annex updates and/or emergency response plans
- Incorporating hazard information, such as floodplain data, to potentially review and update zoning, planning, and building codes for potential future growth and development or areas for re-development
- Utilizing hazard analyses when considering future plan development or annexation
- Updating capital improvement or strategic plans based on listed mitigation action items

TABLE 4-2. PLANNING AND REGULATORY CAPABILITY AND INTEGRATION

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	2022 California Building Standards Code	State	City Planner manages contracted services to Nevada County
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Stronger, more resilient building codes strengthen community lifelines, reduce community risk and reduce overall disaster recovery costs.</p>				
Zoning/Land Use Code	Yes	Title 17 of Nevada City Municipal Code	Local	City Planner
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Regulates what can and can't be done on a particular piece of property.</p>				
Subdivision Ordinance	Yes	Chapter 16.04 of Nevada City Municipal Code	Local	City Planner, City Engineer
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Regulates and controls design and improvement of land being divided in the City.</p>				
Site Plan Code	Yes	Chapter 17.88.010 of Nevada City Municipal Code	Local	City Planner
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>A site plan lays out regulations for on-site hazards and the necessary steps to mitigate risk.</p>				
Stormwater Management Code	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Post-Disaster Recovery/Reconstruction Code	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Real Estate Disclosure Requirements	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>California requires its residential property sellers to disclose, in writing, details about the property they have on the market. (CA Civil Code §1102).</p>				
Growth Management	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Environmental Protection Ordinance	Yes	Title 18 Environment of Nevada City Municipal Code	Local	City Planner
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
To promote the health, safety, and general welfare, to preserve and protect a most valuable resource, to enhance the beauty of the city and to complement and strengthen zoning, subdivision and land use standards and regulations while recognizing an individual's right to develop private property, the city council establishes basic standards and measures for the preservation and protection of trees.				
Flood Damage Prevention Ordinance	Yes	Section 13.20.050 of Nevada City Municipal Code	Local	City Planner, City Engineer
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
To promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas. The ordinance adopts all subsequent amendments and/or revisions of Flood Insurance Rate Maps (FIRMs), including the most recent effective FIRM adopted in February 2010.				
Wellhead Protection	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Emergency Management Ordinance	Yes	Chapter 2.44 of Nevada City Municipal Code	Local	City Manager
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Provides the preparation and carrying out of plans for the protection and civil defense of persons and property within the City in the event of an emergency or disaster.				
Climate Change Ordinance	Yes	Climate Adaptation and Public Safety Element (CAPSE) adopted 2023	Local	City Planner
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
The safety element promotes protection of the community from unreasonable risks related to slope instability, seismic activity, subsidence, liquefaction, known geologic hazards, flooding, wildland and urban fires, tsunami, seiche, dam failure, and climate change. This also includes a vulnerability assessment that identifies the risks posed by climate change and a series of adaptation goals, policies, and implementation measures designed to protect the community.				
Other	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	Nevada City General Plan	Local	City Planner
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Long-term comprehensive guide which addresses all aspects of future growth, development, and conservation within the City.				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Capital Improvement Plan	Yes	2023-2027 Capital Improvement Program	Local	City Engineer, City Manager
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Mitigation projects can be funded through allocations in capital improvement planning.				
Disaster Debris Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Floodplain Management or Watershed Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Stormwater Pollution Prevention Plan	Yes	SWPP		City Engineer
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Documents the process for ensuring that pollutants from a site and its activities are not making their way into the stormwater discharges from a site. This requires implementation of best management practices, including schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution in stormwater from the site.				
Open Space Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Urban Water Management Plan	Yes	Urban Water Management Plan	Local	Chief Plant Operator
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Support long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs.				
Habitat Conservation Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Economic Development Plan	Yes	2022-2027 Strategic Plan	Local	City Manager
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> This plan is a comprehensive strategy used to foster economic growth and improvement in the City.				
Community Wildfire Protection Plan	Yes	2024 Nevada County CWPP (in progress) and separate Nevada City CWPP with same vendor	Local / County	Community Risk Reduction Officer
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Will identify local solutions to wildland fire management. Identifies and prioritizes areas for hazardous fuels reduction treatments, addresses community preparedness, and recommends actions homeowners and communities can take to reduce structure ignitability.				
Community Forest Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Transportation Plan	Yes	General Plan and Regional Transportation Plan	Local / County	City Engineer, Nevada County Transportation Commission (NCTC)
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
As part of the regional transportation planning process, the Nevada County Transportation Commission (NCTC), in coordination with the County of Nevada, City of Grass Valley, City of Nevada City, and Town of Truckee, contracted with the consulting firm Fehr & Peers to prepare an Active Transportation Plan (ATP) covering Nevada County. The Plan combines previous bicycle and pedestrian planning efforts, evaluates needs, identifies projects, and recommends prioritization. Completion of the study will provide all necessary information and analysis required by the California Transportation Commission's state funding guidelines and assist local agency efforts to secure funding for bicycle and pedestrian projects. This plan will cover maintenance of roadways, buses, operations of all the facilities, and needed upgrades that are identified to accommodate the growth over the next 20 years.				
Agriculture Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Climate Action/Resiliency/Sustainability Plan	Yes	CAPSE and Renewable Energy Plan	Local	City Planner, City Manager
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
The safety element promotes protection of the community from unreasonable risks related to slope instability, seismic activity, subsidence, liquefaction, known geologic hazards, flooding, wildland and urban fires, tsunami, seiche, dam failure, and climate change. This also includes a vulnerability assessment that identifies the risks posed by climate change and a series of adaptation goals, policies, and implementation measures designed to protect the community.				
Tourism Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Business/ Downtown Development Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Other	Yes	-	Local	City Engineer, Parks and Recreation Manager
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Engineering Studies for Streams, 2014 Water Conservation / Drought Plan, Brownfields cleanup.				
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	2011 Nevada County Emergency Operations Plan	Local / County	Fire Division Chief
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Nevada City adopted the same EOP as Nevada County. This EOP describes the responsibilities of First Responders and other response support organizations for natural disasters and manmade emergency incidents.				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Continuity of Operations Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Substantial Damage Response Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Post-Disaster Recovery Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Public Health Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Other	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				

4.3.3 Development and Permitting Capability

Table 4-3 summarizes the capabilities of Nevada City to oversee and track development.

TABLE 4-3. DEVELOPMENT AND PERMITTING CAPABILITY

	Yes/No	Comment
Do you issue development permits?	Yes	Planning Department
<ul style="list-style-type: none"> If you issue development permits, what department is responsible? If you do not issue development permits, what is your process for tracking new development? 		
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Planning, on the same GIS platform as Nevada County for building permits
Do you have a buildable land inventory?	No	<ul style="list-style-type: none"> If you have a buildable land inventory, please describe
Describe the level of buildout in your jurisdiction.	N/A	Excluding open space and undevelopable land, the City is approximately 75% built out



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4.3.4 Administrative and Technical Capability

Table 4-4 summarizes potential staff and personnel resources available to Nevada City and their current responsibilities that contribute to hazard mitigation.

TABLE 4-4. ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Planning Commission
Zoning Board of Adjustment	No	-
Planning Department	Yes	City Planner
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	Yes	Parks Committee
Economic Development Commission/Committee	Yes	Economic Development Committee
Public Works/Highway Department	Yes	Houses information on aerial topographic maps, encroachment permits, Nevada City Traffic Calming Policy, Nevada County Regional Transportation Commission, Sewer Backflow Prevention, Sewer System Management Plan, Sidewalk Cost Share Program, and Solid Waste and Recycling.
Construction/Building/Code Enforcement Department	Yes	Building Department services contracted to Nevada County, Code Enforcement through Police Department
Emergency Management/Public Safety Department	Yes	City OES under Community Risk Reduction Officer
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works, Parks, Fire Department ongoing programs. Outside assistance from jail crews, conservation corps, and other volunteer groups.
Mutual aid agreements	Yes	Police and Fire
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Yes, fire fuels equipment operator and community risk reduction officer, and all employees are designated disaster workers.
Other	No	-



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	City Planner, City Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	City Engineer
Planners or engineers with an understanding of natural hazards	Yes	City Planner, City Engineer
Staff with expertise or training in benefit/cost analysis	Yes	Assistant City Manager
Professionals trained in conducting damage assessments	Yes	Fire, City Engineer, Community Risk Reduction Officer
Personnel skilled or trained in GIS and/or Hazus applications	Yes	GIS, but not HAZUS. City Planner is GIS technician
Staff that work with socially vulnerable populations or underserved communities	Yes	Community Compliance Officer, Risk Reduction Officer, and OES Specialist
Environmental scientist familiar with natural hazards	Yes	Partnership with Sierra Streams
Surveyors	Yes	City Engineer
Emergency Manager	Yes	City Manager
Grant writers	Yes	Staff and contracted firm
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

4.3.5 Fiscal Capability

Table 4-5 summarizes financial resources available to Nevada City.

4.3.6 Education and Outreach Capability

Table 4-6 summarizes the education and outreach resources available to Nevada City.

4.3.7 Community Classifications

Table 4-7 summarizes classifications for community programs available to Nevada City.

TABLE 4-5. FISCAL CAPABILITIES

Financial Resources	Accessible or Eligible to Use? (Yes/No)
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	No
Withhold public expenditures in hazard-prone areas	Yes (no city development in flood plain)
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	No

TABLE 4-6. EDUCATION AND OUTREACH CAPABILITIES

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	Community Risk Reduction Officer is designated PIO and City Manager is qualified
Personnel skilled or trained in website development	Yes	Risk Reduction Officer, OES Specialist
Hazard mitigation information available on your website	No	Will be
Social media for hazard mitigation education and outreach	Yes	Facebook, Instagram, and city website
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Fire Safety Advisory Committee, Infrastructure Committee, Water Committee
Warning systems for hazard events	Yes	CodeRED
Natural disaster/safety programs in place for schools	Yes	Provided by City police and fire
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Nevada City Office of Emergency Services and partnership with Sierra Roots and HOME team.



Outreach Resources	Available? (Yes/No)	Comment
Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events?	Yes	PIO team, social media, KVMR emergency radio broadcast in Nevada City.
If yes, please describe.		Firewise Communities, City newsletter, partnership with chamber of commerce to disseminate information.

TABLE 4-7. COMMUNITY CLASSIFICATIONS

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	02 / 2X	April 2023
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	Yes	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	No	-	-

N/A = Not applicable

4.3.8 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 4-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement.



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TABLE 4-8. ADAPTIVE CAPACITY

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Avalanche	Moderate
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flood	Moderate
Hazardous Materials Release	Moderate
Landslide	Moderate
Wildfire	Moderate
Winter Storm	Moderate
Volcano	Moderate

4.4 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 the table of planning team members at the beginning of this annex is responsible for maintaining this information.

4.4.1 NFIP Statistics

Table 4-9 summarizes the NFIP policy and claim statistics for Nevada City.

TABLE 4-9. NEVADA CITY NFIP SUMMARY OF POLICY AND CLAIM STATISTICS

# Policies	2
# Claims (Losses)	7
# Repetitive Loss Properties	1
# Severe Repetitive Loss Properties	0

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.

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. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: FEMA PIVOT 2024; CIS 2024



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4.4.2 Flood Vulnerability Summary

Table 4-10 provides a summary of the NFIP program in Nevada City.

TABLE 4-10. NFIP SUMMARY

NFIP Topic	Comments
FLOOD VULNERABILITY SUMMARY	
Describe areas prone to flooding in your jurisdiction. <ul style="list-style-type: none"> • Do you maintain a list of properties that have been damaged by flooding? 	Pioneer Park and private properties adjacent to creeks and ravines. No
Do you maintain a list of property owners interested in flood mitigation? <ul style="list-style-type: none"> • If so, how many homeowners and/or business owners are interested in mitigation (elevation or acquisition)? 	No
Are any RiskMAP projects currently underway in your jurisdiction? <ul style="list-style-type: none"> • If so, state what projects are underway. 	No
Do you have procedures established for Substantial Damage determinations following a disaster event? <ul style="list-style-type: none"> • How many were declared for recent flood events in your jurisdiction? 	Initial survey for damage against baseline is reported to County and State OES 0
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? <ul style="list-style-type: none"> • If there are mitigation properties, how were the projects funded? 	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> • If not, state why. 	Yes
NFIP COMPLIANCE	
What local department is responsible for floodplain management?	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? <ul style="list-style-type: none"> • 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)	Standards of Construction are included in the City's ordinance 13.20.050 and we use this as part of City Planning and Engineering Dept. permit review.



NFIP Topic	Comments
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	By using definitions in the above referenced ordinance.
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? <ul style="list-style-type: none">• If so, state the violations.	None
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? <ul style="list-style-type: none">• What is the date that your flood damage prevention ordinance was last amended?	13.20.050, 7-23-2020; The ordinance adopts all subsequent amendments and/or revisions of Flood Insurance Rate Maps (FIRMs), including the most recent effective FIRM adopted in February 2010.
Does your floodplain management program meet or exceed minimum requirements? <ul style="list-style-type: none">• If exceeds, in what ways?	Yes
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?	No

4.5 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.

From 2018 to 2023, Nevada City issued a consistent number of new construction permits, primarily for single-family homes, with no permits within the Special Flood Hazard Area (SFHA). Recent developments include the Cashins Field Affordable Housing project, which added 51 residential units with no known hazard zones, and The Grove Housing Development, which includes 59 units on a contaminated soils site. Gracie Commons, with 16 units, is also in progress.

Overall, the risk exposure for Nevada City has remained relatively stable, as most new developments are not in high-risk areas like the SFHA. However, the presence of developments on a contaminated soils site indicates a need for careful management to mitigate potential risks.

Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 4-11, Table 4-12, and Table 4-13.

TABLE 4-11. NUMBER OF BUILDING PERMITS FOR NEW CONSTRUCTION ISSUED SINCE THE PREVIOUS HMP

	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2018				
Total Permits	3	0	0	3
Permits within SFHA	0	0	0	0
2019				
Total Permits	5	0	0	5
Permits within SFHA	0	0	0	0
2020				
Total Permits	5	0	0	5
Permits within SFHA	0	0	0	0
2021				
Total Permits	3	1	0	4
Permits within SFHA	0	0	0	0
2022				
Total Permits	5	0	0	5
Permits within SFHA	0	0	0	0
2023				
Total Permits	3	0	0	3
Permits within SFHA	0	0	0	0

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

TABLE 4-12. RECENT MAJOR DEVELOPMENT AND INFRASTRUCTURE FROM 2017 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
Cashins Field Affordable Housing	Res	51	170 Ridge Road	None	Completed

* Only location-specific hazard zones or vulnerabilities identified.

TABLE 4-13. 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
The Grove Housing Development	Res	59	APN 005-190-069 (no address issued)	Soils Contamination site	Tentative map renewed until July 2025
Gracie Commons	Res	16	APN 005-500-032 400 Gracie Road	N/A	Tentative map set to expire August 2024 (may be renewed for 2 years)

* Only location-specific hazard zones or vulnerabilities identified.

4.6 Jurisdictional Risk Assessment

The risk assessment in Volume I provides information regarding the overall planning area's risks from the identified hazards, as well as quantitative vulnerability and impact estimates for municipalities and preliminary hazard rankings for all participating jurisdictions. Key local risk assessment information for Nevada City is presented below.

4.6.1 Jurisdiction-Specific Hazard Risks

Volume I of this plan describes the 12 hazards identified as presenting the greatest risk to Nevada County overall. The City of Nevada City identified how its local risks differ from the overall planning area based on mapping of hazard areas, a review of hazard events the specifically affected the City, and consideration of the hazard ranking defined in Volume I. Each of these is described below.

Hazard Area

Figure 4-1 and Figure 4-2 illustrate locations that are at risk of a hazardous event occurring 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 Nevada City has significant exposure. City boundaries shown on the maps are the County's designated community boundaries, as defined in the Nevada County General Plan (Nevada County GIS 2020).

Hazard Event History

The history of natural and non-natural hazard events in Nevada City is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 4-14 provides details on loss and damage in Nevada City during hazard events since the last hazard mitigation plan update.



Figure 4-1. Nevada City Hazard Area Extent and Location Map 1

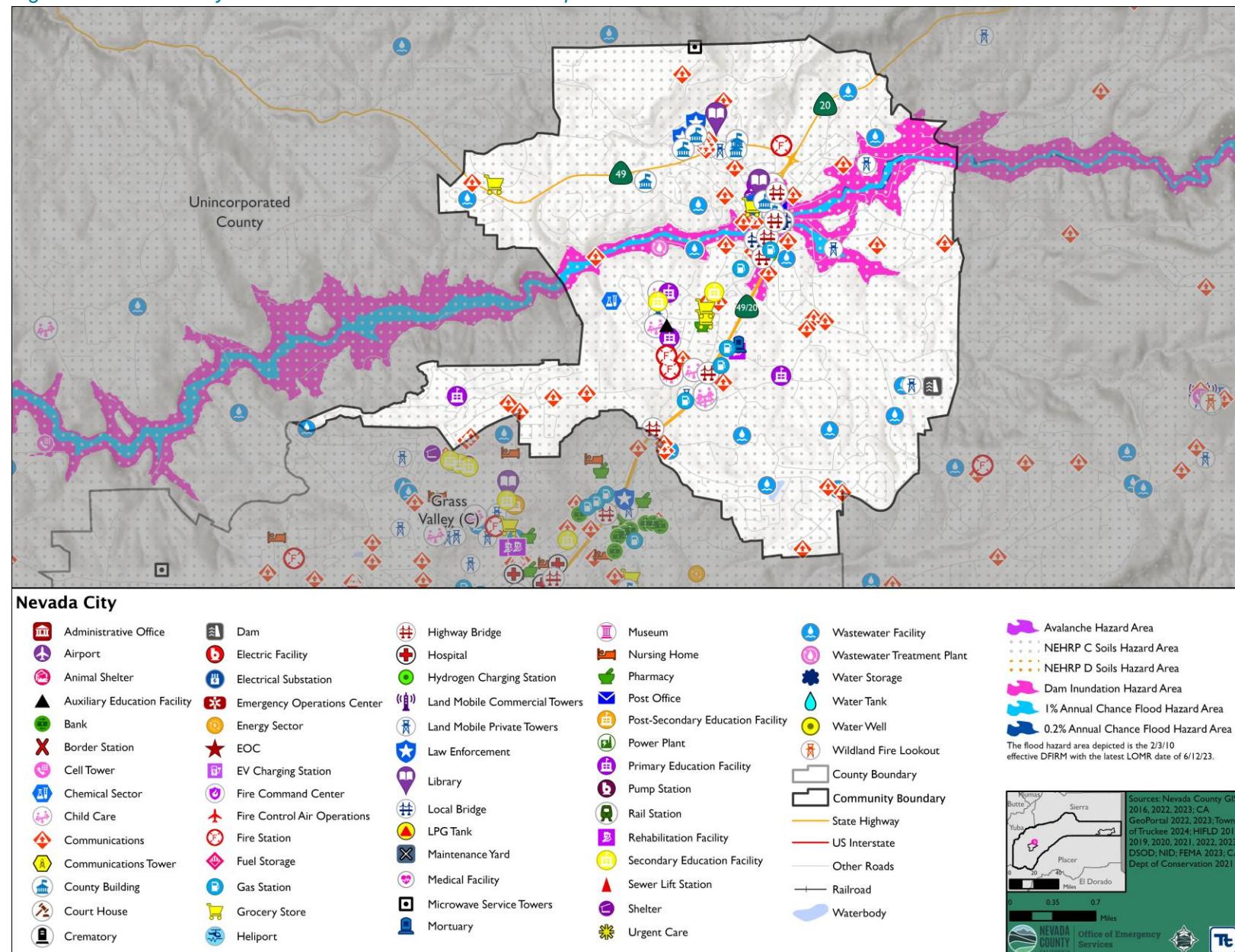


Figure 4-2. Nevada City Hazard Area Extent and Location Map 2

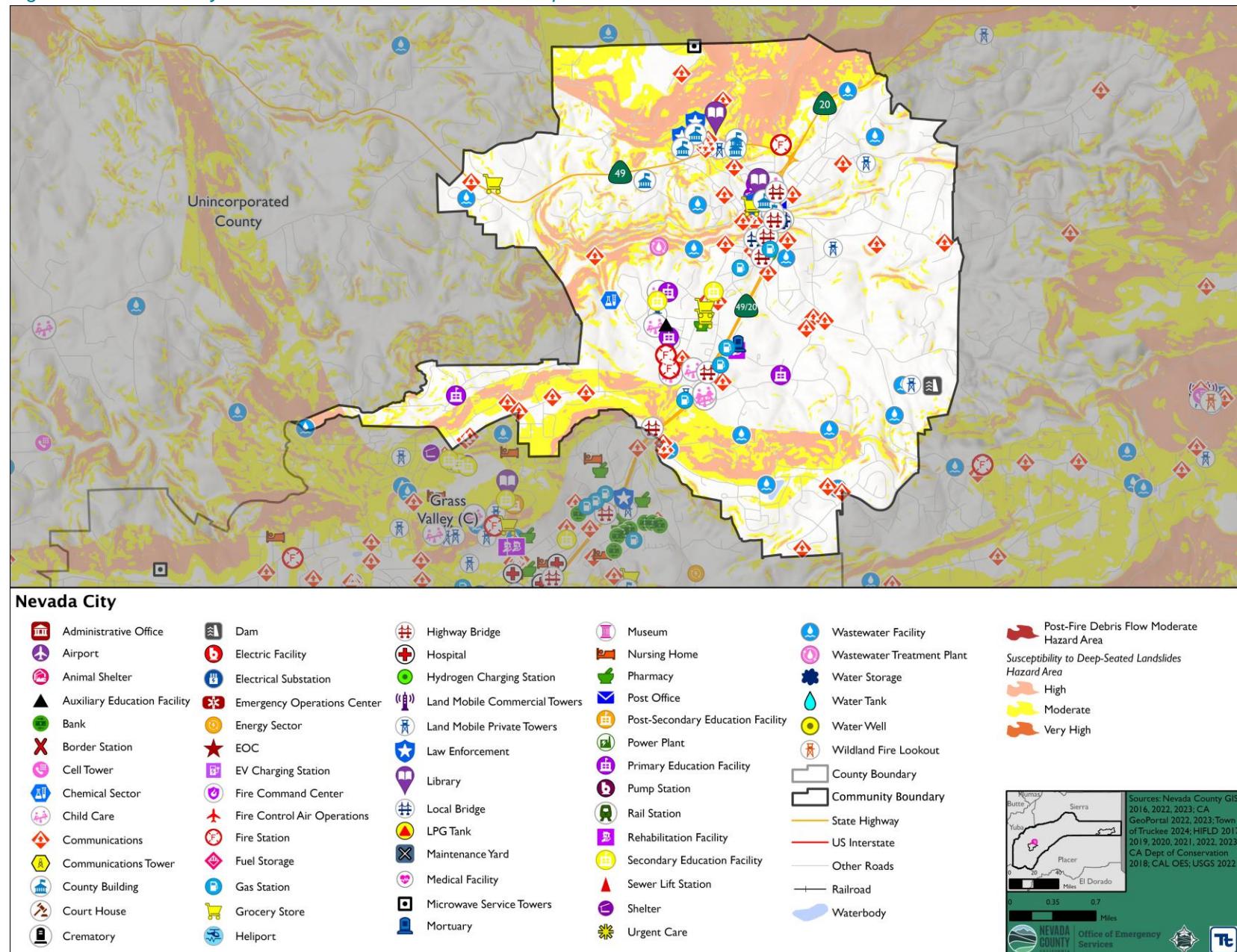


TABLE 4-14. HAZARD EVENT HISTORY IN NEVADA CITY

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nevada City
January 2017	Storm System (DR-4301)	Yes	California Severe Winter Storms, Flooding, and Mudslides	Flooding, fallen limbs and debris blocked streets and damaged to infrastructure
October 8 – October 31, 2017	Wildfires (DR-4344, FM-5271)	Yes	The 2017 California wildfire season resulted in nearly 1.6 million acres of burned land across 9,000+ wildfires. Nevada County experienced 7 wildfires during this season, with the most notable being the Lobo Fire (Wind Complex) and Pleasant Fire that burned a combined 1,000+ acres of land.	Emergency Services response to assist with evacuations and fire fighting
Jul 23, 2018 - Sep 19, 2018	California Wildfires and High Winds DR-4382-CA	Yes	High winds and wildfires	PSPS Shutdowns, Emergency Response, Economic Impact
January 20, 2020 –May 11, 2023	Pandemic (DR-4482, EM-3428)	Yes	The coronavirus pandemic resulted in roughly 20,521 cases and 155 attributed deaths as of fall 2023.	Economic impact,
August 14 – September 26, 2020	Wildfires (DR-4558, FM-5332)	Yes	Historic wildfires swept across the State of California in 2020, resulting in over 4.3 million acres burned across the State. In Nevada County, the Jones Fire burned 705 acres and resulted in 7 injuries to civilians and fire personnel.	Emergency Services response to assist with evacuations and fire fighting
May – October 2021	Drought	Yes	State Drought Proclamation and Mandatory Water Use Restrictions	Water Use Restrictions
July 14 – October 25, 2021	Wildfires (DR-4610)	Yes	The River Fire burned over 2,600 acres through Nevada County before being contained. At least 21 structures were damaged, 142 structures were destroyed, and 4 injuries were reported as a result of this fire.	Restrictions to Outdoor Burning; Emergency Services response, evacuations and fire fighting
December 10, 2021, through January 1, 2022	December 2021 Storms (CDAA-2022-03)	Yes	The December 2021 Storm incident resulted in record setting amounts of snow in the foothills and mountain areas of Nevada County	Heavy snow and fallen trees blocked streets, damaged public facilities and powerlines. Seaman's Lodge became unavailable to the public as it was dedicated for use by Team Rubicon, which came in to assist with clean-up.



Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Nevada City
December 27, 2022 – January 31, 2023	Severe Storms (DR-4683)	Yes	Severe winter storms, flooding, landslides, and mudslides impacted residents and property across Nevada County.	Flooding and fallen trees and limbs blocked streets, damaged public facilities and downed powerlines
February 21 – July 10, 2023	Severe Storms (DR-4699, EM-3592)	Yes	Severe winter storms, straight-line winds, flooding, landslides, and mudslides impacted communities across Nevada County.	Flooding and fallen trees and limbs blocked streets, damaged public facilities and downed powerlines

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Hazard Ranking

The risk assessments for each hazard in Part 2 of Volume I of this HMP present evaluations of vulnerability and impact for unincorporated county areas and each participating municipality. 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.

Nevada City reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the City. The City agreed with many of the calculated hazard rankings and decided to adjust the ranking for flood from Low to Medium due to the observed frequency and impacts of past events. The dam failure, earthquake, and landslide rankings were increased from Low to Medium due to infrastructure vulnerabilities and the potential for more intense impacts, although no events of these types have occurred in recent history. The revised rankings also account for the changes in community priorities described in Section 20.2 in Volume I of this HMP.

Table 4-15 shows Nevada City's final hazard rankings. Mitigation action development uses the ranking to target hazards with the highest risk. Hazards with a high or medium risk ranking are those of greatest concern to the city. Mitigation actions target those hazards, though some of the identified actions also provide potential risk-reduction benefits for lower-ranked hazards.

TABLE 4-15. HAZARD RANKING

Hazard	Rank	Hazard	Rank
Avalanche	Low	Flood	Medium
Dam Failure	Medium	Hazardous Materials Release	Low
Drought	Medium	Landslide	Medium
Earthquake	Medium	Wildfire	High
Extreme Cold	Low	Winter Storm	High
Extreme Heat	Medium	Volcano	Low

4.6.2 Vulnerability and Potential Impacts for Hazards of Local Concern

Based on the above jurisdiction-specific information, the following sections describe vulnerability and potential impacts for the hazards of greatest concern to the City of Nevada City (listed alphabetically, not in order of risk ranking).

Dam Failure

The City assets (people and structures) most vulnerable to dam failure are those located within mapped dam inundation areas of Scotts Flat and Deer Creek Diversion, both of which are owned by the Nevada Irrigation District. The risk assessment in Volume I provides quantitative estimates of the number of people and structures within these hazard areas specific to Nevada City.

Older buildings in the City's downtown area, constructed prior to current building standards, are more likely to experience impacts from dam failures. The risk assessment in Volume I presents city-specific quantitative estimates from Hazus for potential impacts on people and structures.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on dam failure impacts for Nevada City is assumed to be the same as described for all of Nevada County in Volume I. Dam failure risks are projected to increase within and downstream from the Sierra Nevada as climate change increases storm intensities and temperatures.
- Population changes—Nevada City's population has slightly decreased in recent years. A continued decreased would generally represent a decrease in overall risk from dam failure.
- Future development—The City may continue to see occasional permit applications for homes in mapped dam inundation areas. Ongoing floodplain compliance, the City's existing building code, and coordinated outreach to dam owners responsible for mitigation measures and maintaining EAPs will continue to mitigate risks associated with such developments.

Drought

All people and structures in the City are equally vulnerable to drought. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Nevada City.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Nevada City. In addition, lower groundwater levels that can result from drought have the potential to cause subsidence in the vicinity of former mines under Nevada City.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on drought impacts for Nevada City is assumed to be the same as described for all of Nevada County in Volume I. Droughts are likely to become more frequent and more severe, and the availability of surface water supplies is likely to decrease.
- Population changes—Nevada City’s population has slightly decreased in recent years. A continued decreased would generally represent a decrease in overall risk from drought, if water supply demand likewise declines.
- Future development—Proposed new development for Nevada City could increase the demand on water supply, increasing the potential need for water restrictions during drought.

Earthquake

All people and structures in the City are equally vulnerable to earthquake. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Nevada City.

Older buildings in the City’s downtown area, constructed prior to current building standards, are more likely to experience impacts from an earthquake. Similarly, old sewer lines in the City that are nearing the end of their useful lifespans can be damaged by earth shaking. Seismic shaking also has the potential to cause subsidence in the vicinity of former mines under Nevada City. The risk assessment in Volume I identifies quantitative citywide estimates of potential impacts specific to Nevada City as estimated by Hazus.

Potential future changes in impacts have been assessed as follows:

- Climate change—Climate change is unlikely to have a significant effect on earthquake impacts in Nevada City.
- Population changes—Nevada City’s population has slightly decreased in recent years. A continued decreased would generally represent a decrease in overall risk from earthquake.
- Future development—New development in Nevada City may increase the number and value of structures at risk from earthquake, but building codes enforced by the City should limit impacts in the form of structural damage.

Extreme Heat

All people and structures in the City are equally vulnerable to extreme heat. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Nevada City.



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Populations most likely to experience impacts from an extreme heat event include those over 65, children under five, people with underlying or chronic medical conditions, low-income individuals, those experiencing homelessness, and outdoor workers. The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Nevada City.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature (Geospatial Innovation Facility n.d.). Therefore, its effect on extreme heat impacts for Nevada City is assumed to be the same as described for all of Nevada County in Volume I. Extreme heat events are likely to become more frequent, severe, and prolonged as temperatures rise.
- Population changes—Nevada City’s population has slightly decreased in recent years. Overall risk may decline, but if certain segments of the population, such as those over 65, grow, then the City’s risk to extreme heat will increase even as population decreases.
- Future development—New development in Nevada City may exacerbate extreme heat events due to the urban heat island effect but building codes and open space requirements could lessen impacts.

Flood

The City assets (people and structures) most vulnerable to flood are those located within mapped flood hazard areas: areas adjacent to Deer Creek and Little Deer Creek. The risk assessment in Volume I provides quantitative estimates of the number of people and structures within these hazard areas specific to Nevada City.

Older buildings in the City’s downtown area, constructed prior to current building standards, are more likely to experience impacts from flooding. The risk assessment in Volume I presents city-specific quantitative estimates from Hazus for potential impacts on people and structures.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on flood impacts for Nevada City is assumed to be the same as described for all of Nevada County in Volume I. Flood risks are projected to increase within and downstream from the Sierra Nevada as climate change increases storm intensities and temperatures.
- Population changes—Nevada City’s population has slightly decreased in recent years. A continued decrease would generally represent a decrease in overall risk from flood.
- Future development—The City may continue to see occasional permit applications for homes in mapped floodplains. Ongoing NFIP compliance and the City’s existing building code will continue to mitigate risks associated with such developments.

Landslide

The City assets (people and structures) most vulnerable to landslides are those within the immediate and downslope areas of the incident. The risk assessment in Volume I provides quantitative estimates of the number of people and structures within deep-seated landslide hazard areas and post-fire debris flow areas specific to Nevada City.

Older buildings constructed prior to current building and planning standards and infrastructure nearing the end of useful lifespans are more likely to experience impacts from landslides. Additionally, there are areas around Deer Creek that have excessive vegetation along roadways that may be more susceptible to landslides due to increased erosion. The risk assessment in Volume I presents city-specific quantitative estimates from Hazus for potential impacts on people and structures.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperatures precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on flood impacts for Nevada City is assumed to be the same as described for all of Nevada County in Volume I. Landslides risks are projected to increase within and downstream from the Sierra Nevada as climate change increases storm intensities and frequencies.
- Population changes—Nevada City’s population has slightly decreased in recent years. A continued decrease would generally represent a decrease in overall risk from landslide.
- Future development—The City may continue to see permit applications for homes in deep-seated landslide and post-fire debris flow areas. This may increase the number and value of structures at risk to landslides, but updated building codes enforced by the City should limit impacts in the form of structural damage.

Wildfire

The analysis of wildfire vulnerability in this HMP is based on hazard mapping previously performed for Nevada County that provides results for four forecast zones that cover Nevada County, as described in Volume I (Nevada County OES 2023). One forecast zone includes Grass Valley, Nevada City, and the unincorporated area surrounding those two cities. Volume I provides a detailed description of the mapping of wildfire hazard priority areas and quantitative estimates of the associated vulnerability of people and structures in that forecast zone. CAL FIRE’s fire hazard severity zone mapping shows little variation across the city. It shows all of Nevada City as a very high hazard area.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Nevada City. Older buildings in the City’s downtown area, constructed prior to current building standards, are more likely to experience impacts from wildfire. The City also can be indirectly impacted by a temporary influx of population when people in surrounding rural areas need to evacuate from fires outside the city.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on wildfire impacts for Nevada City is assumed to be the same as described for all of Nevada County in Volume I. It is predicted that the number of large fires and total area burned will increase with the changing climate.
- Population changes—Nevada City’s population has slightly decreased in recent years. A continued decrease would generally represent a decrease in overall risk from wildfire.
- Future development—Based on the CAL FIRE map, any development in Nevada City would be considered in the very high hazard areas, increasing exposure to wildfires. This underscores the need for fire-resistant building materials and construction practices to mitigate these risks. The City is participating in the update of Nevada County’s community wildfire protection plan, which will prioritize areas for hazardous fuels reduction treatments, address community preparedness, and recommend actions homeowners and communities can take to reduce structure ignitability.

Winter Storm

All people and structures in the City are equally vulnerable to winter storm. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Nevada City.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Nevada City. Older buildings in the City’s downtown area, constructed prior to current building standards, are more likely to experience impacts from winds or snow loads associated with a winter storm. Areas with excessive vegetation, like around Deer Creek, may also be more susceptible to downed trees or damage from snow loads. Potential future changes in impacts have been assessed as follows:

- Climate change—Warming temperatures are projected to raise the divide between rain and snow by as much as 3,000 feet. Being in the lower elevation portion of the County, Nevada City is less likely to see this effect than higher-elevation areas to the east. Countywide, climate change is predicted to bring more extreme storms in winter.
- Population changes—Nevada City’s population has slightly decreased in recent years. A continued decrease would generally represent a decrease in overall risk from winter storm.
- Future development—Nevada City enforces current building codes designed to protect structures from storm-related damage. New development under these codes is unlikely to change the City’s overall impacts from winter storms.

4.6.3 Identified Issues

Table 4-16 lists issues related to the top hazards of concern for the City of Nevada City. These issues were identified based on local knowledge, hazard event history, hazard rankings, hazard location, current capabilities, and the assessments of hazard vulnerability and potential impacts described in detail in Volume I. Addressing these issues is an important community priority for the City, and the mitigation strategy has been developed to incorporate, where feasible, actions that would help to resolve one or more of these issues.

TABLE 4-16. HAZARD ISSUES

Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. Nevada City has 1 repetitive loss property, but other properties may be impacted by flooding as well.	Flood, Dam Failure	X	
There is a need to design and construct a raw water pump, storage, and piping system for the lower field to ensure efficient wanted supply, complying with regulations, and optimizing water use.	Flood, Drought, Dam Failure	X	X
100+ year old sewer pipelines and manholes are susceptible to infiltration and inflow during storms events and in need of replacements. These aging components cause inefficiencies and environmental issues, necessitating an upgrade to enhance system reliability and manage stormwater effectively while minimizing disruptions.	Flood, Winter Storm	X	
Nevada City faces inefficiencies and excessive water usage in its treatment process due to an outdated backwash system. Addressing this issue is crucial to improve overall water management.	Flood, Drought	X	
The City needs improvement on three water tanks that store water for firefighting efforts.	Wildfire	X	
The lack of an alternative water supply during extended drought periods and fire risks poses a significant challenge for the City.	Drought, Wildfire	X	
During heavy rain events, the treatment process faces challenges due to excessive stormwater inundation, impacting its efficiency and capacity.	Flood, Dam Failure, Winter Storm	X	
The Department of Water and Wastewater will evaluate storm drain components to determine if improvements are necessary. Once evaluated, mitigation measures will be made as necessary. As improvements are made, the Department of Water and Wastewater will monitor the areas to determine performance of the improvements and if additional measures are necessary.	Flood, Winter Storm		X



Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
The presence of hazardous trees within Nevada City's natural forested areas, covering approximately 300 acres of City-owned open space, poses a significant risk to public health and safety. These trees must be removed to mitigate the potential impact of wildfires on habitable structures and prevent obstruction of storm flows in natural drainage courses.	Flood, Wildfire, Winter Storm	X	
Persistent annual incidents of tree and branch falls due to severe storm damage pose a safety risk on City property, public streets, and trails. During winter storms, trails require regular removal of downed tree materials. Funding for a certified arborist's assessment and the subsequent creation of an annual maintenance plan is essential to prevent unexpected tree failures.	Flood, Winter Storm		X
During flood events, the convergence of two creeks leads to bank overtopping, road and culvert inundation, stream bank erosion, and flood damage to both City streets and private properties. Additionally, this situation results in the closure of a critical intersection formed by two arterial roadways and two collector roadways.	Flood	X	
During large storm events that cause flooding, the plant headworks is inundated with heavy sewer flows with large rocks and pipe fragments in the influent. This large debris can hit and puncture the mechanical screens. There is a bypass channel around the mechanical screens, but this is a bottleneck, and sandbags and pumps are used to keep high flow contained.	Flood	X	
Chlorine gas is used as part of the treatment process at the City of Nevada City Wastewater Plant. Chlorine gas is highly toxic and dangerous, and an accidental release would place thousands of people at risk. The existing gas chlorine system at the wastewater treatment plants has the potential of a chlorine gas release and this potential would be mitigated by replacement with an alternative treatment system.	Hazardous Materials Release	X	
The typical life span of a water main is 75 to 100 years, depending on the materials, soils, and other factors. The City's water distribution system consists of approximately 20 linear miles of water mains, of which approximately 25,000 linear feet (or 4.8 linear miles) are greater than 140 years old. The aging pipe has minimized capacity for fire flow due to internal corrosion and carbuncles.	Drought, Flood, Wildfire	X	



Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
The County must adopt a local hazard mitigation plan in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan.	All hazards reviewed in Volume I risk assessment		X
During flood events, the creek overtops its banks, causing flood damage to City public park facilities and resulting in the short-term closure of roadways and parking areas at Pioneer Park.	Flood	X	
Nevada City has several hundred miles of mine shafts under the City from past mining operations. Subsidence from environmental factors impacting the mine shaft or other issues leading to subsidence.	Drought, Earthquake, Landslide	X	

4.7 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.

4.7.1 Past Mitigation Action Status

Table 4-17 indicates progress on the City's mitigation strategy identified in the 2017 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.



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TABLE 4-17. STATUS OF PREVIOUS MITIGATION ACTIONS

A1—Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	
Hazards Addressed	All Hazards
Responsible Party	City of Nevada City Planning Department
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Nevada City CAPSE was adopted in September 2023 and integrates the previous HMP, the new HMP will still need to be integrated.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Amend Safety Element as required to implement 2024 HMP. Nevada City adopted the CAPSE in September 2023 which updated the noise and safety elements of our General Plan. Once the 2024 HMP is complete we will re-visit and amend the CAPSE as needed.
If discontinue, explain why	N/A
A2—Nevada City Tree Removal, Brushing and Debris Chipping	
Hazards Addressed	Multi-hazard: Tree Mortality (Drought and Bark Beetle Infestation), Fire Hazard, Flooding
Responsible Party	City of Nevada City
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	The city has identified the need for comprehensive fuels mitigation and reduction for wildfire preparedness and water supply security. This project speaks to the above and are in progress but years until it will be in maintenance status.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep current wording.
If discontinue, explain why	N/A



A3—Nevada City Tree Management	
Hazards Addressed	Multi-hazard
Responsible Party	City of Nevada City
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	The tree management program will require an urban forestry plan followed by an implementation plan to protect certain species, remove unwanted species, and maintain all trees in a safe from wildfire condition. The city has identified the need for comprehensive fuels mitigation and reduction for wildfire preparedness and water supply security. This project speaks to the above and are in progress but years until it will be in maintenance status.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep current wording.
If discontinue, explain why	N/A
A4—Nevada City Storm Drain / Culvert Replacement for Oregon Ravine through downtown and along Commercial Street. Includes intersection of Commercial/ Main / Union streets	
Hazards Addressed	Flooding/Localized Flooding
Responsible Party	City of Nevada City
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	Completed as a part of Commercial Street Improvements in 2022.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	This action has been completed.



A5—Little Deer Creek and Deer Creek - the ‘Plaza’: intersection of Broad/Boulder/Sacramento/Nevada streets	
Hazards Addressed	Flooding/Localized Flooding
Responsible Party	City of Nevada City
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Drainage improvements at the intersection and at Stonehouse are in progress and expected to be complete in 2024.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Little Deer Creek and Deer Creek - the ‘Plaza’: intersection of Broad/Boulder/Sacramento/Nevada streets, and Stonehouse.
If discontinue, explain why	N/A
A6—Little Deer Creek at Pioneer Park	
Hazards Addressed	Flood damage to Pioneer park
Responsible Party	City of Nevada City
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	The City worked with Sierra Streams Institute and completed creek restoration in the park, which has helped significantly to keep water in the creek and not flood the field as much.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	The lower field at Pioneer Park is susceptible to flooding from Little Deer Creek overtopping its banks.
If discontinue, explain why	N/A



A7—Nevada City Water Intake Diversion	
Hazards Addressed	Flooding
Responsible Party	City of Nevada City
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	Replaced and rehabilitated infrastructure damaged by multiple storm disasters
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	N/A
If discontinue, explain why	This action has been completed.
A8—Nevada City Wastewater Treatment Plant Headworks	
Hazards Addressed	Flooding
Responsible Party	City of Nevada City
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Project requires funding assistance.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep current wording.
If discontinue, explain why	N/A
A9—Nevada City Chlorine Gas System Replacement at Wastewater Plan	
Hazards Addressed	Hazardous Materials Leak
Responsible Party	City of Nevada City
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Project requires funding assistance.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep current wording.
If discontinue, explain why	N/A



A10—Nevada City Water Line Replacement	
Hazards Addressed	Wildfire
Responsible Party	City of Nevada City
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Project is ongoing and requires funding assistance
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep current wording.
If discontinue, explain why	N/A

4.7.2 Additional Mitigation Efforts

Nevada City has not undertaken any mitigation efforts since the last HMP other than the mitigation actions from the previous plan.

4.7.3 Proposed Hazard Mitigation Actions for the HMP Update

The action worksheets included at the end of this annex list the mitigation actions that Nevada 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 4-18 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.

Volume I identifies 14 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 (-1, 0, or 1) for each of the evaluation criteria. Table 4-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.



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TABLE 4-18. ANALYSIS OF MITIGATION ACTIONS BY HAZARD AND CATEGORY

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Avalanche	X				X					X
Dam Failure	X				X					X
Drought	X	X	X		X	X		X		X
Earthquake	X				X					X
Extreme Cold	X				X					X
Extreme Heat	X				X					X
Flood	X	X	X		X	X		X	X	X
Hazardous Materials Release	X	X			X	X				X
Landslide	X				X					X
Wildfire	X	X	X		X	X		X		X
Winter Storm	X		X		X			X		X
Volcano	X				X					X

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 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 and Firewise Communities

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 citizens, 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

TABLE 4-19. SUMMARY OF PRIORITIZATION OF ACTIONS

Project Number	Project Name	Scores for Evaluation Criteria													High / Medium / Low		
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
2024-Nevada City-01	Repetitive Loss Mitigation	1	1	1	0	0	0	1	1	1	0	1	0	0	1	8	Medium
2024-Nevada City-02	Nevada City Well Pump at Pioneer Park	1	0	1	0	0	0	0	1	1	0	1	0	1	0	6	Low
2024-Nevada City-03	Nevada City Sewer Main Replacements	1	0	1	0	0	0	1	1	1	0	1	0	1	1	8	Medium
2024-Nevada City-04	Nevada City Backwash System at Water Treatment Plant	1	0	1	0	0	0	1	1	1	0	1	0	1	1	8	Medium
2024-Nevada City-05	Nevada City Water Storage Tank Improvements	1	1	1	0	0	1	0	1	1	0	1	0	1	0	8	Medium
2024-Nevada City-06	Nevada City Raw Water Pipe to Cascade Canal	1	0	1	0	0	1	0	1	1	1	1	0	1	0	8	Medium
2024-Nevada City-07	Nevada City Primary Equalization at Wastewater Treatment Plant	1	1	1	0	0	1	1	1	1	0	1	0	1	1	10	Medium
2024-Nevada City-08	Nevada City Storm Drain Improvements	1	1	1	0	0	1	1	1	1	0	1	0	1	1	10	Medium

Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2024-Nevada City-09	Nevada City Tree Removal, Brushing and Debris Chipping	1	1	1	0	0	1	1	1	1	1	1	0	1	1	11	High
2024-Nevada City-10	Nevada City Tree Management	1	1	1	0	0	1	1	1	1	1	1	0	1	1	11	High
2024-Nevada City-11	Little Deer Creek and Deer Creek- the 'Plaza': Intersection of Broad/Boulder/Sacramento/Nevada Streets, and Stonehouse	1	1	1	0	0	1	1	1	1	0	1	0	1	1	10	Medium
2024-Nevada City-12	Nevada City Wastewater Treatment Plant Headworks	0	0	1	0	0	1	0	0	1	0	1	0	0	0	4	Low
2024-Nevada City-13	Nevada City Chlorine Gas System Replacement at Wastewater Plant	1	0	1	0	0	1	1	1	1	0	0	0	1	1	8	Medium
2024-Nevada City-14	Nevada City Water Line Replacement	1	0	1	0	0	1	1	1	1	0	1	0	1	1	9	Medium
2024-Nevada City-15	Substantial Damage Management Plan	1	1	1	0	0	1	1	1	1	1	1	0	1	1	11	High
2024-Nevada City-16	Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	1	1	1	1	1	1	1	1	1	1	1	0	1	1	13	High



Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2024-Nevada City-17	Little Deer Creek at Pioneer Park	1	1	1	0	0	1	1	1	1	0	1	0	1	1	10	Medium
2024-Nevada City-18	Develop a neighborhood evacuation plan	1	0	1	1	1	1	1	1	0	1	1	1	1	1	12	High
2024-Nevada City-19	Create an inventory of unreinforced masonry structures for the City	0	1	1	1	1	1	1	1	1	1	0	0	1	0	10	Medium
2024-Nevada City-20	Implement a vegetation abatement project	0	1	1	1	1	1	1	0	0	1	1	1	0	0	9	Medium
2024-Nevada City-21	Implement a fire hydrant maintenance program	1	1	1	1	1	1	0	0	1	1	1	1	1	1	12	High
2024-Nevada City-22	Develop a Climate Action Plan (CAP)	1	1	0	1	1	1	1	1	1	1	1	0	1	1	12	High
2024-Nevada City-23	Ensuring adequate power for the water pressure pump system	1	1	0	0	0	1	1	1	0	1	0	0	1	0	7	Medium
2024-Nevada City-24	Conduct a feasibility study and implement results for temporary refuge areas	1	0	1	1	1	0	0	1	1	1	0	1	1	1	10	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



2024-NEVADA CITY-01. REPETITIVE LOSS MITIGATION

Lead Agency:	Engineering	
Supporting Agencies:	Private homeowners	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. Nevada City has 1 repetitive loss property, but other properties may be impacted by flooding as well.</p>	
Description of the Solution:	<p>Conduct outreach to 10 flood-prone property owners, including repetitive loss/severe repetitive loss property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information, and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).</p>	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, FMA, HMGP, match from property owners	
Implementation Timeline:	Within 5 years	
Goals Met:	6, 10	
Benefits:	<p>Eliminates flood damage to homes and residences, which creating an open space for the municipality and increasing flood storage.</p>	
Impact on Socially Vulnerable Populations:	<p>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.</p>	
Impact on Future Development:	<p>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.</p>	
Impact on Critical Facilities/Lifelines:	<p>Removing structures from the floodplain decreases the demand on utilities and emergency services including health and medical, law enforcement, and search and rescue.</p>	
Impact on Capabilities:	<p>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.</p>	
Climate Change Considerations:	<p>Climate change is likely to increase the frequency and severity of severe rainfall, flash flooding, riverine flooding, 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.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)

CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NEVADA CITY-02. NEVADA CITY WELL PUMP AT PIONEER PARK

Lead Agency:	Nevada City Engineering	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>There is a need to design and construct a raw water pump, storage, and piping system for the lower field to ensure efficient wanted supply, complying with regulations, and optimizing water use. These efforts will help lessen the potential severity of drought and associated water shortages when they do occur.</p>	
Description of the Solution:	Design and construct a raw water pump, storage, and piping system for irrigation of the lower field.	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC, General Fund	
Implementation Timeline:	Within 5 years.	
Goals Met:	3,8	
Benefits:	With proper irrigation stored water provides a buffer during droughts and water scarcity.	
Impact on Socially Vulnerable Populations:	A well-designed irrigation system helps mitigation risks by providing water during droughts or emergencies, attributing towards community resilience.	
Impact on Future Development:	Future developments can lead to more efficient pumps, and improved water distribution systems.	
Impact on Critical Facilities/Lifelines:	Reliable systems ensure consistent water supply for critical facilities. Stored water can assist firefighting efforts.	
Impact on Capabilities:	A well-designed irrigation system contributes to the City's overall water resilience.	
Climate Change Considerations:	Elevated temperatures caused by climate change can increase evaporation rates worsening water scarcity.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Low	



2024-NEVADA CITY-03. NEVADA CITY SEWER MAIN REPLACEMENTS

Lead Agency:	Nevada City Public Works	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	100+ year old sewer pipelines and manholes are susceptible to infiltration and inflow during storms events and in need of replacements. These aging components cause inefficiencies and environmental issues, necessitating an upgrade to enhance system reliability and manage stormwater effectively while minimizing disruptions.	
Description of the Solution:	The City will replace aging sewer pipelines and manholes.	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC, HMGP, General Fund	
Implementation Timeline:	Within 5 years.	
Goals Met:	1,3,6,8	
Benefits:	Improving sewer infrastructure can reduce leaks and cracks, emergency repairs and enhance system reliability to withstand hazard events.	
Impact on Socially Vulnerable Populations:	Improved sewer infrastructure reduces the risk of sewage backups and contamination enhancing overall living conditions.	
Impact on Future Development:	Upgrading the sewer pipelines can set a precedent for future development leading to an enhanced system overall.	
Impact on Critical Facilities/Lifelines:	Upgraded sewer pipelines can ensure uninterrupted sanitation services for critical facilities.	
Impact on Capabilities:	Improving the sewer pipelines and manholes can encourage business growth and support economic development.	
Climate Change Considerations:	Climate change can impact aging sewer pipelines by placing more stress on them and reducing their functionality.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-04. NEVADA CITY BACKWASH SYSTEM AT WATER TREATMENT PLANT

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Nevada City faces inefficiencies and excessive water usage in its treatment process due to an outdated backwash system. Addressing this issue is crucial to improve overall water management.	
Description of the Solution:	Nevada City will replace backwash system to improve efficiency and reduce water use in the treatment process.	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC, General Fund	
Implementation Timeline:	Within 5 years.	
Goals Met:	3, 6, 7, 8	
Benefits:	The benefits of this project can lead to resource conservation by contributing to sustainable water management and minimize the strain on local water sources for water consumption. Additionally, maintenance expenses can decrease.	
Impact on Socially Vulnerable Populations:	Reliable water treatment supports overall community well-being and reduces health risks by offering better water quality.	
Impact on Future Development:	Efficient water treatment promotes economic efficiency, encouraging investment and development for future growth.	
Impact on Critical Facilities/Lifelines:	By improving efficiency and reducing water consumption during backwashing this will ensure a stable water supply for critical facilities. In addition, this can support fire protection systems.	
Impact on Capabilities:	Efficient backwash systems can reduce operational expenses related to energy, water and chemicals.	
Climate Change Considerations:	Climate change can lead to more intense rainfall which can overwhelm wastewater systems, causing overflow, which could lead to contaminants into waterways.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-05. NEVADA CITY WATER STORAGE TANK IMPROVEMENTS

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The City needs improvement on three water tanks that store water for firefighting efforts.	
Description of the Solution:	The City will upgrade three water tanks with automated control valves and pump systems to maximize water storage volume and pressure for fire flow.	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC, General Fund	
Implementation Timeline:	Within 5 years.	
Goals Met:	2, 3, 6, 7, 8	
Benefits:	The benefits of this project will ensure reliable water pressure for firefighting and will enhance the City's ability to respond to fire incidents.	
Impact on Socially Vulnerable Populations:	During disasters, vulnerable neighborhoods bear the brunt of the impact. Upgraded water infrastructure enhances community resilience by providing reliable water supply and improved fire flow which ensures equitable access to water for firefighting and daily needs.	
Impact on Future Development:	Improved fire flow capabilities will enhance emergency response, which will give confidence to future investments and development. Additionally, this can ensure reliable water for new businesses, and residential areas.	
Impact on Critical Facilities/Lifelines:	Upgraded water tanks improve resilience against natural hazards allowing critical facilities to continue operating even if primary water supply is affected.	
Impact on Capabilities:	Efficient water management reduces operational costs, optimizing water usage, and minimizing waste and expenses associated.	
Climate Change Considerations:	Climate change can cause droughts to be more frequent or severe, which can affect water availability.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-06. NEVADA CITY RAW WATER PIPE TO CASCADE CANAL

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The lack of an alternative water supply during extended drought periods and fire risks poses a significant challenge for the City.	
Description of the Solution:	This project will install pipeline along the shoulder of Banner Mountain Trail roadway to Cascade Canal which can be used to augment the City's water supply during periods of extended drought when other water sources are limited or unavailable.	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC, General Fund	
Implementation Timeline:	Within 5 years.	
Goals Met:	1, 2, 3, 6, 7, 8	
Benefits:	The pipeline installation along Banner Mountain Trail to Cascade Canal ensures a more resilient water supply for our City during droughts.	
Impact on Socially Vulnerable Populations:	The installation of the pipeline provides equitable access to water during droughts. Vulnerable communities benefit from reliable water supply, ensuring their well-being.	
Impact on Future Development:	By augmenting the City's water supply, the project supports future growth and development. Reliable water infrastructure attracts investment and sustains the community.	
Impact on Critical Facilities/Lifelines:	Emergency services, hospitals, and essential facilities rely on water availability. This project will enhance resilience during crises.	
Impact on Capabilities:	The installation of the pipeline along the shoulder of Banner Mountain Trail to Cascade Canal represents a significant enhancement to our City's water infrastructure. During prolonged droughts when traditional water sources are scarce, this pipeline will serve as a reliable backup, augmenting our water supply and ensuring resilience in the face of challenging conditions.	
Climate Change Considerations:	As climate change intensifies, the frequency and severity of droughts are likely to rise.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-07. NEVADA CITY PRIMARY EQUALIZATION AT WASTEWATER TREATMENT PLANT

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	During heavy rain events, the treatment process faces challenges due to excessive stormwater inundation, impacting its efficiency and capacity.	
Description of the Solution:	This project will install mechanical piping and SCADA controls to modulate the peak flow with storage and piping connections that temporarily hold back the inundation of storm flow into the treatment process.	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC, General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	2, 3, 6, 8	
Benefits:	This project ensures efficient stormwater management by temporarily holding back inundation during peak flow. As a result, safeguarding the water treatment process, prevent disruptions, and protect critical infrastructure.	
Impact on Socially Vulnerable Populations:	By enhancing stormwater management, this project ensures greater safety and resilience for our socially vulnerable communities. Reduced flooding risk and improved water quality positively impact their well-being.	
Impact on Future Development:	The installation of mechanical piping and SCADA controls paves the way for sustainable development. It allows the City to accommodate growth while safeguarding against flooding.	
Impact on Critical Facilities/Lifelines:	This project strengthens the City's critical lifelines. By temporarily holding back storm flow, it prevents disruptions to essential services such as water treatment, ensuring uninterrupted access for the community.	
Impact on Capabilities:	The installation of mechanical piping and SCADA controls significantly enhances the City's flood resilience.	
Climate Change Considerations:	As extreme weather events become more common, managing peak flow becomes critical. The installation of mechanical piping and SCADA controls in your project helps modulate flow, reducing flood risk during heavy rainfall.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-08. NEVADA CITY STORM DRAIN IMPROVEMENTS

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Department of Water and Wastewater will evaluate storm drain components to determine if improvements are necessary. Once evaluated, mitigation measures will be made as necessary. As improvements are made, the Department of Water and Wastewater will monitor the areas to determine performance of the improvements and if additional measures are necessary.</p>	
Description of the Solution:	<p>This project will replace drainage inlets and pipes to accommodate storm flows that are increasing due to climate change.</p>	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	1, 2, 3, 6, 7, 8, 9	
Benefits:	Reduction in flood risk, stormwater flood damage and maintains emergency access.	
Impact on Socially Vulnerable Populations:	By replacing drainage inlets and pipes, the project minimizes flooding in vulnerable neighborhoods. This directly benefits residents who might otherwise face displacement or property damage during heavy storms.	
Impact on Future Development:	Upgraded storm drains create a more resilient foundation for future development. Developers can confidently invest in areas where flood risk is mitigated, leading to sustainable growth.	
Impact on Critical Facilities/Lifelines:	Reliable storm drains prevent disruptions to critical lifelines such as transportation networks, emergency response routes, and utilities. By accommodating increasing storm flows, the project ensures continuity during extreme weather events.	
Impact on Capabilities:	This storm drain improvement project enhances the City's resilience, prepares for growth, and ensures vital services remain operational even in challenging conditions.	
Climate Change Considerations:	By upgrading drainage infrastructure, the City will be better equipped to handle increasing storm flows caused by climate change.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-09. NEVADA CITY TREE REMOVAL, BRUSHING AND DEBRIS CHIPPING

Lead Agency:	Nevada City Fire Department and Office of Emergency Services		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	<p>The presence of hazardous trees within Nevada City's natural forested areas, covering approximately 300 acres of City-owned open space, poses a significant risk to public health and safety. These trees must be removed to mitigate the potential impact of wildfires on habitable structures, prevent obstruction of storm flows in natural drainage courses, and to lessen drought impacts.</p>		
Description of the Solution:	<p>Tree Removal, Brushing and Debris Chipping Program will be used to remove trees that are dead or are dying from invasion of bark beetle and drought conditions and trees that are hazardous. This project will enhance and contribute to the City's ongoing effort to reduce fire fuel on the City's Open Space Parcels, provide safety for public and provide clear paths for natural drainage.</p>		
Estimated Cost:	High		
Potential Funding Sources:	General Fund, CAL FIRE Grant, FMA Grant, BRIC		
Implementation Timeline:	Within 5 years		
Goals Met:	2, 3, 6, 7, 8, 9		
Benefits:	<p>This project will contribute to overall fire fuel reduction efforts, enhancing safety for both residents and property.</p>		
Impact on Socially Vulnerable Populations:	<p>By removing hazardous trees, this project prioritizes the safety of socially vulnerable populations. It reduces the risk of falling trees near homes and public spaces, enhancing their well-being.</p>		
Impact on Future Development:	<p>Clearing dead or dying trees contributes to sustainable development. It ensures safer neighborhoods and encourages investment in areas where fire risk is minimized.</p>		
Impact on Critical Facilities/Lifelines:	<p>Unobstructed paths for natural drainage protect critical lifelines. Emergency response routes remain accessible, even during adverse conditions.</p>		
Impact on Capabilities:	<p>This project strengthens the City's resilience. By reducing fire fuel on Open Space Parcels, it enhances our ability to safeguard communities and maintain essential services.</p>		
Climate Change Considerations:	<p>Climate change can lead to intense wildfires and drought conditions. This project can help mitigate the risk of fire spreading to structures and protect communities.</p>		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	



CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-NEVADA CITY-10. NEVADA CITY TREE MANAGEMENT

Lead Agency:	Nevada City Fire Department and Office of Emergency Services	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Persistent annual incidents of tree and branch falls due to storm damage pose a safety risk on City property and public streets. These materials can also become fuel for wildfires, when they do ignite. Funding for a certified arborist's assessment and the subsequent creation of an annual maintenance plan is essential to prevent unexpected tree failures.	
Description of the Solution:	The City will implement a program to annually monitor, remove and dispose of hazardous trees and branches.	
Estimated Cost:	Medium	
Potential Funding Sources:	General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	2, 3, 6, 7, 8, 9	
Benefits:	By annually monitoring, removing, and disposing of hazardous trees and branches, the City ensures a safer environment for all residents.	
Impact on Socially Vulnerable Populations:	Proactive removal prevents accidents and damage to property, ensuring a safer environment for all residents.	
Impact on Future Development:	Clearing hazardous trees supports future development. It ensures safer neighborhoods and encourages investment in areas where tree-related risks are minimized.	
Impact on Critical Facilities/Lifelines:	Hazardous trees can obstruct critical lifelines such as roads, trails, and utilities. Regular removal ensures these pathways remain accessible during emergencies.	
Impact on Capabilities:	The program strengthens the City's ability to manage tree-related risks. It demonstrates proactive planning and adaptability.	
Climate Change Considerations:	Given the increasing frequency of extreme weather events due to climate change, proactive tree management plays a vital role in enhancing community resilience.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-NEVADA CITY-11. LITTLE DEER CREEK AND DEER CREEK- THE ‘PLAZA’: INTERSECTION OF BROAD/BOULDER/SACRAMENTO/NEVADA STREETS, AND STONEHOUSE

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	During flood events, the convergence of two creeks leads to bank overtopping, road and culvert inundation, stream bank erosion, and flood damage to both City streets and private properties. Additionally, this situation results in the closure of a critical intersection formed by two arterial roadways and two collector roadways.	
Description of the Solution:	The City will replace culverts, storm drain or inlets that are damaged, aging or deficient. Creek remediation to improve conveyance of storm flows. Replacement or realignment of concrete walls, bridge footings or piers where they are limiting capacity of the creek.	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	1, 2, 3, 6, 7, 8	
Benefits:	By completing this project, the City can prevent extensive damage to downtown structures during major flood events, potentially saving significant costs in repairs and restoration.	
Impact on Socially Vulnerable Populations:	By replacing damaged, aging, or deficient culverts, storm drains, and inlets, the project ensures better flood management. This directly benefits vulnerable communities by safeguarding their homes, businesses, and infrastructure during extreme weather events.	
Impact on Future Development:	The creek remediation efforts to improve storm flow conveyance create a more resilient environment. This not only protects existing structures but also encourages responsible development in the area. Developers can confidently invest in projects knowing that flood risks are mitigated.	
Impact on Critical Facilities/Lifelines:	The replacement or realignment of concrete walls, bridge footings, or piers addresses capacity limitations in the creek. This ensures that essential transportation routes remain open during floods, preventing disruptions to emergency services, commerce, and daily life.	
Impact on Capabilities:	By addressing damaged, aging, or deficient culverts, storm drains, and inlets, the City enhances its flood management infrastructure. This proactive approach ensures better preparedness for extreme weather events, safeguarding residents, businesses, and critical services.	



Climate Change Considerations:	As climate change intensifies, the City's vulnerability to floods may increase. However, this project's creek remediation efforts—improving storm flow conveyance—position the City to adapt effectively. Additionally, replacing or realigning concrete walls, bridge footings, and piers ensures that the creek's capacity remains sufficient even as climate-related challenges evolve.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Priority	Medium		

2024-NEVADA CITY-12. NEVADA CITY WASTEWATER TREATMENT PLANT HEADWORKS

Lead Agency:	Nevada City Department of Water and Wastewater		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	<p>During large storm events that cause flooding, the plant headworks is inundated with heavy sewer flows with large rocks and pipe fragments in the influent. This large debris can hit and puncture the mechanical screens. There is a bypass channel around the mechanical screens, but this is a bottleneck, and sandbags and pumps are used to keep high flow contained.</p>		
Description of the Solution:	<p>The City will provide a rock trap structure prior to the screens to allow heavy debris to fall out so it can be removed before damaging equipment. This will increase the size and capacity of the bypass channel and headworks.</p>		
Estimated Cost:	High		
Potential Funding Sources:	BRIC, HMGP, General Fund		
Implementation Timeline:	Within 5 years.		
Goals Met:	3, 6, 7, 8, 9		
Benefits:	<p>The benefit of this project would be extensive savings in filter media, screens and wastewater treatment processes during and after storm events.</p>		
Impact on Socially Vulnerable Populations:	<p>Water treatment processes may temporarily be affected by damaged equipment from debris posing challenges for those who depend on clean water for drinking, cooking, and hygiene.</p>		
Impact on Future Development:	<p>Future development must accommodate for larger storm flow and debris which require proactive planning.</p>		
Impact on Critical Facilities/Lifelines:	<p>Debris can damage mechanical screens, affecting wastewater treatment efficiency causing potential disruptions for critical facilities.</p>		
Impact on Capabilities:	<p>To ensure effective resource allocation, it's essential to develop long-term strategies that go beyond relying on temporary solutions such as sandbags and pumps.</p>		
Climate Change Considerations:	<p>Climate change can result in more intense storms, leading to frequent flooding. As a consequence, wastewater treatment plants may become inundated with heavy sewer flows, worsening the debris accumulation.</p>		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Priority	Low		



2024-NEVADA CITY-13. NEVADA CITY CHLORINE GAS SYSTEM REPLACEMENT AT WASTEWATER PLANT

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Chlorine gas is used for treatment at the City of Nevada City Wastewater Plant. Chlorine gas is highly toxic and dangerous, and an accidental release would place thousands of people at risk. The existing gas chlorine system at the wastewater treatment plants has the potential of a chlorine gas release and this potential would be mitigated by replacement with an alternative treatment system.	
Description of the Solution:	Conversion of wastewater facilities to remove all gaseous chlorine chemical feed systems and replace this with a new storage tank and piping for Sodium Hypochlorite. This would also require converting the chemical storage building or relocating facilities to accommodate the new tank.	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, General Fund	
Implementation Timeline:	Within 5 years.	
Goals Met:	2, 3, 6, 7, 8, 9, 10	
Benefits:	This improvement would assist in the avoidance of a catastrophic impact of a chlorine gas release.	
Impact on Socially Vulnerable Populations:	Water treatment processes may temporarily be affected posing challenges for those who depend on clean water for drinking, cooking, and hygiene.	
Impact on Future Development:	Proper handling and storage protocols are essential for hazardous materials. Failing to follow these guidelines could have adverse effects on environmental safety and community well-being.	
Impact on Critical Facilities/Lifelines:	In the event of a chlorine gas release, this could lead to a mass casualty event causing emergency services and critical facilities to become overwhelmed. Converting to a new storage tank and piping for Sodium Hypochlorite system improves safety and resilience for critical facilities.	
Impact on Capabilities:	The City's capabilities could improve with modernized infrastructure.	
Climate Change Considerations:	Climate change can cause extreme weather events leading to wastewater systems becoming overwhelmed.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-14. NEVADA CITY WATER LINE REPLACEMENT

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The typical life span of a water main is 75 to 100 years, depending on the materials, soils, and other factors. The City's water distribution system consists of approximately 20 linear miles of water mains, of which approximately 25,000 linear feet (or 4.8 linear miles) are greater than 140 years old. The aging pipe has minimized capacity for fire flow due to internal corrosion and carbuncles.</p>	
Description of the Solution:	<p>The City will replace 4,000 linear feet (or 0.75 linear miles annually) of water main, including hydrants and water service connections for domestic and fire sprinkler use.</p>	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, General Fund	
Implementation Timeline:	Within 5 years.	
Goals Met:	2, 3, 6, 7, 8, 9, 10	
Benefits:	<p>This upgrade will enhance fire prevention for residents and businesses within the City.</p>	
Impact on Socially Vulnerable Populations:	Reliable water enhances quality of life, health, and safety.	
Impact on Future Development:	Upgraded water lines will support future growth and development.	
Impact on Critical Facilities/Lifelines:	Aging pipes could cause interruptions in the water supply for hospitals, fire stations and other critical facilities.	
Impact on Capabilities:	<p>In emergencies, such as fires, adequate water flow is critical, the aging pipes could hinder the City's ability to respond effectively. In addition, maintenance and repair costs can strain City budget and effect other essential services.</p>	
Climate Change Considerations:	Climate change can lead to more intense rainfall causing more strain on aging pipes.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-15. SUBSTANTIAL DAMAGE MANAGEMENT PLAN

Lead Agency:	City of Nevada City Planning Department
Supporting Agencies:	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat <input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>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. After any disaster event, they must:</p> <ul style="list-style-type: none"> • Determine where the damage occurred within the community and if the damaged structures are in an SFHA. • Determine what to use for “market value” and cost to repair; uniformly applying regulations will protect against liability and promote equitable administration. • Determine if repairing plus improving the damaged structure equals or exceeds 50% of the structure’s pre-damage value. • Require permits for floodplain development. <p>City of Nevada City 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 City of Nevada City is in need of a formal process and plan to provide a framework for conducting such inspections and determinations. Such a plan will enable the City to assist property owners to implement mitigation measures or construction techniques that reduce the future risk to physical property damage caused avalanches, dam failures, flooding, earthquakes, extreme cold and heat events, hazardous materials releases, landslides, wildfires, winter storms and volcano events.</p>
Description of the Solution:	<p>City of Nevada City will develop a Substantial Damage Management Plan, following the six step planning process in 2021 <i>Developing a Substantial Damage Management Plan</i> (https://crsresources.org/files/500/developing_subst_damage_mgmt_plan.pdf). This plan will outline responsibilities for Substantial Damage determinations, determining market value, and permit approval processes following a disaster event.</p>
Estimated Cost:	Low
Potential Funding Sources:	General Fund, BRIC, HMPG
Implementation Timeline:	Within 5 years
Goals Met:	1,2,3,4,5,6,7,8,9,10
Benefits:	This plan will provide a process in making Substantial Damage Determinations and allow the municipality to make these determinations and meet NFIP requirements more quickly.



Impact on Socially Vulnerable Populations:	Substantially damaged structures are required to be rebuilt to be compliant with current codes. Socially vulnerable populations may not have the financial means to make these improvements. This action may allow for the identification of potential resources to address substantial damages to structures owned by socially vulnerable populations.		
Impact on Future Development:	A Substantial Damage Management Plan would include all existing, current, and future development in the municipality.		
Impact on Critical Facilities/Lifelines:	A Substantial Damage Management Plan would include all critical facilities and lifelines in the municipality.		
Impact on Capabilities:	This action improves disaster recovery capabilities.		
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action provides additional planning for disaster recovery.		
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	High		



2024-NEVADA CITY-16. INTEGRATE LOCAL HAZARD MITIGATION PLAN INTO SAFETY ELEMENT OF GENERAL PLAN

Lead Agency:	City of Nevada City Planning Department	
Supporting Agencies:	-	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>The County must adopt a local hazard mitigation plan in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan. Incorporating the HMP in the General Plan will improve the City's ability to incorporate hazard mitigation considerations into future development and growth, such as limiting density or development in areas susceptible to avalanches, dam failures, earthquakes, floods, landslides, and wildfires and in the path of potential hazardous materials releases or volcano events; as well as limiting uses or requiring proactive mitigation measures for uses that are especially vulnerable to adverse impacts from drought, extreme cold or heat events, and winter storms.</p>	
Description of the Solution:	The City of Nevada City Planning Department will incorporate the HMP, once adopted, into the Safety Element of the General Plan.	
Estimated Cost:	Medium	
Potential Funding Sources:	General Fund, BRIC	
Implementation Timeline:	1-5 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	<p>By integrating the HMP into the Safety Element of the General Plan, this will help jurisdictions maximize the cost recovery potential following a disaster.</p>	
Impact on Socially Vulnerable Populations:	<p>By identifying and addressing specific vulnerabilities, these plans help ensure that everyone, especially the most at-risk, receives the necessary support and protection.</p>	
Impact on Future Development:	<p>HMPs help communities plan and develop to minimize risk and enhance resilience. They integrate mitigation strategies into land use, building codes, and infrastructure projects, protecting new developments from future hazards.</p>	
Impact on Critical Facilities/Lifelines:	<p>By prioritizing critical lifelines, HMPs enable faster community recovery from disasters. This involves retrofitting infrastructure to withstand natural hazards and ensuring emergency services remain operational.</p>	
Impact on Capabilities:	<p>Local jurisdictional reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (AB 2140).</p>	
Climate Change Considerations:	<p>Climate change is likely to increase the frequency and severity of natural hazards like floods, wildfires, and extreme heat events. This requires the HMP to adopt more robust and adaptive mitigation strategies to manage these evolving risks.</p>	
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)



CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-NEVADA CITY-17. LITTLE DEER CREEK AT PIONEER PARK

Lead Agency:	Nevada City Department of Water and Wastewater	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	During flood events, the creek overtops its banks, causing flood damage to City public park facilities and resulting in the short-term closure of roadways and parking areas at Pioneer Park.	
Description of the Solution:	Implement creek restoration to reduce flood potential and prevent sediment delivery to the stream channel from unstable banks. These improvements will protect public park facilities and ensure the continuous availability of roadways and parking areas at Pioneer Park during flood events. In addition, planning is underway for solutions to address post storm mitigation required in 2023.	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	1, 2, 3, 6, 7, 8	
Benefits:	Completing this project will save significant costs by preventing extensive damage to park facilities during major flood events.	
Impact on Socially Vulnerable Populations:	Ensuring continuous availability of roadways and parking areas at Pioneer Park means that these communities maintain access to essential services and emergency assistance during flood events.	
Impact on Future Development:	Improved flood management and reduced sediment delivery create a safer environment, encouraging responsible development and investment in the area.	
Impact on Critical Facilities/Lifelines:	Public park facilities, which serve as recreational and community hubs, are protected from flood damage, ensuring they remain available for public use.	
Impact on Capabilities:	The project positions the city to adapt effectively to climate change, ensuring long-term protection and sustainability of public and private assets.	
Climate Change Considerations:	Climate change is expected to increase the frequency and intensity of storm events, leading to more frequent and severe flooding.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-18. NEIGHBORHOOD FOCUSED EVACUATION PLAN

Lead Agency:	Nevada City Office of Emergency Services	
Supporting Agencies:	-	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The City does not have an evacuation plan that considers the unique needs and obstacles in each of its neighborhoods that will influence how well they are able to respond to evacuation calls or other emergency messaging in the event of an avalanche, earthquake, flood, hazardous materials releases, landslide, wildfire, or winter storm.	
Description of the Solution:	Develop a neighborhood evacuation plan	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC grant; Measure C local funding	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,4,5,6,7,8,9	
Benefits:	Completing this project will supplement existing emergency management plans and provide evacuation strategy during a disaster	
Impact on Socially Vulnerable Populations:	Plan development will incorporate the inclusion of marginalized communities	
Impact on Future Development:	Potential impact from hazards determined during the HMP planning process could influence the methodology and strategy for evacuation planning	
Impact on Critical Facilities/Lifelines:	The inclusion of lifelines would be part of the evacuation planning process.	
Impact on Capabilities:	This action improves disaster response and recovery capabilities.	
Climate Change Considerations:	The plan can be updated to address changes that have been affected by the changing climate.	
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-NEVADA CITY-19. UNREINFORCED MASONRY STRUCTURE INVENTORY AND RETROFIT

Lead Agency:	Planning Department	
Supporting Agencies:	Engineering & Public Works	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The City lacks an inventory of unreinforced masonry structures. These structures may face an elevated risk of damage should a dam failure, earthquake, flood hazardous materials release, landslide, wildfire, winter storm, or volcano event occur because they were not built to more recent resilient building standards.	
Description of the Solution:	Create an inventory of unreinforced masonry structures for the City.	
Estimated Cost:	Low	
Potential Funding Sources:	BRIC grants	
Implementation Timeline:	Within 5 years	
Goals Met:	1, 6,7,8,9	
Benefits:	Provides city officials with a list of buildings that could be damaged during certain hazard events	
Impact on Socially Vulnerable Populations:	Among the buildings may be ones that provide services to socially vulnerable populations	
Impact on Future Development:	Assist city planners during the development of areas and the construction of buildings as well as reinforcing existing structures.	
Impact on Critical Facilities/Lifelines:	Protection of existing facilities that provide critical or essential services to the community.	
Impact on Capabilities:	The structures house operations involved in executing the various capabilities of the City.	
Climate Change Considerations:	Changing climate could have an effect on the structural integrity of older buildings	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-20. DEER CREEK HAZARDOUS VEGETATION ABATEMENT

Lead Agency:	Engineering and Public Works	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The areas around Deer Creek have overgrown roadside vegetation. This elevates the risk for wildfires because the lack of shaded fuel breaks, as well as drought, dam failure, flooding, and landslides due to increased erosion that can damage embankments and structures.	
Description of the Solution:	Implement roadside vegetation abatement around Deer Creek to reduce risk and enhance community safety.	
Estimated Cost:	Low	
Potential Funding Sources:	CAL FIRE grant	
Implementation Timeline:	Within 5 years	
Goals Met:	1,6,7,8,9	
Benefits:	Reduce/mitigate the impact from wildfire, flood, winter storms	
Impact on Socially Vulnerable Populations:	Minimal impact except for potential unhoused individuals or groups that might be encamped along the creek. Reducing vegetation would lessen the impact on these groups from some of the hazards.	
Impact on Future Development:	Future development must accommodate larger storm flow and debris which require proactive planning.	
Impact on Critical Facilities/Lifelines:	Managing the vegetation along the creek would reduce the risk of hazards such as flooding or wildfire and their effect on nearby critical facilities.	
Impact on Capabilities:	The project positions the city to adapt effectively to climate change, ensuring long-term protection and sustainability of public and private assets.	
Climate Change Considerations:	Climate change is expected to increase the frequency and intensity of storm events leading to more frequent and severe flooding or fire and an increase in wildfire.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-NEVADA CITY-21. FIRE HYDRANT MAINTENANCE PROGRAM

Lead Agency:	Fire Department	
Supporting Agencies:	Nevada Irrigation District	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The City is lacking a fire hydrant maintenance program, especially in higher fire zones.	
Description of the Solution:	Implement a fire hydrant maintenance program.	
Estimated Cost:	Low	
Potential Funding Sources:	Measure C – local funding; CAL FIRE grant	
Implementation Timeline:	Within 5 years	
Goals Met:	1,6,7,8,9	
Benefits:	Ensure working fire hydrants especially in high fire zone areas	
Impact on Socially Vulnerable Populations:	Having working fire hydrants ensures life safety and property protection especially for communities that may be socially vulnerable	
Impact on Future Development:	The program can be expanded and modified during future development. It also affords collaboration between the fire and planning department regarding placement and access to fire hydrants.	
Impact on Critical Facilities/Lifelines:	Having a program that routinely maintains hydrants ensures life safety and property protection resources are accessible and functioning in the event of a fire.	
Impact on Capabilities:	The project positions the city to adapt effectively to climate change, ensuring long-term protection and sustainability of public and private assets.	
Climate Change Considerations:	With a changing climate, the risk for wildfire changes. Having working hydrants ensures water sources especially in high fire zones.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-NEVADA CITY-22. CLIMATE ACTION PLAN

Lead Agency:	Planning Department	
Supporting Agencies:	Office of Emergency Services	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>The City will face changes to the frequency and severity of avalanches, dam failure, drought, earthquake, extreme cold or heat, flood, hazardous materials release, landslide, wildfire, winter storms, and volcano events due to climate change. Planning for future development and growth could change risk exposure to these events, such as limiting density in hazard areas or requiring resilient construction methods or materials.</p>	
Description of the Solution:	Develop a Climate Action Plan (CAP)	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,4,5,6,7,8,9	
Benefits:	Could aid in future city development and the potential impact of how climate might change the effects of hazards on the city	
Impact on Socially Vulnerable Populations:	A CAP would better equip the city on managing its resources, given climate changes, for its residents including socially vulnerable ones.	
Impact on Future Development:	A CAP is a framework that gives potential structure to actions that the city could take to reduce greenhouse green-house emissions and adapt to the changes of climate change.	
Impact on Critical Facilities/Lifelines:	A CAP would prepare city leaders on ways to manage the effects of climate change on critical facilities.	
Impact on Capabilities:	A CAP would aid in enhancing capabilities as the climate changes.	
Climate Change Considerations:	Climate changes would be an essential component in the development of a CAP.	
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-23. WATER PRESSURE BACKUP GENERATOR

Lead Agency:	Engineering and Public Works	
Supporting Agencies:	Water & Wastewater	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The City lacks backup power for water systems. The pressure pump system could be damaged due to a floodwater from a dam failure or flood, unstable or falling soil due to earthquakes or landslides, strong winds during a winter storm, or flames from a wildfire. If it is damaged to the point of not functioning, then water quality and safety may be jeopardized for the City and its constituents.</p>	
Description of the Solution:	Ensuring adequate power for the water pressure pump system	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,7,8,9	
Benefits:	Ensuring that the water pressure pump system has backup power during potential outages from various hazards and de-energization periods	
Impact on Socially Vulnerable Populations:	Ensuring that the water pressure pump system has backup power during potential outages from various hazards and de-energization periods for all residents in the city	
Impact on Future Development:	Ensuring that the water pressure pump system has backup power during potential outages from various hazards and de-energization periods for all areas within the city	
Impact on Critical Facilities/Lifelines:	Ensuring that the water pressure pump system has backup power during potential outages from various hazards and de-energization periods for essential services	
Impact on Capabilities:	Ensuring ongoing capabilities by providing a backup power generator.	
Climate Change Considerations:	As the climate changes so do the potential impact from hazards. A backup power generator would enable the water pressure pump to continue as impacts from hazards evolve.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NEVADA CITY-24. TEMPORARY REFUGE AREAS

Lead Agency:	Nevada City Office of Emergency Services	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>The City lacks designated Temporary Refuge Areas (TRA). Routes of ingress and egress could become blocked due to floodwaters from a dam failure, winter storm, or flood; soil movement due to an earthquake or landslide; ashfall from a volcano; and flames due to a wildfire. Events such as extreme cold or heat and hazardous materials releases may make it unsafe for individuals to wait out such events in their homes, especially if they rely on medical equipment or have underlying conditions.</p>	
Description of the Solution:	Conduct a feasibility study and implement results for TRAs	
Estimated Cost:	Low	
Potential Funding Sources:	Measure C – local funding; CAL FIRE grant	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,4,5,6,8,9	
Benefits:	<p>Recognizing that TRAs are primarily for wildfire and the City is in a wildland urban interface (WUI), pre-designating TRA sites greatly benefits and intersects with evacuation planning.</p>	
Impact on Socially Vulnerable Populations:	TRA would be for affected areas and would serve identified populations including socially vulnerable ones	
Impact on Future Development:	<p>Recognizing that TRA are primarily for wildfire and the City is in a WUI, pre-designating TRA sites greatly benefits and intersects with evacuation planning.</p>	
Impact on Critical Facilities/Lifelines:	<p>Recognizing that TRA are primarily for wildfire and the City is in a WUI, pre-designating TRA sites greatly benefits and intersects with evacuation planning and potential impact on essential services</p>	
Impact on Capabilities:	<p>Recognizing that TRA are primarily for wildfire and the City is in a WUI, pre-designating TRA sites greatly benefits and intersects with evacuation planning.</p>	
Climate Change Considerations:	TRAs are temporary in nature so their location may change depending on the impact from climate change.	
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	



5. Town of Truckee Annex

This section presents the jurisdictional annex for the Town of Truckee that provides resources and information to assist public and private sectors to reduce losses from future hazard events. This annex is not guidance of what to do when a disaster occurs. Rather, this annex concentrates on actions to reduce or eliminate damage to property and people that can be implemented prior to a disaster. Information presented includes a general overview of the Town of Truckee, who in the Town participated in the planning process, an assessment of Truckee's risk and vulnerability, the different capabilities used in the Town, and an action plan that will be implemented to achieve a more resilient community.

This annex is part of a multi-jurisdictional HMP that was developed to meet plan participation requirements for all participating jurisdictions while accommodating their specific needs and limitations. Because many participating jurisdictions are rural agencies with limited staff, the planning process included establishing a Steering Committee and engaging a contract consultant to work with Nevada County in undertaking certain elements of the plan update on behalf of the jurisdictions. These elements included outreach to stakeholders and the public, risk assessment for all countywide hazards of concern, initial ranking of hazard risks, updates of hazard mitigation goals and objectives, and establishment of procedures for implementing and maintaining the HMP. This annex presents only the information specific to Town of Truckee as a participating jurisdiction. All other plan elements are included in Volume I and are referenced in this annex as appropriate.

5.1 Hazard Mitigation Planning Team

The Town of Truckee identified the hazard mitigation plan (HMP) primary and alternate points of contact and developed this plan over the course of several months with input from many Town departments, including Public Works, Community Development, and Police, where the Town's Office of Emergency Services resides under. The Emergency Services Manager represented the community on the Nevada County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements 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.

Table 5-1 summarizes Town officials who participated in the development of the annex and in what capacity. Additional documentation of the Town's planning activities through Planning Partnership meetings is included in Volume I.

TABLE 5-1. HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact	Alternate Point of Contact
Name/Title: James Blattler, Emergency Services Manager Address: 10183 Truckee Airport Rd., Truckee, CA 96161 Phone Number: 530-582-7912 Email: RWomack@townoftruckee.gov	Name/Title: Danny Renfrow, Chief of Police Address: 10183 Truckee Airport Rd., Truckee, CA 96161 Phone Number: 530-550-2339 Email: drenfrow@townoftruckee.gov
National Flood Insurance Program Floodplain Administrator	
Name/Title: Denyelle Nishimori, Community Development Director Address: 10183 Truckee Airport Rd., Truckee, CA 96161 Phone Number: 530-582-2934 Email: dnishimori@townoftruckee.gov	
Contributions to the Annex	
Name/Title: Robert Womack, Emergency Services Manager Method of Participation: Provided information on previous hazard events and provided an update on capability assessment. Provided an update on the status of previous mitigation actions.	
Name/Title: Denyelle Nishimori, Community Development Director Method of Participation: Provided information on NFIP administration and flood risk. Provided an update on the status of previous mitigation actions. Provided data and information on new development.	
Name/Title: Becky Bucar, Assistant Town Engineer Method of Participation: Provided an update on the status of previous mitigation actions.	
Name/Title: James Blattler, Emergency Services Coordinator Method of Participation: Became town project manager and filled all project positions and responsibilities previously filled by Robert Womack in June 2024.	

5.2 Community Profile

The Town of Truckee, named after a Paiute Indian Chief, who guided thousands of emigrants on their westward journey, is well-known for its logging, ice harvesting, the Emigrant Trail, and the tragic journey of the Donner Party (Truckee Chamber of Commerce, n.d.). Truckee is located near the eastern end of Nevada County, along the County's southern border. The Town is 40 miles west of Reno, Nevada and 12 miles north of Lake Tahoe. The Town was officially incorporated in 1993, and Downtown Truckee continues to preserve and restore its historic character. Truckee was officially listed on the National Register of Historic Places in 2010.

According to the U.S. Census, the 2020 population for the Town of Truckee was 16,729, a 0.3 percent increase from the 2010 Census. Data from the 2020 U.S. Census indicate that 6.7 percent of the population is 5 years of age or younger, 16.5 percent is 65 years of age or older, 3.6 percent is non-English speaking, 9 percent is below the poverty threshold, and 6.5 percent is considered disabled. Communities must deploy a support system that enables all populations to safely reach shelters or to quickly evacuate a hazard area.

5.3 Jurisdictional Capability Assessment and Integration

Truckee 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 their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Truckee to identify opportunities for integrating mitigation concepts into ongoing Town procedures.

5.3.1 Planning and Regulatory Capability

Table 5-2 summarizes the planning and regulatory tools that are available to Truckee. The table outlines the various planning documents, codes, and regulations to be reviewed and considered for update based upon any new data or information learned during the HM Update process.

5.3.2 Integration

Table 5-2 describes how some local planning mechanisms have been integrated into this HMP and how information from this HMP can be integrated into these mechanisms when they are updated in the future. Procedures for this future integration are outlined in Section 21.2.2 of Volume I of this HMP. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings are as follows:

- Using HMP hazard assessment data and action item information for potential emergency plans and annex updates and/or emergency response plans
- Incorporating hazard information, such as floodplain data, to potentially review and update zoning, planning, and building codes
- Utilizing hazard analyses for future plan communities or neighborhood development or town annexation or areas for redevelopment
- Updating capital improvement or strategic plans based on listed mitigation action items

TABLE 5-2. PLANNING AND REGULATORY CAPABILITY

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
CODES, ORDINANCES, & REGULATIONS				
Building Code	Yes	2022 California Building Standards Code	State	Building Department
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Building codes protect from a wide range of hazards. They set common, minimum design and construction requirements across communities.</p>				
Zoning/Land Use Code	Yes	As of 10/12/2023 – Title 18 Development Code (Municipal Code)	Local	Planning Department
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>EIR, CEQA, and Safety Element is used to review zoning and permits. The zoning ordinance does not discourage development or redevelopment within natural areas but does require mitigation measures. Natural overlay zones set conditions, and the ordinance requires developers to take additional actions to mitigate natural hazard risks.</p>				
Subdivision Ordinance	Yes	Title 18 Article V of Truckee Municipal Code	Local	Planning Department
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The regulations allow density transfers where hazard areas exist as required by State law.</p>				
Site Plan Code	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Stormwater Management Code	Yes	Title 11 Storm Water Ordinance – Municipal Code	Local	GIS
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>To minimize damage to public and private property, reduce the effects of development on land and stream channel erosion, assist in the attainment and maintenance of water quality standards, reduce local flooding, and maintain as nearly as possible the pre-development runoff characteristics of the area.</p>				
Post-Disaster Recovery/ Reconstruction Code	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>In 2024 General Plan Update there is an action item to develop this plan (Short-Term goal).</p>				
Real Estate Disclosure Requirements	Yes	CA Assembly Bill 38 (AB 38)	Local (Fire District for D-Space, State for other issues)	Truckee Fire Protection District (TFPD)
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>In addition to facing potential liability for failing to disclose under the exceptions to “caveat emptor,” a home seller must make certain disclosures under the law relevant to wildfire and defensible space.</p>				

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Growth Management	Yes	Town's General Plan	Local	Planning Department
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Guides land use and development in different locations in the Town.</p>			
Environmental Protection Ordinance	No	-	-	-
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Many of the items below are addressed in the 2024 General Plan update.</p>			
Flood Damage Prevention Ordinance	Yes	Town Development Code Article 18.34 Floodplain Management	Local	Planning Department
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Reduce or mitigate building in the defined flood plain. The ordinance adopts all subsequent amendments and/or revisions of Flood Insurance Rate Maps (FIRMs), including the most recent effective FIRM adopted in February 2010.</p>			
Wellhead Protection	N/A	-	-	-
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>			
Emergency Management Ordinance	Yes	Section 2.5 of the Municipal Code	Local	Office of Emergency Services
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Provides framework for activating the Emergency Operation Center, Disaster Council, and Master Mutual Aid during a crisis.</p>			
Climate Change Ordinance	Yes	2024 General Plan – Climate Action Plan Element	Local	Planning Department
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> This makes addressing Climate Change a priority within the Town operations and calls for training every employee in Climate Change actions.</p>			
Other	Yes	-	-	-
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> FIRMs, Elevation Certificates</p>			
PLANNING DOCUMENTS				
General/Comprehensive Plan	Yes	2024 General Plan	Local	Planning Department
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> The 2024 General Plan update ("2040 General Plan") is the Town's guiding document for all things related to land use, development, and building, along with Climate Change, Stormwater Management, and Open Space management going forward. The future land use map identifies natural hazard areas. The land use policy, to the extent possible, discourages development or redevelopment in natural hazard areas. Most of the Town is in a high/very high wildfire hazard severity zone.</p>			
Capital Improvement Plan	Yes	Five-Year Capital Improvement Program	Local	Finance
	<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Mitigation projects can be funded through allocations in capital improvement planning.</p>			



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Disaster Debris Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Floodplain Management or Watershed Plan	Yes	2024 General Plan / Development Code	Local	Planning Department
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> This will mitigate the impact of floods and other natural hazards.				
Stormwater Pollution Prevention Plan	Yes	Clean Water Program / Clean Boater Program	Local	Engineering Department
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Reduce pollution inflow to Truckee River which is a source of drinking water for Reno / Sparks Nv in addition to local recreational opportunities.				
Open Space Plan	Yes	Part of the 2024 General Plan Update	Local	Planning Department
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Open space management uses nature-based solutions to advance natural hazard mitigation and climate adaptation.				
Urban Water Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Habitat Conservation Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Economic Development Plan	Yes	Part of the 2024 General Plan	Local	Planning Department
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> This can enhance economic resilience and growth within communities.				
Community Wildfire Protection Plan	Yes	Truckee Fire District	Local	Truckee Fire Protection District
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Maps fire risk and mitigation projects to address those risks				
Community Forest Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Transportation Plan	Yes	Included in 2024 General Plan update	Local	Planning Department
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> We have also developed evacuation plans in concert with the Transportation Plan.				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Agriculture Plan	No	-	-	-
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>			
Climate Action/ Resiliency/Sustainability Plan	Yes	Part of 2024 General Plan Update	Local	Planning
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Plan looks to address effects of climate change and potential mitigations we can put in place to reduce those effects, both of the actual effect and the reduction of Climate Change.			
Tourism Plan	No	-	-	-
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>			
Business/ Downtown Development Plan	Yes	Part of the 2024 General Plan Update, Land Use Element, Economic Development Element	Local	Planning
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Enhances economic resilience and growth within the Downtown, reducing the economic impact to a core piece of the Town following a disaster.			
Other	Yes			
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> TDPUD, T-TSA; Trout Creek and Gregory Creek Engineering Studies for Streams; Clean Boater Program.			
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Emergency Operations Plan	Local	Office of Emergency Services
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Provides a plan for training and exercising and responding to a large-scale emergency incident. Short term recovery is covered in this plan.			
Continuity of Operations Plan	No	-	-	-
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> In-process			
Substantial Damage Response Plan	No	-	-	-
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>			
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	2017 HMP	Local	Office of Emergency Services
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> Will be updated from 2017 HMP as part of the updated HMP			
Post-Disaster Recovery Plan	No	-	-	-
	<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>			



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Public Health Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Other	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				

5.3.3 Development and Permitting Capability

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

TABLE 5-3. DEVELOPMENT AND PERMITTING CAPABILITY

	Yes/No	Comment:
Do you issue development permits?	Yes	-
<ul style="list-style-type: none"> If you issue development permits, what department is responsible? If you do not issue development permits, what is your process for tracking new development? 	N/A	Initial permit is through Planning Department
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes / No	For floodplain, yes. For wildfire and avalanche, no.
Do you have a buildable land inventory?	Yes	-
<ul style="list-style-type: none"> If you have a buildable land inventory, please describe 	N/A	Part of 2024 General Plan update – Planning Department
Describe the level of build-out in your jurisdiction.	N/A	-

5.3.4 Administrative and Technical Capability

Table 5-4 summarizes potential staff and personnel resources available to Truckee and their current responsibilities that contribute to hazard mitigation.

5.3.5 Fiscal Capability

Table 5-5 summarizes financial resources available to Truckee.

5.3.6 Education and Outreach Capability

Table 5-6 summarizes the education and outreach resources available to Truckee.

5.3.7 Community Classifications

Table 5-7 summarizes classifications for community programs available to Truckee.



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TABLE 5-4. ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	To review and act on matters related to land use planning and development and make policy recommendations to the Town Council.
Zoning Board of Adjustment	Yes	Zoning Administrator – part of Planning Department
Planning Department	Yes	Responsible for advance planning, development review, public information, and Development Code compliance.
Mitigation Planning Committee	No	-
Environmental Board/Commission	No	-
Open Space Board/Committee	No	-
Economic Development Commission/Committee	No	-
Public Works/Highway Department	Yes	Provides year-round, all-weather service to public roadways and trail networks.
Construction/Building/Code Enforcement Department	Yes to all	Fosters a fair and impartial enforcement of codes to protect the safety and welfare of the community.
Emergency Management/Public Safety Department	Yes	Office of Emergency Services and Police Department
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Through Public Works, the Road Maintenance Division is responsible for maintaining approximately 165 miles of roadway. The Facilities Maintenance Division oversees maintenance and landscaping of Town-owned or operated properties, to include trail maintenance.
Mutual aid agreements	Yes	Support all mission areas which can be established before, during, or after an incident.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Yes, positions within the Office of Emergency Services, Emergency Services Manager, Emergency Services Coordinator is responsible for preparing, updating, maintaining and implementing the Town's Hazard Mitigation plan.
Other	No	-
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	Resources to support these projects will be within Engineering, Building and Safety and Planning divisions.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Chief Building Official, Construction Inspector, Town Engineer, Director of Public Works, Engineering Manager, Senior Civil Engineer



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Planners or engineers with an understanding of natural hazards	Yes	Community Development Director, Town Planner, Senior Planner, Town Engineer, Director of Public Works, Engineering Manager, Senior Civil Engineer
Staff with expertise or training in benefit/cost analysis	Yes	Engineering Manager, Senior Civil Engineer
Professionals trained in conducting damage assessments	Yes	Chief Building Official, Building Inspectors
Personnel skilled or trained in GIS and/or Hazus applications	Yes	GIS staff members, no HAZUS
Staff that work with socially vulnerable populations or underserved communities	Yes	Diversity, Equity, and Inclusion Program Manager
Environmental scientist familiar with natural hazards	No	-
Surveyors	Yes	Contracted
Emergency Manager	Yes	Emergency Services Manager, Emergency Services Coordinator
Grant writers	Yes	Public Works Staff, Community Development Staff, Office of Emergency Services Staff, Assistant to the Town Manager
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	GIS and Engineering staff handle stormwater.

TABLE 5-5. FISCAL CAPABILITIES

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements 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	No
Withhold public expenditures in hazard-prone areas	No



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Financial Resources	Accessible or Eligible to Use? (Yes/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])	Yes

TABLE 5-6. EDUCATION AND OUTREACH CAPABILITIES

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	Town Communications Program Manager
Personnel skilled or trained in website development	Yes	Just completed rebrand and website update for the Town.
Hazard mitigation information available on your website	Yes	Ready Truckee Webpage
Social media for hazard mitigation education and outreach	Yes	Social media outreach cycles are included in this.
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Watershed Council, SWEP, Land Trust, RCD, Search and Rescue, VIPs (Volunteers in Police Service), Tahoe Forest Hospital, Senior Center
Warning systems for hazard events	Yes	
Natural disaster/safety programs in place for schools	Yes	Town of Truckee School Resources Officer, Great Shake Out, Truckee Fire Protection District Kids Corner, CERT (Community Emergency Response Team)
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	The town contracts with the local Community Foundation to staff a position that manages the local COAD (Community Organizations Active in Disasters) Manager. Additionally, the Town's Diversity, Equity and Inclusion Program Manager coordinates with local organizations that do this work.
Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events?	Yes	-
• If yes, please describe.	N/A	Town's Clean Water Program, Town's Keep Truckee Green, Sierra Business Council



TABLE 5-7. COMMUNITY CLASSIFICATIONS

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	4/4x	-
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	Yes	-	-
Other: Organizations with mitigation focus (advocacy group, non-government)	Yes	California Fire Risk Reduction Community List	July 2024

N/A = Not applicable

5.3.8 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 5-8 summarizes the adaptive capacity for each identified hazard of concern and the Town’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement.

TABLE 5-8. ADAPTIVE CAPACITY

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Avalanche	Moderate
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flood	Moderate
Hazardous Materials Release	Moderate
Landslide	Moderate
Wildfire	Moderate
Winter Storm	Moderate
Volcano	Moderate



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5.4 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 the table of planning team members at the beginning of this annex is responsible for maintaining this information.

5.4.1 NFIP Statistics

Table 5-9 summarizes the NFIP policy and claim statistics for Truckee.

TABLE 5-9. TRUCKEE NFIP SUMMARY OF POLICY AND CLAIM STATISTICS

# Policies	46
# Claims (Losses)	9
# Repetitive Loss Properties	1
# Severe Repetitive Loss Properties	0

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.

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. At least two of the claims must have occurred within any 10-year period, more than 10 days apart.

Source: FEMA PIVOT 2024; CIS 2024

5.4.2 Flood Vulnerability Summary

Table 5-10 provides a summary of the NFIP program in Truckee.

TABLE 5-10. NFIP SUMMARY

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Areas adjacent to waterways (primarily creeks, the Truckee River, Donner Lake) No.
Do you maintain a list of property owners interested in flood mitigation?	No
• If yes, how many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	
Are any RiskMAP projects currently underway in your jurisdiction?	No
• If so, state what projects are underway.	

NFIP Topic	Comments
Do you have procedures established for Substantial Damage determinations following a disaster event? <ul style="list-style-type: none"> • How many were declared for recent flood events in your jurisdiction? 	No 0
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? <ul style="list-style-type: none"> • If there are mitigation properties, how were the projects funded? 	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <ul style="list-style-type: none"> • If not, state why. 	Some do, some do not. The ones that do have been assessed/mapped at the parcel-level.
NFIP Compliance	
What local department is responsible for floodplain management?	The Community Development 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? <ul style="list-style-type: none"> • 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, GIS
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Any modification to a floodplain constitutes a substantial modification.
What are the barriers to running an effective NFIP program in the community, if any?	Staffing
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <ul style="list-style-type: none"> • 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? <ul style="list-style-type: none"> • What is the date that your flood damage prevention ordinance was last amended? 	Municipal Code Article 18: Chapter 18.34 – Floodplain Management, Section 18.38.040 – River and Stream Development Standards, Section 18.20.050.D – River Protection (-RP) Overlay District, Setback Requirements, 09/07/2023; The ordinance adopts all subsequent amendments and/or revisions of Flood Insurance Rate Maps (FIRMs), including the most recent effective FIRM adopted in February 2010.



NFIP Topic	Comments
Does your floodplain management program meet or exceed minimum requirements? <ul style="list-style-type: none"> • If exceeds, in what ways? 	Exceed. The ordinance regulates areas of known flooding that have not been mapped by FEMA.
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 – Development Review of discretionary land use applications which requires compliance with Municipal Code floodplain management requirements.
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	Not at this time

5.5 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.

From 2019 to 2023, Truckee saw a rise in single-family, multi-family, and commercial developments, mostly outside the SFHA, with only one permit within it (in 2021). Key projects like Frishman Hollow II and Camp One Fitness & Apartments are in Very High Fire Hazard Severity Zones (FHSZ), as are anticipated developments like Coldstream Commercial and Tahoe Donner Ski Lodge. This increased development in high-risk areas has raised Truckee's risk exposure, emphasizing the need for fire-resistant building materials and practices.

Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 5-11, Table 5-12, and Table 5-13.

TABLE 5-11. NUMBER OF BUILDING PERMITS FOR NEW CONSTRUCTION ISSUED SINCE THE PREVIOUS HMP

	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2019				
Total Permits	84	0	4	88
Permits within SFHA	0	0	0	0
2020				
Total Permits	84	0	2	86
Permits within SFHA	0	0	0	0



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	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2021				
Total Permits	61	7	5	73
Permits within SFHA	1	0	0	1
2022				
Total Permits	70	0	1	71
Permits within SFHA	0	0	0	0
2023				
Total Permits	81	0	4	85
Permits within SFHA	0	0	0	0

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

TABLE 5-12. RECENT MAJOR DEVELOPMENT AND INFRASTRUCTURE FROM 2017 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
Frishman Hollow II	Affordable Multi-Family Apartments	68 multi-family units within four buildings	11188 & 11200 Rue Ivy (APNs: 19-410-041 & 042)	Very High FHSZ	Complete, Occupied
Quality Automotive	Service Commercial	One 2,934 sf commercial building	10041 Donner Pass Rd. (APN: 18-600-010)	None	Complete, Occupied
Kelly Brothers Painting, Inc.	Industrial	4,725 sf industrial building & two multi-family units within one building	11020 Trails End Ct. (APN: 19-920-017)	None	Complete, Occupied
Marriott Springhill Suites; Coburn Crossing Apartments	Hotel; Multi-Family Apartments	138 hotel rooms (68,410 sf) in one building; 132 deed-restricted "local" and six low-income apartments in five buildings	Hotel: 10640 East Jibboom St. (APN: 19-420-089); Apartments: 10470 East Jibboom St. (APN: 019-420-090)	None	Complete, Occupied
Truckee Tahoe Lumber Company	Industrial	4,100 sf showroom/office in one building and 40,000 sf lumber storage in two buildings	11001 Soaring Way (APN: 19-620-063)	None	Complete, Occupied



Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Truckee Artist Lofts	Affordable Multi-Family Apartments; Commercial	77 multi-family units & 3,855 sf commercial in one building	9848 Donner Pass Rd. (APN: 19-421-004)	None	Complete, Occupied
Truckee Sanitary District Vehicle Storage Building	Public	3,877 sf in one building	12304 Joerger Dr. (APN: 19-440-097)	None	Complete, Occupied
Grocery Outlet	Grocery Store	16,147 sf	11213 Donner Pass Rd. (APN: 18-621-011)	None	Complete, Occupied
Soaring Ranch	Grocery Store, Commercial	35,478 sf Raley's grocery store & 31,523 sf commercial in two buildings	10001 Soaring Way (APN: 19-620-065)	None	Complete, Occupied
The Rock Building F	Commercial/Office	5,395 sf in one building	11177 Brockway Rd. (APN: 19-950-034)	None	Complete, Occupied
High Altitude Fitness	Fitness	27,350 sf indoor gym/climbing gym in one building	11798 Donner Pass Rd. (APN: 18-800-009)	None	Complete, Occupied
Camp One Fitness & Apartments	Fitness; Multi-Family Apartments	22,184 sf gym in one building; 9 Multi-Family Units within one building	10700 Pioneer Trail (APN: 19-700-027) & (APN: 19-700-026)	Very High Fire Hazard Severity Zone (FHSZ)	Complete, Occupied
Town of Truckee Public Service Center Garages	Public	36,257 sf in two buildings	10969 Stevens Lane (APN: 19-420-081)	None	Complete, Occupied
Pioneer Commerce Center Building K3	Industrial	11,200 sf in one building	10740 Pioneer Trail (APN: 19-700-15)	None	Complete, Occupied
Pioneer Commerce Center Building L	Industrial	11,618 sf in one building	10736 Pioneer Trail (APN: 19-700-17)	None	Complete, Occupied
Pioneer Commerce Center Building K4	Boat Storage	12,800 sf in one building	10730 Pioneer Trail (APN: 19-700-15)	None	Complete, Occupied

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Coldstream Commons	Affordable Multi-Family Apartments	48 units in four buildings	13078 Fish Camp Way (APN: 18-850-017)	Very High FHSZ	Complete, Occupied
Truckee Tahoe Lumber Company Adaptive Reuse	Commercial/Office	Conversion of 23,212 sf lumber yard to 21,439 sf office/ commercial	10242 Church Street & 10322 Trout Creek (APN 19-030-008 & 19-030-051)	None	Entitled; under construction
Village at Gray's Crossing	Mixed-Use: Multi-Family Apartments & Commercial	17,192 sf commercial with 21 multi-family units in five buildings; one four-plex multi-family building; 24 attached single-family	10212, 10120, 10105, 10313, 10153, 10057, 10009, 10002 Edwin Way; 10149 Annie's Loop, 11763 Henness Road (APNs: 43-060-001, -002, -004 to 43-060-008, 43-070-001 to 43-070-003 to 007)	None	Entitled; the 24 attached single-family & four-plex are currently under construction

* Only location-specific hazard zones or vulnerabilities identified.

TABLE 5-13. 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
Estates Meadows	Affordable Multi-Family Apartments	30 multi-family units in four buildings	10038 Estates Drive (APN: 19-450-047)	None	Entitled, no construction initiated
Soaring Ranch Phase II	Mixed-Use: Multi-Family Apartments & Commercial	31,523 sf commercial, 69 multi-family units (eight affordable) in four buildings	10501 Soaring Way (APN: 19-620-066)	None	Entitled, no construction initiated
Soaring Ranch Phase III	Mixed Use: Multi-Family Apartments & Commercial	109 Multi-Family units, 7,834 sf commercial in four building	10801 Soaring Way (APN: 19-620-067)	None	Entitled, no construction initiated
Village at Gray's Crossing Hotel	Lodging	129 hotel rooms (89,654 sf) in one building; 4,820 sf conference center in one building	10162 Edwin Way (APN: 43-060-011)	None	Entitled, no construction initiated

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Village at Gray's Crossing Car Wash	Commercial	3,883 sf commercial in one building	10012 Edwin Way (APN: 43-070-010)	None	Entitled, no construction initiated
Crestwood Construction Industrial Building	Industrial	8,800 sf in one building	10980 Industrial Way (APN 19-700-008)	None	Entitled, no construction initiated
Coldstream Commercial	Commercial	19,732 sf in two buildings	12848 & 12833 Deerfield Drive (APNs: 18-850-018, 19)	Very High FHSZ	Entitled, no construction initiated
Tahoe Donner Ski Lodge	Recreation	Demolition of existing 15,838 sf building and construction of new 24,490 sf building	14943 Slalom Way, 12250 Viking Way & 14942 Slalom Way (APNs: 46-050-001, 002 & 46-040-002)	Very High FHSZ	Entitled, no construction initiated
Joerger Ranch Parcel 2	Mixed-Use: Industrial & Residential	49,739 sf industrial in five buildings & 12 multi-family apartments in four buildings	10110 Soaring Way (APN: 19-620-061)	None	Entitled, no construction initiated
Zurich Place Offices	Office	10,467 sf in one building	17308 Northwoods Blvd (APN: 45-200-005)	Very High FHSZ	Entitled, no construction initiated
Industrial Way Mixed-Use	Mixed-Use: Multi-Family Apartments & Industrial	28,336 sf Industrial & nine multi-family apartments within two buildings	10969 Industrial Way (APN: 19-700-006)	None	Under construction
Pacific Crest Commons	Affordable Multi-Family Apartments	55 multi-family apartment units in two buildings	10079 State Route 89 (APN 18-621-006) & 11300 Donner Way (APN 18-621-005)	None	The project is proposed on State of California-owned property and is not subject to Town of Truckee regulations; the timeframe for future construction of this project is unknown at this time.
Residences at Jibboom	Mixed-Use: Multi-Family Apartments & Commercial	62 multi-family residential units & 3,224 sf commercial in one building	10002 – 10090 Jibboom St. (APNs 19-102-011 to 19-100-018)	None	Land use application anticipated to be submitted shortly

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Pioneer East	Service Commercial	76,893 sf in 11 buildings	No site address (APN 19-410-028)	None	Land use application is under review

* Only location-specific hazard zones or vulnerabilities identified.

5.6 Jurisdictional Risk Assessment

The risk assessment in Volume I provides information regarding the overall planning area's risks from the identified hazards, as well as quantitative vulnerability and impact estimates for municipalities and preliminary hazard rankings for all participating jurisdictions. Key local risk assessment information for Truckee is presented below.

5.6.1 Jurisdiction-Specific Hazard Risks

Volume I of this plan describes the 12 hazards identified as presenting the greatest risk to Nevada County overall. The Town of Truckee identified how its local risks differ from the overall planning area based on mapping of hazard areas, a review of hazard events the specifically affected the City, and consideration of the hazard ranking defined in Volume I. Each of these is described below.

Hazard Area

Figure 5-1 and Figure 5-2 illustrate locations that are at risk of a hazardous event occurring within the town. 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 Truckee has significant exposure. Town boundaries shown on the maps are the County's designated community boundaries, as defined in the Nevada County General Plan (Nevada County GIS 2020).

Figure 5-1. Truckee Hazard Area Extent and Location Map 1

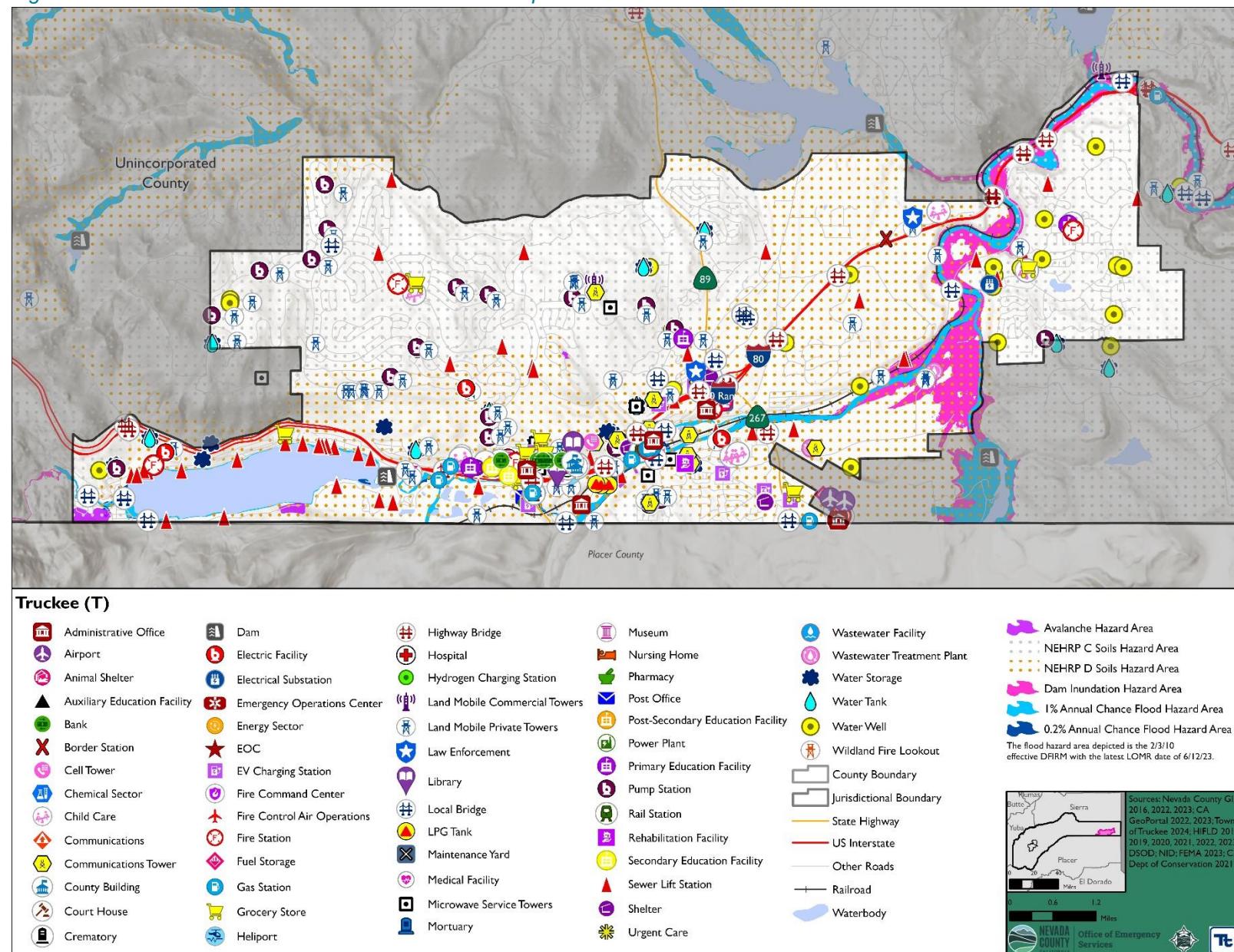
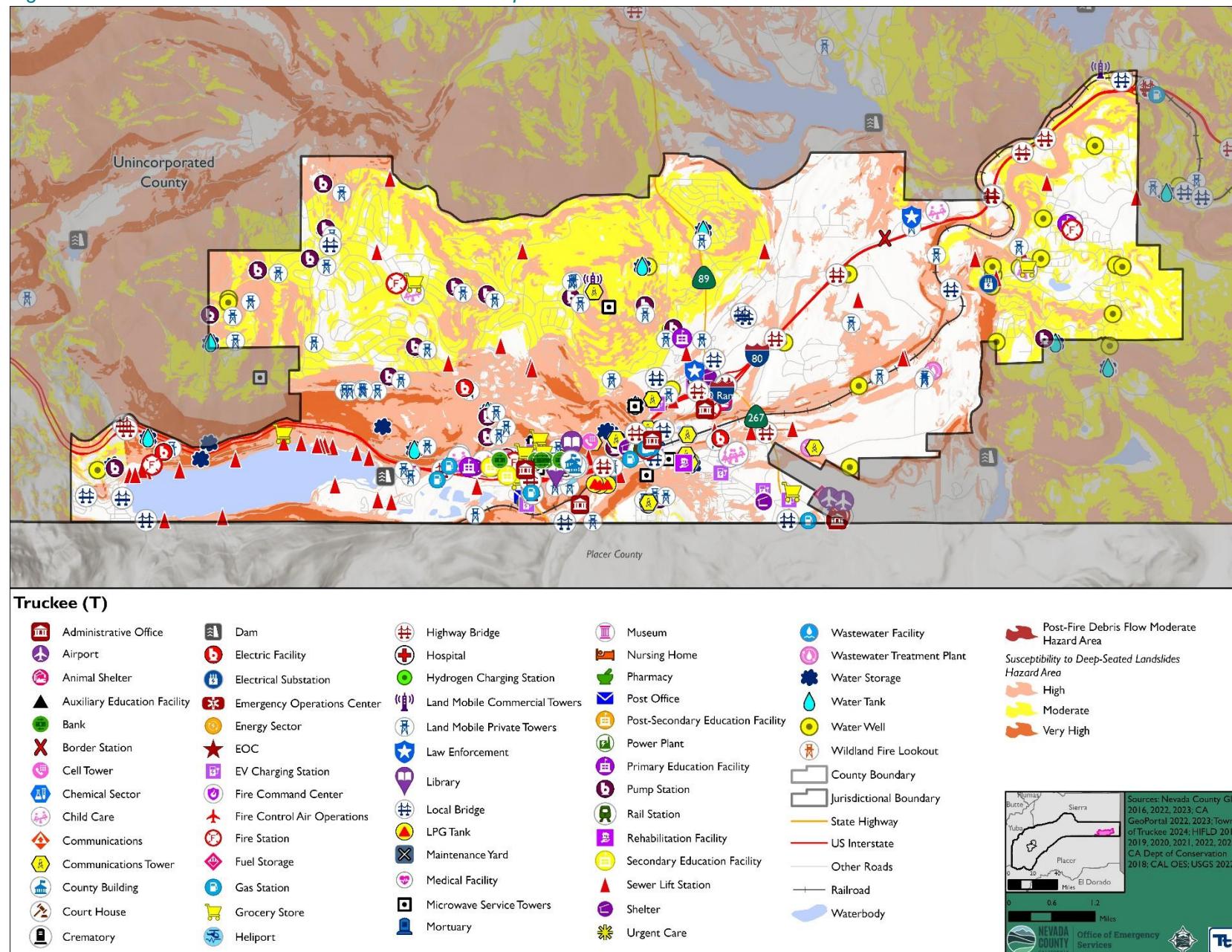


Figure 5-2. Truckee Hazard Area Extent and Location Map 2



Hazard Event History

The history of natural and non-natural hazard events in Truckee is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 5-14 provides details on loss and damage in Truckee during hazard events since the last hazard mitigation plan update.

TABLE 5-14. HAZARD EVENT HISTORY IN TRUCKEE

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Truckee
October 8 – October 31, 2017	Wildfires (DR-4344, FM-5271)	Yes	The 2017 California wildfire season resulted in nearly 1.6 million acres of burned land across 9,000+ wildfires. Nevada County experienced 7 wildfires during this season, with the most notable being the Lobo Fire (Wind Complex) and Pleasant Fire that burned a combined 1,000+ acres of land.	None reported
January 20, 2020 – May 11, 2023	Pandemic (DR-4482, EM-3428)	Yes	The coronavirus pandemic resulted in roughly 20,521 cases and 155 attributed deaths as of fall 2023.	
August 14 – September 26, 2020	Wildfires (DR-4558, FM-5332)	Yes	Historic wildfires swept across the State of California in 2020, resulting in over 4.3 million acres burned across the State. In Nevada County, the Jones Fire burned 705 acres and resulted in 7 injuries to civilians and fire personnel.	None reported
July 14 – October 25, 2021	Wildfires (DR-4610)	Yes	The River Fire burned over 2,600 acres through Nevada County before being contained. At least 21 structures were damaged, 142 structures were destroyed, and 4 injuries were reported as a result of this fire.	None reported
July 27, 2021	Plane Crash	No	12 seat turbo prop plane crashed into a residential neighborhood on approach to Truckee Airport	All 6 souls onboard perished. Neighborhood fire was extinguished by passing Cal-Fire Strike team averting a catastrophic wildland / urban fire



Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Truckee
August – September 2021	Air Quality	No	Caldor Fire Smoke Impact	The Truckee community experienced extreme air quality issues from wildfire smoke (primarily Caldor Fire) with AQI in excess of 500. Schools were closed for 5 days and press releases were issued for tourists to stay away.
July 7, 2022	Butterfield Fire Wildfire	No	Approximately 12-acre arson fire in the open space area in center of Town.	Evacuations of the surrounding areas
December 27, 2022 – January 31, 2023	Severe Storms (DR-4683)	Yes	Severe winter storms, flooding, landslides, and mudslides impacted residents and property across Nevada County.	Although the County was impacted, the Town did not report significant damages.
February 21 – July 10, 2023	Severe Storms (DR-4699, EM-3592)	Yes	Severe winter storms, straight-line winds, flooding, landslides, and mudslides impacted communities across Nevada County.	Approximately 60 houses with ice and water damage or partial collapses (decks). 3 large box retail collapses. 2 house collapses.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

Hazard Ranking

The vulnerability assessments for each hazard in Part 2 of Volume I of this HMP present evaluations of vulnerability and impact for unincorporated county areas and each participating municipality. 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.

Truckee reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the Town. The Town agreed with many of the calculated hazard rankings. The rankings for flood and extreme cold were adjusted from Low to Medium due to the observed frequency and impacts of past events. The change to the flood ranking was also determined based on the issuance of a new construction permit in the floodplain since the last plan. The dam failure and earthquake rankings were increased from Low to Medium due to identified infrastructure vulnerabilities and the potential for more intense impacts, although no events of these types have occurred in recent history. The revised rankings also account for the changes in community priorities described in



Section 20.2 in Volume I of this HMP. Table 5-15 shows Truckee's final hazard rankings. Mitigation action development uses the ranking to target hazards with the highest risk.

TABLE 5-15. HAZARD RANKING

Hazard	Rank	Hazard	Rank
Avalanche	Low	Flood	Medium
Dam Failure	Medium	Hazardous Materials Release	Low
Drought	Medium	Landslide	Low
Earthquake	Medium	Wildfire	High
Extreme Cold	Medium	Winter Storm	High
Extreme Heat	Medium	Volcano	Low

5.6.2 Vulnerability and Potential Impacts for Hazards of Local Concern

Based on the above jurisdiction-specific information, the following sections describe vulnerability and potential impacts for the hazards of greatest concern to the Town of Truckee (listed alphabetically, not in order of risk ranking).

Dam Failure

The Town assets (people and structures) most vulnerable to dam failure are those located within mapped dam inundation area of Donner Lake dam, which is owned by the Truckee Meadows Water Authority. The risk assessment in Volume I provides quantitative estimates of the number of people and structures within these hazard areas specific to Truckee.

Older buildings in the Town's downtown area, constructed prior to current building standards, are more likely to experience impacts from dam failures. The risk assessment in Volume I presents Town-specific quantitative estimates from Hazus for potential impacts on people and structures. Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on dam failure impacts for Truckee is assumed to be the same as described for all of Nevada County in Volume I. Dam failure risks are projected to increase within and downstream from the Sierra Nevada as climate change increases storm intensities and temperatures.
- Population changes—Truckee's population remained stable in recent years, indicating no change in overall risk from dam failure.
- Future development—The Donner Lake dam inundation area runs along Donner Creek and Interstate 80 and intersects with the Donner Memorial State Park. Areas along Interstate 80 tend to already be developed, while Donner Creek and Donner Memorial State Park are subject to environmental regulations that limit their ability to be developed. It is possible, but unlikely that significant future development will occur in the mapped dam inundation areas. Ongoing

floodplain compliance, the Town's existing building code, and coordinated outreach to dam owners responsible for mitigation measures and maintaining EAPs will continue to mitigate risks associated with such developments.

Drought

All people and structures in the Town are equally vulnerable to drought. The hazard is uniform across Truckee, and the vulnerability discussion in Volume I is applicable to Truckee.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Truckee. In addition, lower groundwater levels that can result from drought have the potential to cause subsidence in the vicinity of former mines under Truckee.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on drought impacts for Truckee is assumed to be the same as described for all of Nevada County in Volume I. Droughts are likely to become more frequent and more severe, and the availability of surface water supplies is likely to decrease.
- Population changes—Truckee's population remained stable in recent years, indicating no change in overall risk from drought.
- Future development—Proposed new development for Truckee could increase the demand on water supply, increasing the potential need for water restrictions during drought.

Earthquake

All people and structures in the Town are equally vulnerable to earthquake. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Truckee.

Older buildings in the Town's downtown area, constructed prior to current building standards, are more likely to experience impacts from an earthquake. The downtown core historical district area in Truckee contains predominantly wood frame construction or newer concrete commercial buildings. There may be several Unreinforced Masonry (URM) buildings, which pose a hazard during earthquakes due to their structural vulnerability. The risk assessment in Volume I identifies quantitative Townwide estimates of potential impacts specific to Truckee as estimated by Hazus.

Potential future changes in impacts have been assessed as follows:

- Climate change—Climate change is unlikely to have a significant effect on earthquake impacts in Truckee.
- Population changes—Truckee's population remained stable in recent years, indicating no change in overall risk from earthquake.



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- Future development—New development in Truckee may increase the number and value of structures at risk from earthquake, but building codes enforced by the Town should limit impacts in the form of structural damage.

Extreme Cold

All people and structures in the Town are equally vulnerable to extreme cold. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Truckee.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Truckee. Additionally, the Town contains a portion of Interstate 80, where over 2,500 vehicles travel during peak hours and serves as an important commercial thoroughfare. Extreme cold events may accelerate freeze/thaw action on the roadway and its infrastructure, leading to potential increased needs for detours, closures, and maintenance needs and to structural damage, if not addressed.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature (Geospatial Innovation Facility n.d.). Therefore, its effect on extreme cold impacts for Truckee is assumed to be the same as described for all of Nevada County in Volume I. As temperatures warm, extreme cold events may become less frequent and severe, lessening their impacts.
- Population changes—Impacts of extreme cold on Truckee are largely associated with damage to facilities, but major increases in population could exacerbate dependence on Interstate 80 for everyday transportation and commerce. However, Truckee’s population remained stable in recent years, indicating no change in overall risk from extreme cold.
- Future development—Impacts of extreme cold on Truckee are largely associated with damage to facilities. This impact is not expected to change with new development.

Extreme Heat

All people and structures in the Town are equally vulnerable to extreme heat. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Truckee.

Populations most likely to experience impacts from an extreme heat event include those over 65, children under five, people with underlying or chronic medical conditions, low-income individuals, those experiencing homelessness, and outdoor workers. The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Truckee.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature (Geospatial Innovation Facility n.d.). Therefore, its effect on extreme heat impacts for Truckee is assumed to be the same as described for all of Nevada County in

Volume I. Extreme heat events are likely to become more frequent, severe, and prolonged as temperatures rise.

- Population changes—Truckee’s population has remained stable in recent years, indicating no change in overall risk from extreme heat.
- Future development—New development in Truckee may exacerbate extreme heat events due to the urban heat island effect but building codes and open space requirements could lessen impacts.

Flood

The Town assets (people and structures) most vulnerable to flood are those located within mapped flood hazard areas: areas adjacent to Donner Lake, south of Prosser Creek Reservoir and Alder Creek, and west of Martis Creek. The risk assessment in Volume I provides quantitative estimates of the number of people and structures within these hazard areas specific to Truckee.

Older buildings in the Town’s downtown area, constructed prior to current building standards, are more likely to experience impacts from flooding. The risk assessment in Volume I presents Town-specific quantitative estimates from Hazus for potential impacts on people and structures. Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on flood impacts for Truckee is assumed to be the same as described for all of Nevada County in Volume I. Flood risks are projected to increase within and downstream from the Sierra Nevada as climate change increases storm intensities and temperatures.
- Population changes—Truckee’s population remained stable in recent years, indicating no change in overall risk from flood.
- Future development—The Town may continue to see occasional permit applications for homes in mapped floodplains. Ongoing NFIP compliance and the Town’s existing building code will continue to mitigate risks associated with such developments.

Wildfire

The analysis of wildfire vulnerability in this HMP is based on hazard mapping previously performed for Nevada County that provides results for four forecast zones that cover Nevada County, as described in Volume I (Nevada County OES 2023). One forecast zone includes the Town of Truckee and the surrounding unincorporated area. Volume I provides a detailed description of the mapping of wildfire hazard priority areas and quantitative estimates of the associated vulnerability of people and structures in that forecast zone. CAL FIRE’s fire hazard severity zone mapping shows roughly half of Truckee as a very high hazard area and downtown areas as defensible space.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Truckee. Older buildings in the Town’s downtown area, constructed prior to current building standards, are more likely to experience impacts from wildfire. The Town also can be indirectly

impacted by an influx of population when people in surrounding rural areas need to evacuate from fires outside the Town. Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on wildfire impacts for Truckee is assumed to be the same as described for all of Nevada County in Volume I. It is predicted that the number of large fires and total area burned will increase with the changing climate.
- Population changes—Truckee’s population remained stable in recent years, indicating no change in overall risk from earthquake.
- Future development—From 2019 to 2023, Truckee issued several permits, such as the Frishman Hollow II and Camp One Fitness & Apartments, in very high wildfire severity zones. This development in high-risk areas has raised Truckee’s risk exposure, emphasizing the need for fire-resistant building materials and practices. The Town is participating in the update of Nevada County’s community wildfire protection plan, which will prioritize areas for hazardous fuels reduction treatments, address community preparedness, and recommend actions homeowners and communities can take to reduce structure ignitability.

Winter Storm

All people and structures in the Town are equally vulnerable to winter storm. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to Truckee.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to Truckee. Older buildings in the Town’s downtown area, constructed prior to current building standards, are more likely to experience impacts from winds or snow loads associated with a winter storm. The Town of Truckee contains portions of Interstate 80 and is responsible for maintaining approximately 150 miles of roadway. A winter storm could down trees or power lines and create significant debris that makes it unsafe and even inaccessible for drivers. Potential future changes in impacts have been assessed as follows:

- Climate change—Warming temperatures are projected to raise the divide between rain and snow by as much as 3,000 feet. Being in the lower elevation portion of the County, Truckee is less likely to see this effect than higher-elevation areas to the east. Countywide, climate change is predicted to bring more extreme storms in winter.
- Population changes—Truckee’s population remained stable in recent years, indicating no change in overall risk from winter storms.
- Future development—Truckee enforces current building codes designed to protect structures from storm-related damage. New development under these codes is unlikely to change the Town’s overall impacts from winter storms.



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5.6.3 Identified Issues

Table 5-16 lists issues related to the top hazards of concern for the Town of Truckee. These issues were identified based on local knowledge, the hazard event history, hazard rankings, hazard location, current capabilities, and the assessments of hazard vulnerability and potential impacts described in detail in Volume I. Addressing these issues is an important community priority for the Town, and the mitigation strategy has been developed to incorporate, where feasible, actions that would help to resolve one or more of these issues.

TABLE 5-16. HAZARD ISSUES

Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Town of Truckee has 1 repetitive loss property, but other properties may be impacted by flooding as well.	Flood	X	
<p>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. After any disaster event, they must:</p> <ul style="list-style-type: none"> • Determine where the damage occurred within the community and if the damaged structures are in an SFHA. • Determine what to use for “market value” and cost to repair; uniformly applying regulations will protect against liability and promote equitable administration. • Determine if repairing plus improving the damaged structure equals or exceeds 50% of the structure’s pre-damage value. • Require permits for floodplain development. <p>The Town of Truckee 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 Town of Truckee is in need of a formal process and plan to provide a framework for conducting such inspections and determinations.</p>	All hazards reviewed in Volume I		X
The Town of Truckee is responsible for maintaining approximately 150 miles of roadway. Among these, about 30 miles of roadway require maintenance to clear debris from the areas adjacent to the roadways. These specific areas have been identified as “Fuel Modifications Zones” according to the Nevada County and Town of Truckee Standard Specifications.	Flood, Wildfire, Winter Storm		X



Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
The downtown core historical district area in Truckee contains predominantly wood frame construction or newer concrete commercial buildings. However, there is a possibility that several Unreinforced Masonry (URM) buildings exist, which pose a hazard during earthquakes due to their structural vulnerability.	Dam Failure, Earthquake		X
The Town of Truckee, known for its extreme cold and heavy snowfall, faces blizzard-like conditions. The town hosts a major Interstate freeway, where over 2,500 vehicles travel during peak hours. Closure of the freeway results in significant commerce losses (over \$1,000,000.00 per hour). Despite Cal-Trans' efforts, independent truckers and small companies persistently enter the area during closures, causing gridlock. Regular vehicle traffic also attempts risky crossings, leading to search and rescue operations.	Extreme Cold, Winter Storms	X	
During storm events, various areas around Donner Lake suffer localized damage, including hillside erosion, minor property damage from water intrusion into structures, and sediment loading into drainages that ultimately reaches Donner Lake. A task force has been established to address issues within Town limits, but challenges remain for areas just outside the Town limits (such as Interstate 80 and hillsides) that are beyond direct control.	Flood		X
During storm events, areas around Glenshire, especially those near greenbelts, suffer localized damage. This includes minor property damage due to water intrusion into structures and roadway damage.	Flood	X	
Truckee contains one of the largest homeowners associations, the Tahoe Donner Homeowners Association with represents over 6,000 residential properties. This area has historically been affected or threatened by wildfires. However, the HOA has just two exit routes, which may be insufficient if a wildfire occurs and requires an evacuation.	Wildfire	X	
Trout Creek is a major drainage (blue line stream) through central Truckee. The watershed has been highly developed, and the stream channel has been altered and impacted by the development. The alteration has increased flooding potential and decreased the natural ability of the stream system to carry storm event flows.	Flood	X	



Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Address the challenges arising from increased transit usage and ridership in the Town, which reduces reliance on personal vehicles. The need for maintenance and storage space applies to both the current transit fleet and future expansion. Additionally, the inclusion of electric charging infrastructure is essential for transitioning the Town's transit fleet from fossil fuel to clean electric power. Furthermore, indoor storage facilities are necessary to improve vehicle longevity, provide sheltered servicing, and eliminate the need to retrieve vehicles from outdoor storage during storm events. Ensuring readiness for emergency deployment during evacuations is a critical consideration.	Wildfire, Winter Storm		X
The Public Service Center on Stevens Lane needs additional equipment and vehicle storage garages for Public Works vehicles.	Winter Storm		X
Identify and address insufficient stormwater drains that struggle to handle heavy rainfall or runoff due to poor drainage. The consequences include flooding, property damage, and safety hazards.	Flood		X
The Town of Truckee, like many California communities with wildland-urban-interface and intermix, faces the threat of a fast-moving wildfire impacting the built environment and the challenge of evacuating residents and visitors from the threat. As a result, recent state legislation has required local governments to (1) identify residential developments in Very High Fire Hazard Severity Zones that do not have at least two emergency evacuation routes and develop feasible mitigation strategies, which may include alternative methods of evacuation, and (2) Identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios, and identify existing roadways used as evacuation routes that are not compliant with current Fire Safe Regulations (14 CCR § 1270.00) for roadway standards and develop a plan to bring those roadways into conformance. The town has not completed a thorough vulnerability, risk, and strengthening assessment for evacuations which is needed to improve public safety and meet legislative requirements.	Wildfire, Hazardous Materials Release		X
During storm events, areas around Sierra Meadows, especially on Old Mill Road, experience localized damage. This includes minor property damage from water intrusion into structures and roadway damage, disrupting access to homes.	Flood	X	
During storm events, many areas around Tahoe Donner experience localized damage, including hillside erosion, minor property damage from water intrusion into structures, and roadway damage. This damage disrupts access to homes and contributes to sediment discharge into Trout Creek and Alder Creek.	Flood	X	

5.7 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.

5.7.1 Past Mitigation Action Status

Table 5-17 indicates progress on the Town's mitigation strategy identified in the 2017 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 5-17. STATUS OF PREVIOUS MITIGATION ACTIONS

A1—Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	
Hazards Addressed	All Hazards
Responsible Party	Town of Truckee Planning Department
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	N/A – Action complete
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This action has been completed.
A2—Countywide, multi-agency exercises, training	
Hazards Addressed	Emergency Services/Mult-Hazard
Responsible Party	Nevada County Office of Emergency Services
Action Review	
Status	Ongoing Capability
Progress, or obstacles that have prevented implementation	
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	We continue to do this on a regular basis. Ongoing Capability

A3—Brushing and Debris Chipping	
Hazards Addressed	Multi-Hazard
Responsible Party	Town of Truckee Public Works
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Workload capacity and funding limitations.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	
If discontinue, explain why	
A4—Conduct URM inventories and identify retrofit projects	
Hazards Addressed	Earthquake
Responsible Party	Town of Truckee Community Development Division and Engineering
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	No funding / workload capacity for previous HMP.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Needs to be completed in 2024 HMP cycle.
If discontinue, explain why	
A5—Identify solutions to I-80 Gridlock	
Hazards Addressed	Freeze, Cold and Snow
Responsible Party	Truckee Police Department
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	We continue to work on this; however it will likely get wrapped up into the other hazards as more of an evacuation issue.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep wording, specific task.
If discontinue, explain why	

A6—Public Outreach/Preparedness	
Hazards Addressed	Freeze, Cold and Snow/Multi-Hazard
Responsible Party	Local Faith-Based Organizations and other Non-Governmental Organizations (NGO's)
Action Review	
Status	Ongoing Capability
Progress, or obstacles that have prevented implementation	
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	We continue to work on this realizing studies locally have shown average nightly stays are 2-3 nights for visitors meaning we need to continue this outreach on an almost constant basis. Ongoing Capability
A7—Cold Stream/Donner Creek/Donner Pass Rd Bridge Intersection	
Hazards Addressed	Flood
Responsible Party	Town of Truckee Community Development Division and Engineering
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	N/A- Action Complete
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This action has been completed.
A8—Trout Creek Restoration, Reach 4 & 5	
Hazards Addressed	Roadside debris for fire, drainage, and snow removal mitigation
Responsible Party	Town of Truckee Public Works
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	N/A- Action Complete
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This action has been completed.



A9—South Shore Drainage	
Hazards Addressed	Roadside debris for fire, drainage, and snow removal mitigation
Responsible Party	Town of Truckee Public Works
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	Addressed/combined in other action item (A10)
A10—Donner Lake Area Stormwater Infrastructure Improvements	
Hazards Addressed	Localized Flooding
Responsible Party	Town of Truckee Engineering and Public Works
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	A task force has been formed to look at address issues within Town limits. Additionally, there are issues just outside of Town limits (interstate 80 and hillsides) that are not within Town limits that cannot necessarily be controlled.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Revise to read: Donner Lake Area Erosion Control and Stormwater Infrastructure Improvement Projects.
If discontinue, explain why	
A11—Glenshire Area Stormwater Infrastructure Improvements	
Hazards Addressed	Localized Flooding
Responsible Party	Town of Truckee Engineering and Public Works
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	Workload capacity and funding limitations.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep wording, specific to task.
If discontinue, explain why	

A12—Sierra Meadows (Old Mill Rd.) Stormwater Infrastructure / Tahoe Donner Stormwater Infrastructure Improvements	
Hazards Addressed	Localized Flooding
Responsible Party	Town of Truckee Engineering and Public Works
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	Workload capacity and funding limitations.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Merge under stormwater drainage improvements.
If discontinue, explain why	
A13—Tahoe Donner Fuel Break Projects	
Hazards Addressed	Wildfire
Responsible Party	Tahoe Donner Homeowners Association
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	This will need to be a continued effort as the areas that have been treated grow back and new property is added to their portfolio.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep wording, specific to task.
If discontinue, explain why	
A14—Tahoe Truckee Airport Fuel Break Projects (Waddle Ranch Property)	
Hazards Addressed	Wildfire
Responsible Party	Truckee Tahoe Airport District (TTAD)
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	There still remains new and ongoing work to be done.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep wording, project still specific to Waddle Ranch.
If discontinue, explain why	



A15—CWPP Project Implementation	
Hazards Addressed	Wildfire
Responsible Party	Truckee Fire
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	The CWPP for the TFPD is in the process of being updated. Projects that existed before are being redone and prioritized based on new and updated data. We will likely find new projects based the updated CWPP.
If discontinue, explain why	The CWPP is being updated. No new projects have been identified at this time.
A16—Defensible Space Projects	
Hazards Addressed	Wildfire
Responsible Party	Truckee Fire
Action Review	
Status	Ongoing Capability
Progress, or obstacles that have prevented implementation	
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This was designed as a place holder for potential future projects. Based on updated HMP guidelines, projects in this area will likely be refined as new projects going forward.

5.7.2 Additional Mitigation Efforts

Truckee has not undertaken any mitigation efforts since the last HMP other than the mitigation actions from the previous plan.

5.7.3 Proposed Hazard Mitigation Actions for the HMP Update

The action worksheets included at the end of this annex list the mitigation actions that Truckee 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 5-18 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.

Volume I identifies 14 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 (-1, 0, or 1) for each of the evaluation criteria. Table 5-19 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

TABLE 5-18. ANALYSIS OF MITIGATION ACTIONS BY HAZARD AND CATEGORY

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Avalanche	X				X					X
Dam Failure	X				X					X
Drought	X				X					X
Earthquake	X	X			X					X
Extreme Cold	X			X	X					X
Extreme Heat	X				X					X
Flood	X	X	X		X	X		X		X
Hazardous Materials Release	X				X					X
Landslide	X				X					X
Wildfire	X		X		X			X		X
Winter Storm	X	X	X	X	X	X		X		X
Volcano	X				X					X

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 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 and Firewise Communities

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 citizens, 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

TABLE 5-19. SUMMARY OF PRIORITIZATION OF ACTIONS

Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2024-Truckee-01	Repetitive Loss Mitigation	1	1	1	0	0	0	1	1	1	0	1	0	0	1	8	Medium
2024-Truckee-02	Substantial Damage Management Plan	1	1	1	0	0	0	1	1	1	1	1	0	1	1	10	Medium
2024-Truckee-03	Roadway Vegetation Management	1	1	1	0	0	0	1	1	1	1	1	0	1	0	9	Medium
2024-Truckee-04	Conduct URM Inventories and Identify Retrofit Projects	1	1	1	0	0	0	1	1	1	0	1	0	1	0	8	Medium
2024-Truckee-05	Identify Solutions to I-80 Gridlock	1	0	1	0	1	1	0	1	1	1	1	0	1	0	9	Medium
2024-Truckee-06	Donner Lake Area Erosion Control and Stormwater Infrastructure Improvement Projects	1	1	1	0	0	0	1	1	1	0	1	0	1	1	9	Medium
2024-Truckee-07	Glenshite Area Stormwater Infrastructure Improvements	1	1	1	0	0	0	1	1	1	0	1	0	1	1	9	Medium
2024-Truckee-08	Tahoe Donner Fuel Break Projects	1	1	1	0	0	0	1	1	1	1	1	0	1	1	10	Medium
2024-Truckee-09	Trout Creek Restoration Reach 1, Phase 2	1	1	1	0	0	0	1	1	1	0	1	0	1	1	9	Medium



Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2024-Truckee-10	Public Service Center Transit Facility Expansion	1	0	1	0	0	0	0	1	1	0	1	0	1	0	6	Low
2024-Truckee-11	Public Service Center Vehicle Garages	1	0	1	0	0	0	0	1	1	0	1	0	1	0	6	Low
2024-Truckee-12	Stormwater Drainage Improvements	1	1	1	0	0	0	1	1	1	0	1	0	1	1	9	Medium
2024-Truckee-13	Evacuation Vulnerability, Risk, and Strengthening Assessment	1	1	1	1	1	0	0	1	1	1	1	0	1	1	11	High
2024-Truckee-14	Sierra Meadows (Old Mill Rd.) Stormwater Infrastructure Improvements	1	1	1	0	0	0	1	1	1	0	1	0	1	1	9	Medium
2024-Truckee-15	Tahoe Donner Stormwater Infrastructure Improvements	1	1	1	0	0	0	1	1	1	0	1	0	1	1	9	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



2024-TRUCKEE-01. REPETITIVE LOSS MITIGATION

Lead Agency:	Community Development Department
Supporting Agencies:	Private homeowners
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Frequent flooding events have resulted in damages to residential properties. These properties have been repetitively flooded as documented by paid NFIP claims. The Town of Truckee has 1 repetitive loss property, but other properties may be impacted by flooding as well.
Description of the Solution:	Conduct outreach to 10 flood-prone property owners, including repetitive loss/severe repetitive loss property owners and provide information on mitigation alternatives. After preferred mitigation measures are identified, collect required property-owner information, and develop a FEMA grant application and BCA to obtain funding to implement acquisition/purchase/moving/elevating residential homes in the flood prone areas that experience frequent flooding (high risk areas).
Estimated Cost:	High
Potential Funding Sources:	BRIC, FMA, HMGP, match from property owners
Implementation Timeline:	Within 5 years
Goals Met:	6, 10
Benefits:	Eliminates flood damage to homes and residences, which 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	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-TRUCKEE-02. SUBSTANTIAL DAMAGE MANAGEMENT PLAN

Lead Agency:	Town of Truckee Planning Department
Supporting Agencies:	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Extreme Heat <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>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. After any disaster event, they must:</p> <ul style="list-style-type: none"> • Determine where the damage occurred within the community and if the damaged structures are in an SFHA. • Determine what to use for “market value” and cost to repair; uniformly applying regulations will protect against liability and promote equitable administration. • Determine if repairing plus improving the damaged structure equals or exceeds 50% of the structure’s pre-damage value. • Require permits for floodplain development. <p>The Town of Truckee 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 Town of Truckee is in need of a formal process and plan to provide a framework for conducting such inspections and determinations. Such a plan will enable the City to assist property owners to implement mitigation measures or construction techniques that reduce the future risk to physical property damage caused by avalanches, dam failures, drought, flooding, earthquakes, extreme cold and heat events, hazardous materials releases, landslides, wildfires, winter storms and volcano events.</p>
Description of the Solution:	<p>The Town of Truckee will develop a Substantial Damage Management Plan, following the six step planning process in 2021 <i>Developing a Substantial Damage Management Plan</i> (https://crsresources.org/files/500/developing_subst_damage_mgmt_plan.pdf). This plan will outline responsibilities for Substantial Damage determinations, determining market value, and permit approval processes following a disaster event.</p>
Estimated Cost:	Low
Potential Funding Sources:	General Fund
Implementation Timeline:	Within 5 years
Goals Met:	1,2,3,4,5,6,7,8,9,10
Benefits:	This plan will provide a process in making Substantial Damage Determinations and allow the municipality to make these determinations and meet NFIP requirements more quickly.



Impact on Socially Vulnerable Populations:	Substantially damaged structures are required to be rebuilt to be compliant with current codes. Socially vulnerable populations may not have the financial means to make these improvements. This action may allow for the identification of potential resources to address substantial damages to structures owned by socially vulnerable populations.		
Impact on Future Development:	A Substantial Damage Management Plan would include all existing, current, and future development in the municipality.		
Impact on Critical Facilities/Lifelines:	A Substantial Damage Management Plan would include all critical facilities and lifelines in the municipality.		
Impact on Capabilities:	This action improves disaster recovery capabilities.		
Climate Change Considerations:	Climate change is likely to increase the intensity and frequency of many climate related disaster events. This action provides additional planning for disaster recovery.		
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



2024-TRUCKEE-03. ROADWAY VEGETATION MANAGEMENT

Lead Agency:	Town of Truckee Public Works	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Town of Truckee is responsible for maintaining approximately 150 miles of roadway. Among these, about 30 miles of roadway require maintenance to clear debris from the areas adjacent to the roadways. These specific areas have been identified as "Fuel Modifications Zones" according to the Nevada County and Town of Truckee Standard Specifications. Excessive vegetation can elevate the risk for erosion or structural damage when flooding or winter storms occur and also can become wildfire fuel, should one ignite.</p>	
Description of the Solution:	The Town of Truckee Public Works will remove and collect debris within the ditches and right of way.	
Estimated Cost:	High	
Potential Funding Sources:	General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	2, 3, 6, 7, 8, 9	
Benefits:	<p>By maintaining the approximately 30 miles of roadway in the Town of Truckee, the project ensures an additional layer of safety for hundreds of homes. Specifically, it mitigates the risk of roadside ignition fires, potentially safeguarding an average of three homes from fire hazards.</p>	
Impact on Socially Vulnerable Populations:	<p>By removing hazardous debris, this project prioritizes the safety of socially vulnerable populations by reducing the risks of natural hazards.</p>	
Impact on Future Development:	<p>Clearing debris contributes to sustainable development. It ensures safer neighborhoods and encourages investment in areas where fire risk is minimized.</p>	
Impact on Critical Facilities/Lifelines:	<p>Unobstructed paths for natural drainage protect critical lifelines. Emergency response routes remain accessible, even during adverse conditions.</p>	
Impact on Capabilities:	<p>This project strengthens the Town's resilience. By reducing fire fuel on Open Space Parcels, it enhances our ability to safeguard communities and maintain essential services.</p>	
Climate Change Considerations:	<p>Climate change can lead to intense wildfires and rain conditions. This project can help mitigate the risk of fire spreading and flooding to communities.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-TRUCKEE-04. CONDUCT URM INVENTORIES AND IDENTIFY RETROFIT PROJECTS

Lead Agency:	Town of Truckee Community Development Division and Engineering	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat <input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	The downtown core historical district area in Truckee contains predominantly wood frame construction or newer concrete commercial buildings. However, there is a possibility that several Unreinforced Masonry (URM) buildings exist, which pose a hazard during earthquakes due to their structural vulnerability.	
Description of the Solution:	The Town of Truckee Community Development Division and Engineering will conduct a survey and inventory of any URM buildings in the Town.	
Estimated Cost:	High	
Potential Funding Sources:	General Fund, local bond measures	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,6,7,8	
Benefits:	By addressing URM buildings, the project aims to reduce the risk of property loss and mitigate potential business revenue losses in the downtown core historical district.	
Impact on Socially Vulnerable Populations:	By retrofitting or replacing URM buildings, the safety and well-being of residents, workers, and visitors in the area are enhanced.	
Impact on Future Development:	The preservation of historic structures can be balanced with modern safety standards, allowing for sustainable growth.	
Impact on Critical Facilities/Lifelines:	A retrofitted structure will provide a safe and secure location for first responders and emergency management to stage resources and plan response tactics during high wind events.	
Impact on Capabilities:	The Town's resilience will increase as it becomes better prepared for earthquakes.	
Climate Change Considerations:	Climate change can lead to increased seismic activity due to shifts in tectonic plates and geological processes.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-TRUCKEE-05. IDENTIFY SOLUTIONS TO I-80 GRIDLOCK

Lead Agency:	Town of Truckee Police Department	
Supporting Agencies:	Cal-Trans, CHP	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Town of Truckee, known for its extreme cold and heavy snowfall, faces blizzard-like conditions. The town hosts a major Interstate freeway, where over 2,500 vehicles travel during peak hours. Closure of the freeway results in significant commerce losses (over \$1,000,000.00 per hour). Despite Cal-Trans' efforts, independent truckers and small companies persistently enter the area during closures, causing gridlock. Regular vehicle traffic also attempts risky crossings, leading to search and rescue operations.</p>	
Description of the Solution:	<p>The Town of Truckee Police Department will conduct community surveys and stakeholder meetings to identify potential solutions and alternative routes when I-80 closes over Donner Summit during extreme weather conditions.</p>	
Estimated Cost:	Medium	
Potential Funding Sources:	General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,6,7,8,9,10	
Benefits:	<p>Addressing long-duration Interstate closures directly impacts commerce by preventing potential losses of approximately \$1,000,000.00 per hour. By identifying alternative solutions and workarounds during closures, the Town can mitigate these economic effects and enhance overall community resilience.</p>	
Impact on Socially Vulnerable Populations:	<p>Community surveys and stakeholder meetings involve local residents, including vulnerable populations, to consider their needs and safety concerns. Valuable insights from individuals with mobility challenges or limited resources enhance emergency preparedness.</p>	
Impact on Future Development:	<p>A resilient transportation system contributes to sustainable growth and economic vitality.</p>	
Impact on Critical Facilities/Lifelines:	<p>Emergency services can continue during I-80 closures using alternative routes.</p>	
Impact on Capabilities:	<p>Engaging with stakeholders fosters collaboration, allowing for better decision-making and resource allocation during closures.</p>	
Climate Change Considerations:	<p>The project must consider climate resilience when planning alternative routes, accounting for changing weather patterns.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)



CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	



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2024-TRUCKEE-06. DONNER LAKE AREA EROSION CONTROL AND STORMWATER INFRASTRUCTURE IMPROVEMENT PROJECTS

Lead Agency:	Town of Truckee Engineering and Public Works	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>During storm events, various areas around Donner Lake suffer localized damage, including hillside erosion, minor property damage from water intrusion into structures, and sediment loading into drainages that ultimately reaches Donner Lake. A task force has been established to address issues within Town limits, but challenges remain for areas just outside the Town limits (such as Interstate 80 and hillsides) that are beyond direct control.</p>	
Description of the Solution:	<p>The Town of Truckee Engineering and Public Works will repair and enhance existing stormwater infrastructure. Improvements will prevent road damage, prevent sediment discharge into Donner Lake, and allow uninterrupted access to homes and businesses.</p>	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,6,7,8,9	
Benefits:	<p>This project will provide flood protection for town roads and private properties.</p>	
Impact on Socially Vulnerable Populations:	<p>Residents, especially those with limited resources, will experience improved safety during storm events.</p>	
Impact on Future Development:	<p>Reliable infrastructure encourages future development and investment in the area.</p>	
Impact on Critical Facilities/Lifelines:	<p>Preventing road damage ensures uninterrupted access to homes, businesses, and emergency services.</p>	
Impact on Capabilities:	<p>The project enhances the town's ability to withstand extreme weather events.</p>	
Climate Change Considerations:	<p>Climate change is likely to result in more frequent and severe rainfall events. This action addresses upgrades needed to meet changing stormwater needs as the result of climate change.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-TRUCKEE-07. GLENSHIRE AREA STORMWATER INFRASTRUCTURE IMPROVEMENTS

Lead Agency:	Town of Truckee Engineering and Public Works	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Flood <input type="checkbox"/> Dam Failure <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Drought <input type="checkbox"/> Landslide <input type="checkbox"/> Earthquake <input type="checkbox"/> Wildfire <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Winter Storms <input type="checkbox"/> Extreme Heat <input type="checkbox"/> Volcano	
Description of the Problem:	During storm events, areas around Glenshire, especially those near greenbelts, suffer localized damage. This includes minor property damage due to water intrusion into structures and roadway damage.	
Description of the Solution:	The Town of Truckee Engineering and Public Works will repair and enhance existing stormwater infrastructure. Improvements will prevent road and private property damages and allow uninterrupted access to homes.	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,6,7,8,9	
Benefits:	This project will increase flood protection for town roads and private properties, creating a more resilient community.	
Impact on Socially Vulnerable Populations:	Improved stormwater management ensures the well-being of socially vulnerable populations during extreme weather events.	
Impact on Future Development:	Reliable infrastructure encourages future development and investment in the area.	
Impact on Critical Facilities/Lifelines:	Preventing road damage ensures uninterrupted access to homes, businesses, and emergency services.	
Impact on Capabilities:	By preventing road damage and localized flooding, this project will enhance community resilience.	
Climate Change Considerations:	Given the likelihood of more frequent and severe rainfall events due to climate change, this project's infrastructure upgrades will effectively address the changing stormwater requirements.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-TRUCKEE-08. TAHOE DONNER FUEL BREAK PROJECTS

Lead Agency:	Tahoe Donner Homeowners Association	
Supporting Agencies:	Truckee Fire Protection District	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Tahoe Donner Homeowners Association is one of the largest in the nation representing over 6,000 residential properties. Several historical fires have either threatened or burned through the land that the HOA occupies. Additionally, only two exit routes exist for the HOA, presenting evacuation challenges should a fire impact the area.</p>	
Description of the Solution:	Construct robust fuel breaks to limit or slow the spread of an encroaching wildfire, with a focus on the western portion of the HOA due to prevailing wind direction and historical fire spread.	
Estimated Cost:	Medium	
Potential Funding Sources:	BRIC, HMGP, Tahoe Donner Homeowners Association Funding	
Implementation Timeline:	Within 5 years	
Goals Met:	2,3,5,6,7,8,9	
Benefits:	<p>By creating fuel breaks within and adjacent to the Tahoe Donner HOA in the Town of Truckee, the project ensures an additional layer of safety for thousands of homes. Specifically, it mitigates the risk of an external fire spreading to the Town.</p>	
Impact on Socially Vulnerable Populations:	Improved protection from wildfire increases the well-being of socially vulnerable populations during wildfires.	
Impact on Future Development:	Improved protection from wildfires encourages future development and investment in the area and can improve insurability challenges.	
Impact on Critical Facilities/Lifelines:	<p>Several critical facilities are located within Tahoe Donner, and the action will limit the impact a wildfire can have on these facilities. A fire spreading through Tahoe Donner could result in an impact to critical facilities and lifelines located to the east of the HOA.</p>	
Impact on Capabilities:	<p>By creating fuel breaks within and adjacent to the Tahoe Donner HOA in the Town of Truckee, the project ensures an additional layer of safety for thousands of homes. Specifically, it mitigates the risk of an external fire spreading to the Town.</p>	
Climate Change Considerations:	Climate change can lead to intense wildfires conditions. This project can help mitigate the risk of fire spreading to communities.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-TRUCKEE-09. TROUT CREEK RESTORATION REACH 1, PHASE 2

Lead Agency:	Town of Truckee Public Works Engineering Division	
Supporting Agencies:		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Trout Creek is a major drainage (blue line stream) through central Truckee. The watershed has been highly developed, and the stream channel has been altered and impacted by the development. The alteration has increased flooding potential and decreased the natural ability of the stream system to carry storm event flows.	
Description of the Solution:	The Town of Truckee Public Works Engineering Division will widen, deepen, and restore Trout Creek between Phase 1 of Reach 1 east of School Street to north of Jibboom Street. This project includes replacement of 2 bridges and would restore the ecological function of the creek in addition to improving flood control (the 100 year storm current overtops the southern banks of the creek).	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, Local Funding, Developer Funding	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,6,7,8,9	
Benefits:	The Trout Creek project benefits the community by safeguarding lives, supporting development, and enhancing the town's overall capabilities.	
Impact on Socially Vulnerable Populations:	By improving flood control, the project reduces the risk of flooding in residential areas, benefiting vulnerable populations.	
Impact on Future Development:	Ecological restoration contributes to a sustainable and attractive community, which can attract investment and development.	
Impact on Critical Facilities/Lifelines:	Flood control measures protect critical infrastructure (roads, utilities, etc.) during extreme weather events.	
Impact on Capabilities:	A well-functioning creek system enhances the town's resilience against natural disasters.	
Climate Change Considerations:	Rising temperatures and extreme weather events impact infrastructure durability.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-TRUCKEE-10. PUBLIC SERVICE CENTER TRANSIT FACILITY EXPANSION

Lead Agency:	Town of Truckee Department of Public Works Transportation Division	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Address the challenges arising from increased transit usage and ridership in the Town, which reduces reliance on personal vehicles. The need for maintenance and storage space applies to both the current transit fleet and future expansion. Additionally, the inclusion of electric charging infrastructure is essential for transitioning the Town's transit fleet from fossil fuel to clean electric power. Furthermore, indoor storage facilities are necessary to improve vehicle longevity, provide sheltered servicing, and eliminate the need to retrieve vehicles from outdoor storage during storm events. Ensuring readiness for emergency deployment during evacuations is a critical consideration.</p>	
Description of the Solution:	<p>Town of Truckee Department of Public Works Transportation Division will implement this project through a strategic approach that addresses facility planning and construction of the storage facility and electric charging infrastructure.</p>	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, Local Funding	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,8	
Benefits:	<p>The coordinated efforts of the Transportation Division for this project will enhance transit operations, promote sustainability, and contribute to community safety.</p>	
Impact on Socially Vulnerable Populations:	<p>Reduced reliance on personal vehicles ensures that all residents, including those with limited mobility, have access to essential services.</p>	
Impact on Future Development:	<p>Adequate maintenance and storage facilities support future expansion of the transit fleet.</p>	
Impact on Critical Facilities/Lifelines:	<p>Indoor storage ensures that transit vehicles remain operational during storms or other emergencies.</p>	
Impact on Capabilities:	<p>Electric charging infrastructure reduces reliance on fossil fuels, benefiting both the environment and the community.</p>	
Climate Change Considerations:	<p>The increasing frequency and intensity of storms due to climate change highlights the importance of indoor storage facilities for vehicles. These facilities ensure that transit vehicles remain ready for deployment during emergencies.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)



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CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Low	

2024-TRUCKEE-11. PUBLIC SERVICE CENTER VEHICLE GARAGES

Lead Agency:	Town of Truckee Department of Public Works Engineering Division	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The Public Service Center on Stevens Lane needs additional equipment and vehicle storage garages for Public Works vehicles to ensure they are operational and accessible during winter storms.	
Description of the Solution:	Construct additional equipment and vehicle storage garages on the Public Service Center property on Stevens Lane. Additional storage for the Public Works maintenance vehicles will improve service and cost savings will result in less staff time removing snow from parked vehicles (greatly improving the readiness of the fleet) and reduce maintenance delays and repair costs associated with vehicles being parked outside.	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, Local Funding	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,8	
Benefits:	This improvement benefits Public Works maintenance vehicles by enhancing service efficiency, reducing snow removal time, and minimizing maintenance delays and repair costs associated with outdoor parking.	
Impact on Socially Vulnerable Populations:	Minimized maintenance delays and repair costs mean more reliable services, benefiting vulnerable residents.	
Impact on Future Development:	The new garages ensure that maintenance vehicles are well-maintained and ready for service. This supports future development by providing reliable equipment.	
Impact on Critical Facilities/Lifelines:	A readily available fleet improves emergency response capabilities. During crises, quick deployment of maintenance vehicles is essential.	
Impact on Capabilities:	Maintenance delays are reduced, ensuring smoother operations and better service delivery.	
Climate Change Considerations:	This project will consider the potential impact of climate change on snowfall amounts and resulting delays.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Low	



2024-TRUCKEE-12. STORMWATER DRAINAGE IMPROVEMENTS

Lead Agency:	Town of Truckee Department of Public Works Engineering Division	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Identify and address insufficient stormwater drains that struggle to handle heavy rainfall or runoff due to poor drainage. The consequences include flooding, property damage, and safety hazards.	
Description of the Solution:	Town of Truckee Department of Public Works Engineering Division, on an annual basis, evaluate and repair or enhance various stormwater infrastructure throughout the Town to improve drainage and flood attenuation and treatment.	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, Local Funding	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,6,7,8,9	
Benefits:	Reduction in flood risk, stormwater flood damage, maintains emergency access.	
Impact on Socially Vulnerable Populations:	Improved drainage reduces localized flooding, benefiting vulnerable residents.	
Impact on Future Development:	Upgraded infrastructure supports long-term development by mitigating flood risks.	
Impact on Critical Facilities/Lifelines:	Effective stormwater management ensures readiness during extreme weather events.	
Impact on Capabilities:	The project contributes to community resilience, economic prosperity, and the well-being of residents by addressing stormwater challenges.	
Climate Change Considerations:	Climate change leads to more intense rainfall events. The project must account for this by designing robust drainage systems capable of handling higher volumes of water.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-TRUCKEE-13. EVACUATION VULNERABILITY, RISK, AND STRENGTHENING ASSESSMENT

Lead Agency:	Town of Truckee	
Supporting Agencies:	Truckee Fire Protection District	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Town of Truckee, like many California communities with wildland-urban-interface and intermix, faces the threat of a fast-moving wildfire impacting the built environment and the challenge of evacuating residents and visitors from the threat. As a result, recent state legislation has required local governments to (1) identify residential developments in Very High Fire Hazard Severity Zones that do not have at least two emergency evacuation routes and develop feasible mitigation strategies, which may include alternative methods of evacuation, and (2) Identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios, and identify existing roadways used as evacuation routes that are not compliant with current Fire Safe Regulations (14 CCR § 1270.00) for roadway standards and develop a plan to bring those roadways into conformance. The town has not completed a thorough vulnerability, risk, and strengthening assessment for evacuations which is needed to improve public safety and meet legislative requirements.</p>	
Description of the Solution:	Conduct a town-wide Evacuation Vulnerability, Risk, and Strengthening Assessment to identify existing barriers and strategies to mitigate identified vulnerabilities and risks.	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, Local Budget, Homeowner Association Funding	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,4,5,6,7,8,9,10	
Benefits:	Improved public safety by identifying feasible evacuation-strengthening strategies that can later be implemented.	
Impact on Socially Vulnerable Populations:	Vulnerable Populations are often most at risk during large-scale evacuations. This assessment will also prioritize socially vulnerable populations including those with access and functional needs.	
Impact on Future Development:	Improved evacuation capabilities will encourage future development and investments.	
Impact on Critical Facilities/Lifelines:	Improved evacuation capabilities will allow for improved access for emergency response resources used to protect both critical infrastructure and community lifelines.	
Impact on Capabilities:	This project will improve the Town's ability to safely and efficiently evacuate populations out of harm's way, while simultaneously improve access for emergency response resources used to address the hazard.	
Climate Change Considerations:	Climate change can lead to intense wildfires conditions. This project can help mitigate the life threat that wildfires can pose to populated residential areas.	



Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	



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2024-TRUCKEE-14. SIERRA MEADOWS (OLD MILL RD.) STORMWATER INFRASTRUCTURE IMPROVEMENTS

Lead Agency:	Town of Truckee Engineering and Public Works	
Supporting Agencies:	Truckee Fire Protection District	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Dam Failure <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Drought <input type="checkbox"/> Landslide <input type="checkbox"/> Earthquake <input type="checkbox"/> Wildfire <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Winter Storms <input type="checkbox"/> Extreme Heat <input type="checkbox"/> Volcano	
Description of the Problem:	During storm events, areas around Sierra Meadows, especially on Old Mill Road, experience localized damage. This includes minor property damage from water intrusion into structures and roadway damage, disrupting access to homes.	
Description of the Solution:	Repair, restore, and enhance the existing stormwater infrastructure to prevent road and private property damage. These improvements will ensure uninterrupted access to homes during storm events.	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, BRIC, Facility Impact Fees	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,6,7,8,9	
Benefits:	This project will provide flood protection for town roads and private properties.	
Impact on Socially Vulnerable Populations:	Residents, especially those with limited resources, will experience improved safety during storm events.	
Impact on Future Development:	Reliable infrastructure encourages future development and investment in the area.	
Impact on Critical Facilities/Lifelines:	Preventing road damage ensures uninterrupted access to homes, businesses, and emergency services.	
Impact on Capabilities:	The project enhances the town's ability to withstand extreme weather events.	
Climate Change Considerations:	Climate change is likely to result in more frequent and severe rainfall events. This action addresses upgrades needed to meet changing stormwater needs as the result of climate change.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-TRUCKEE-15. TAHOE DONNER STORMWATER INFRASTRUCTURE IMPROVEMENTS

Lead Agency:	Town of Truckee Engineering and Public Works	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	During storm events, many areas around Tahoe Donner experience localized damage, including hillside erosion, minor property damage from water intrusion into structures, and roadway damage. This damage disrupts access to homes and contributes to sediment discharge into Trout Creek and Alder Creek.	
Description of the Solution:	Repair and enhance the existing stormwater infrastructure to prevent road damage, hillside erosion, and sediment discharge into Trout Creek and Alder Creek. These improvements will ensure uninterrupted access to homes during storm events.	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, BRIC, Stormwater Prop 1	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,6,7,8,9	
Benefits:	This project will increase flood protection for town roads and private properties, creating a more resilient community.	
Impact on Socially Vulnerable Populations:	Improved stormwater management ensures the well-being of socially vulnerable populations during extreme weather events.	
Impact on Future Development:	Reliable infrastructure encourages future development and investment in the area.	
Impact on Critical Facilities/Lifelines:	Preventing road damage ensures uninterrupted access to homes, businesses, and emergency services.	
Impact on Capabilities:	By preventing road damage and localized flooding, this project will enhance community resilience.	
Climate Change Considerations:	Given the likelihood of more frequent and severe rainfall events due to climate change, this project's infrastructure upgrades will effectively address the changing stormwater requirements.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



6. Nevada Irrigation District Annex

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

This annex is part of a multi-jurisdictional HMP that was developed to meet plan participation requirements for all participating jurisdictions while accommodating their specific needs and limitations. Because many participants are rural agencies with limited staff, the planning process included establishing a Steering Committee and engaging a contract consultant to work with Nevada County in undertaking certain elements of the plan update on behalf of the jurisdictions. These elements included outreach to stakeholders and the public, risk assessment for all countywide hazards of concern, initial ranking of hazard risks, updates of hazard mitigation goals and objectives, and establishment of procedures for implementing and maintaining the HMP. This annex presents only the information specific to NID as a participating jurisdiction. All other plan elements are included in Volume I and are referenced in this annex as appropriate.

6.1 Hazard Mitigation Planning Team

The NID identified the hazard mitigation plan (HMP) primary and alternate points of contact and developed this plan over the course of several months with input from many District departments, including water operations, maintenance, hydroelectric and recreation departments. The Assistant General Manager represented the community on the Nevada County Hazard Mitigation Plan Planning Partnership, Steering Committee, and supported the local planning process requirements 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.

Table 6-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.



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TABLE 6-1. HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact	Alternate Point of Contact
Name/Title: Greg Jones, Assistant General Manager Address: 1036 West Main Street, Grass Valley, CA 95945 Phone Number: (530) 271-6826 Email: jonesg@nidwater.com	Name/Title: Chip Close, Director of Water Operations Address: 1036 West Main Street, Grass Valley, CA 95945 Phone Number: (530) 271-6741 Email: close@nidwater.com
Contributions to the Annex	
Name/Title: Greg Jones, Assistance General Manager Method of Participation: Provided updated information on hazard events, capabilities, and mitigation actions.	
Name/Title: Chip Close, Director of Water Operations Method of Participation: Provided updated information on hazard events, capabilities, and mitigation actions.	
Name/Title: Monica Reyes, Director of Recreation Method of Participation: Provided updated information on hazard events, capabilities, and mitigation actions.	
Name/Title: Doug Roderick, Director of Engineering Method of Participation: Provided updated information on hazard events, capabilities, and mitigation actions	
Name/Title: Jennifer Hanson, General Manager Method of Participation: Provided updated information on hazard events, capabilities, and mitigation actions	

6.2 Community Profile

Formed in 1921, the Nevada Irrigation District (NID) is a diversified water resource agency that supplies over 28,000 homes, farms, and businesses in Nevada, Placer and Yuba Counties in the foothills of Northern California's Sierra Nevada Mountains. NID provides service in an expansive geographic area covering 287,000 acres that makes the District one of the largest in the State of California (NID 2024).

The District is organized primarily to supply water for irrigation, municipal, domestic, industrial, and hydroelectric purposes. The District owns land and/or has water rights over a considerable amount of area in the upper Sierra elevations, including approximately 44,600 acres of high mountain watershed in Nevada and Sierra Counties. NID collects water from the mountain snowpack and stores it in an extensive system of storage reservoirs. NID has seven upper elevation and three lower elevation reservoirs. Water flows to customers in the foothills through approximately 475 miles of raw water canals and approximately 400 miles of distribution pipeline. Along the path, NID utilizes water to generate clean hydroelectric energy and to provide public recreational opportunities at NIDs multiple reservoirs and campgrounds.

The highest elevation on NID mountain watershed is the peak of 8,373-foot English Mountain which rises east of Bowman Reservoir. The District's highest reservoir is French Lake at 6,835 feet. The District's lowest elevation water service is located about 100 miles to the southwest, at 150 feet above sea level, south of Lincoln in Placer County.

NID has precipitation records for Bowman Reservoir (elev. 5,650 ft.) dating back to 1929. The 69.2-inch annual average precipitation at Bowman compares to an annual average of 56 inches at 2,700 feet near Nevada City and 52 inches at 2,400 feet in Grass Valley.



6.3 Jurisdictional Capability Assessment and Integration

NID 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 their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for NID to identify opportunities for integrating mitigation concepts into ongoing District procedures.

6.3.1 Planning and Regulatory Capability

Table 6-2 summarizes the planning and regulatory tools that are available to NID. As a special district, NID does not have planning and regulatory capabilities. Construction and development in the District are subject to the building codes, planning and land use regulation, and development standards of the County or municipality where they occur.

6.3.2 Integration

Table 6-2 describes how some local planning mechanisms have been integrated into this HMP and how information from this HMP can be integrated into these mechanisms when they are updated in the future. Procedures for this future integration are outlined in Section 21.2.2 of Volume I of this HMP. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings are as follows:

- Using HMP hazard assessment data and action item information for potential emergency plans and annex updates or emergency response plans
- Incorporating hazard information, such as drought data, to potentially review and update District policies and practices
- Utilizing hazard analyses for future plan development or district annexation
- Updating capital improvement or strategic plans or water usage management plan based on listed mitigation action items



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TABLE 6-2. PLANNING AND REGULATORY CAPABILITY

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
CODES, ORDINANCES, & REGULATIONS				
Building Code	N/A	-	-	-
Zoning/Land Use Code	N/A	-	-	-
Subdivision Code	N/A	-	-	-
Site Plan Code	N/A	-	-	-
Stormwater Management Code	N/A	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>NID does have a stormwater policy which indicates it is not a stormwater agency and therefore runoff from storms which collect in open ditch canal systems have the potential to inundate the system, overtop and cause localized flooding/property damage.</p>				
Post-Disaster Recovery/Reconstruction Code	N/A	-	-	-
Real Estate Disclosure Requirements	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Growth Management	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Growth outside of and away from NID's water conveyance systems, both open irrigation canals and treated water pipelines, may continue to exacerbate lack of water for properties reliant upon wells during periods of severe drought. A growth management strategy and discussion with NID will reduce future risk to newly developed properties and those parcels' reliance on water infrastructure not associated with NID facilities.</p>				
Environmental Protection Ordinance(s)	N/A	-	-	-
Flood Damage Prevention Ordinance	N/A	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Many of NID's flooding problems are localized to individual properties and not widespread. NID does carry out annual Emergency Action Planning with local authorities and fire responders to plan for emergencies in the event of a dam failure which has the potential to cause widespread flooding regionally.</p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Wellhead Protection	N/A	-	-	-
Emergency Management Ordinance	N/A	-	-	-
Climate Change Ordinance	N/A	-	-	-
PLANNING DOCUMENTS				
General/Comprehensive Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Capital Improvement Plan	Yes	Annual and 5-Year Capital Improvement Plan	Local	Water Operations, Maintenance, Engineering, Hydroelectric Recreation
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
NID utilizes an annual and 5-year Capital Improvement Plan (CIP) for all infrastructure needs of the District-Water/Hydroelectric/Recreation. The CIP identifies infrastructure upgrades and complete overhauls for operational utilization, safety, and longevity. NID will incorporate HMP principles into the CIP to develop redundancies, efficiencies, and upgrades to its infrastructure to ensure reliability of water supply to customers.				
Disaster Debris Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
After a wildfire within a major water conveyance river or tributary, ongoing debris management is critical to the operation and maintenance of NID's treated and raw water intake facilities. A debris plan post wildfire is essential to reduce and mitigate short to long term issues in the water conveyance systems. Although NID does not have a written plan, we work to remove debris from entering conveyance systems and prepare water treatment plants for additional treatment as needed.				
Floodplain Management or Watershed Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
NID is developing a Forest Management Plan which incorporates and identifies hazards to the forested watersheds supplying water to our reservoirs and water conveyance systems. This plan is intended to inform and support NID plan and implement forest and vegetation management projects which seek to ensure safer communities, reduced wildfire risk and severity, and long-term water resource protection within NID's 70,000 acre watershed.				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Stormwater Management Plan	No	-	-	-
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Storm water is an ongoing concern for the District because District facilities are not intended to operate as a storm water conveyance system. The District owns and maintains over 450 miles of open canals that cross through and adjacent to numerous watersheds with natural and man-made water conveyance areas. District facilities are vulnerable to storm water intrusion from both natural and manmade conveyance systems. District canals and the related facilities such as culverts are designed and constructed to accommodate District managed water supplies, plus some limited intrusion flow. These facilities are not designed to accommodate the additional capacity a full watershed contributes during a storm event.				
Open Space Plan	N/A	-	-	-
Urban Water Management Plan	Yes	2020 Urban Water Management Plan	Local	Nevada Irrigation District Staff
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
Every 5 Years NID must update its UWMP. This Plan assists NID in identifying and developing strategies and capital needs to invest in reducing long-term risks associated with delivering treated water to its customers. The UWMP includes information such as a description of reliability of supplies, projected supplies, and the strategy for meeting water needs, a description of the existing and planned supply sources, estimates of past, present and projected water use, a 5-year Drought Risk Assessment, and a description of the Water Shortage Contingency Plan/Conservation Program.				
Habitat Conservation Plan	N/A	-	-	-
Economic Development Plan	N/A	-	-	-
Community Wildfire Protection Plan	No	Nevada County's Plan – 2024 Nevada County Wildfire Protection Plan	County	Nevada County OES
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i> NID is a contributing party to the County's CWPP. NID is fee owner of approximately 7,000 acres of forested woodlands throughout the county and through the Plan. NID assists in identifying opportunities and objectives for wildfire prevention through fuels reduction, hazard tree removal, thinning, etc. throughout the region and specifically on NID owned properties.				
Community Forest Management Plan	No	In Development	Local	Nevada Irrigation District Staff
<i>How has or will this be integrated with the HMP and how does this reduce risk?</i>				
NID is developing a Forest Management Plan which incorporates and identifies hazards to the forested watersheds supplying water to our reservoirs and water conveyance systems. This plan is intended to inform and support NID plan and implement forest and vegetation management projects which seek to ensure safer communities, reduced wildfire risk and severity, and long-term water resource protection within NID's 70,000 acre watershed.				
Transportation Plan	N/A	-	-	-



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Agriculture Plan	Yes	2020 Agricultural Water Management Plan (AWMP)	Local	Nevada Irrigation District Staff
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Every 5 Years NID must update its AWMP. The District maintains an active and ongoing water resources planning program. The AWMP addresses the District's water system and includes a description of the service area, water uses, water resources, and a comparison of water supply and water demands during the planning cycle (2016 through 2020). Also described are the District's water supply reliability, water use efficiency information, and drought plan. The Plan presents NID's past data and current operations, rules, and regulations as provided to develop the document.</p>				
Climate Action/Resiliency/Sustainability Plan	N/A	-	-	-
Tourism Plan	N/A	-	-	-
Business/ Downtown Development Plan	N/A	-	-	-
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	Emergency Action Plans	Local	Nevada Irrigation District Staff
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>NID operates within a number of specific water treatment plant and hydroelectric plant Emergency Action Plans specific to each facility. The purpose of an EAP is to reduce the risk of loss of life, injuries, and damage to property that could occur in the unlikely event of a failure or operational incident at one or more of the NID facilities. An NID EAP is intended to provide information and structure to assist the District and emergency responders with executing a coordinated and effective emergency response and recovery.</p>				
Continuity of Operations Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Similar to the Emergency Operations Plan above.</p>				
Substantial Damage Response Plan	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Threat & Hazard Identification & Risk Assessment (THIRA)	No	-	-	-
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				
Post-Disaster Recovery Plan	No			
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p>				



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Individual / Department / Agency Responsible
Public Health Plan	No	-	-	-

How has or will this be integrated with the HMP and how does this reduce risk?

6.3.3 Development and Permitting Capability

Table 6-3 summarizes the capabilities of NID to oversee and track development.

TABLE 6-3. DEVELOPMENT AND PERMITTING CAPABILITY

	Yes/No	Comment
Do you issue development permits?	No	Development permits are issued through local governments. Upon request for water from a developer, NID then assesses the engineering requirements of any development.
• If you issue development permits, what department is responsible?		
• If you do not issue development permits, what is your process for tracking new development?		
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 buildup in your jurisdiction.	99%	

6.3.4 Administrative and Technical Capability

Table 6-4 summarizes potential staff and personnel resources available to NID and their current responsibilities that contribute to hazard mitigation.

6.3.5 Fiscal Capability

Table 6-5 summarizes financial resources available to NID.

6.3.6 Education and Outreach Capability

Table 6-6 summarizes the education and outreach resources available to NID.

6.3.7 Community Classifications

Table 6-7 summarizes classifications for community programs available to NID.

TABLE 6-4. ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
Planning Board	No	NID has oversight from the five Board of Directors
Zoning Board of Adjustment	No	-
Planning Department	Yes	NID has an Engineering Department with 4 registered professional engineers on staff responsible for planning and development of water line extensions, water treatment plan facility upgrades, dam safety, etc.
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	Engineering Department, inclusive within are NID's Right of Way, Encroachments, Survey, Construction Inspector Divisions.
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Maintenance Department has approximately 65 staff. Maintenance provides full support to the entire NID organization, including a full level of District support in the following areas: (1) replacement and maintenance of raw water canals and siphons; (2) repair, replacement and new installation of treated water pipelines and services; and (3) repair and general upkeep of all District facilities, including offices, treatment plants, pump stations, tank sites and other associated assets.
Mutual aid agreements	Yes	As needed.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	A HR policy/employee manual does not call our or necessarily identify mitigation projects nor is there a job specific classification which is defined for this work.
Other	No	-



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	NID Departments/Divisions include Engineering, Maintenance, Water Operations, Hydroelectric, Watershed Resources, Vegetation, Customer Service.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Registered Engineers (Civil, Dam Safety, etc.), construction inspectors and maintenance facilities expertise.
Planners or engineers with an understanding of natural hazards	Yes	Engineering staff are responsible for NID's dam safety program, the capital improvement program, with special expertise in survey, engineering, and construction inspections, facilities maintenance, etc.
Staff with expertise or training in benefit/cost analysis	Yes	Engineering, Administration, Finance
Professionals trained in conducting damage assessments	Yes	Engineering, Maintenance, Water Operations, Hydroelectric, Administration
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Engineering, Hydroelectric
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	Yes	Watershed Resources, Engineering
Surveyors	Yes	One registered surveyor with two technicians.
Emergency manager	Yes	Administration typically assumes this role, however, in the case of specific emergencies it may transfer to department head with most knowledge of the incident.
Grant writers	No	Certain staff apply skills to write grants as necessary and identified. If applicable, maps from the HMP will be utilized.
Resilience Officer	No	Administration typically assumes this role.
Other (this could include stormwater engineer, environmental specialist, etc.)	-	-



TABLE 6-5. FISCAL CAPABILITIES

Financial Resources	Accessible or Eligible to Use? (Yes/No)
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	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
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])	-

TABLE 6-6. EDUCATION AND OUTREACH CAPABILITIES

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	NID does not have a PIO but has one Communication Specialist responsible for ongoing information sharing with the public. In the event of an emergency, administrative staff and/or department heads are identified as PIO.
Personnel skilled or trained in website development	Yes	NID has a website consulting firm managing and creating layout of the NID website. Communications Staff update and add content on a daily basis.
Hazard mitigation information available on your website	Yes	NID has a webpage devoted to the County Hazard Mitigation Plan of 2024.
Social media for hazard mitigation education and outreach	Yes	Facebook, Instagram, and LinkedIn
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	-

Outreach Resources	Available? (Yes/No)	Comment
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	News releases, radio advertisements, social media posts, website updates, bi-monthly public Board Meetings-

TABLE 6-7. COMMUNITY CLASSIFICATIONS

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

N/A = Not applicable

6.3.8 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 6-8 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

TABLE 6-8. ADAPTIVE CAPACITY

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Avalanche	Moderate
Dam Failure	Strong
Drought	Strong
Earthquake	Moderate
Extreme Cold	Strong
Extreme Heat	Strong



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Hazard	Adaptive Capacity - Strong/Moderate/Weak
Flood	Moderate
Hazardous Materials Release	Moderate
Landslide	Moderate
Wildfire	Moderate
Winter Storm	Moderate
Volcano	Moderate

6.4 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. NID is not responsible for permitting for new construction. Upon request for water from a developer, NID then assesses the engineering requirements of any development.

Since the approval of the last HMP, NID has not experienced any major development in hazard-prone areas. Consequently, there have been no changes that have increased or decreased the overall vulnerability of NID. Additionally, there are no anticipated developments that would impact the vulnerability in the near future. Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 6-9 and Table 6-10.

TABLE 6-9. RECENT MAJOR DEVELOPMENT AND INFRASTRUCTURE FROM 2017 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
NONE IDENTIFIED					

TABLE 6-10. 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
NONE ANTICIPATED					

6.5 Jurisdictional Risk Assessment

The risk assessment in Volume I provides information regarding the overall planning area's risks from the identified hazards, as well as preliminary hazard rankings for all participating jurisdictions. Key local risk assessment information for NID is presented below.

6.5.1 Jurisdiction-Specific Hazard Risks

Volume I of this plan describes the 12 hazards identified as presenting the greatest risk to Nevada County overall. NID identified how its local risks differ from the overall planning area based on a review of hazard events that specifically affected the District and consideration of the hazard ranking defined in Volume I. Each of these is described below.

Hazard Event History

The history of natural and non-natural hazard events in NID is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 6-11 provides details on loss and damage in NID during hazard events since the last hazard mitigation plan update.

TABLE 6-11. HAZARD EVENT HISTORY IN NID

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in NID
October 8 – October 31, 2017	Wildfires (DR-4344, FM-5271)	Yes	The 2017 California wildfire season resulted in nearly 1.6 million acres of burned land across 9,000+ wildfires. Nevada County experienced 7 wildfires during this season, with the most notable being the Lobo Fire (Wind Complex) and Pleasant Fire that burned a combined 1,000+ acres of land.	Air quality in the region topped extreme levels which required additional adaptation and mitigation efforts for field crews and office ventilation systems.
January 20, 2020 – May 11, 2023	Pandemic (DR-4482, EM-3428)	Yes	The coronavirus pandemic resulted in roughly 20,521 cases and 155 attributed deaths as of fall 2023.	Multiple levels of District-wide concern ranged from critical health & safety issues, adequate staffing for water & power delivery, staff safety, effective communications, etc. NID was successful in securing FEMA grant funding of \$168,381 for repayment of pandemic related expenses. Economic revenue impacts associated with the closure of recreation campgrounds in 2020 and 2021 were sustained.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in NID
August 14 – September 26, 2020	Wildfires (DR-4558, FM-5332)	Yes	Historic wildfires swept across the State of California in 2020, resulting in over 4.3 million acres burned across the State. In Nevada County, the Jones Fire burned 705 acres and resulted in 7 injuries to civilians and fire personnel.	Fire retardant and chemical concerns entered the main canal of the LWW WTP during fire suppression, additional supplies of treatment chemicals were purchased in anticipation of need.
July 14 – October 25, 2021	Wildfires (DR-4610)	Yes	The River Fire burned over 2,600 acres through Nevada County before being contained. At least 21 structures were damaged, 142 structures were destroyed, and 4 injuries were reported as a result of this fire.	River Fire burned approx. 300 acres of unpopulated NID-owned lands in the Bear River – In the fall of 2021 over \$500K in emergency measures included slope stabilization & dead tree removal on high-priority 80 acres were implemented, 2022 and 2023 NID implemented additional fuels management, stabilization and revegetation on the additional 220 acres; NID purchased additional log-booms for Combie Reservoir and additional water treatment chemicals at the Lake of the Pines WTP in anticipation of potential winter sediment and tree/debris flows into the river conveyance.
December 27, 2022 – January 31, 2023	Severe Storms (DR-4683)	Yes	Severe winter storms, flooding, landslides, and mudslides impacted residents and property across Nevada County.	Downed trees & vegetation impeding access to and conveyance of irrigation canals; Localized overtopping & property flooding due to excessive water runoff and debris in canal systems;
February 21 – July 10, 2023	Severe Storms (DR-4699, EM-3592)	Yes	Severe winter storms, straight-line winds, flooding, landslides, and mudslides impacted communities across Nevada County.	Downed trees & vegetation impeding access to and conveyance of irrigation canals; Localized overtopping & property flooding due to excessive water runoff and debris in canal systems;

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

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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.

NID reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the District. The rankings for flood and extreme cold were adjusted from Low to Medium and extreme heat from Medium to High due to the observed frequency and impacts of past events. The ranking for dam failure was increased from Low to Medium because of a known problem with the District's Scotts Flat Dam, which is ranked as an Extremely High hazard dam by the California Division of Safety of Dams. The revised rankings also account for the changes in community priorities described in Section 20.2 in Volume I of this HMP.

Table 6-12 shows NID's final hazard rankings. Hazards with a high or medium risk ranking are those of greatest concern to the District. Mitigation actions target those hazards, though some of the identified actions also provide potential risk-reduction benefits for lower-ranked hazards.

TABLE 6-12. HAZARD RANKING

Hazard	Rank	Hazard	Rank
Avalanche	Low	Flood	Medium
Dam Failure	Medium	Hazardous Materials Release	Low
Drought	Medium	Landslide	Low
Earthquake	Low	Wildfire	High
Extreme Cold	Medium	Winter Storm	High
Extreme Heat	High	Volcano	Low

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

6.5.2 Vulnerability and Potential Impacts for Hazards of Local Concern

Based on the above jurisdiction-specific information, the following sections describe vulnerability and potential impacts for the hazards of greatest concern to NID (listed alphabetically, not in order of risk ranking). The special purpose districts that participated in this HMP focus on maintaining critical facilities to provide specific services to customers. 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.

Dam Failure

NID owns 19 of the 56 Nevada County dams listed in the National Inventory of Dams, 12 of them rated high hazard by USACE and five of those rated extremely high hazard by DSOD. These are all vulnerable to the dam failure hazard. The District includes Grass Valley and Nevada City, so its general and socially vulnerable populations and general building counts that are vulnerable to this hazard include the numbers listed for those cities in Volume I. The District also covers a large part of the unincorporated areas in the western county, where the County's population density is greatest. Its vulnerabilities there are likely at a percentage rate similar to what is listed for the total unincorporated county in Volume I.

The dam failure hazard impact analysis for NID focuses on the condition of its dams. The District has specifically identified Scotts Flat Dam as in need of repairs to mitigate the risk of future dam failure. Potential impacts on people and general building stock can be approximated by review of the impacts estimated in Volume I for Grass Valley, Nevada City, and the unincorporated county.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on dam failure impacts for NID is assumed to be the same as described for all of Nevada County in Volume I. Projected increase in extreme precipitation at higher elevations in Nevada County may increase the risk of impacts on NID dams at those elevations.
- Population changes—Dam failure inundation areas in the District are limited to Nevada City and unincorporated Nevada County. Nevada City has seen a slight decline in population in recent years and unincorporated areas have seen a slight increase. The District covers a large part of the unincorporated areas in the western county, where the County's population density is greatest. If population increases in those areas specifically, it could exacerbate potential impacts.
- Future development—NID has no authority related to development. The effects of new development on dam failure impacts within the District would largely be related to growth management and building code practices of the County and the cities within the District's boundaries.

Drought

All people and structures in the District are equally vulnerable to drought. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to NID.

The qualitative countywide impacts of drought described in the risk assessment in Volume I are equally applicable to NID. In addition, the reliability of the District's facilities during a drought is especially important given NID's role as a provider of drinking and irrigation water.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on drought impacts for NID is assumed to be the same as described for all of Nevada County in Volume I. Droughts are likely to become more frequent and more severe, and the availability of surface water supplies is likely to decrease. The reliability of NID assets in providing water for drinking and irrigation is especially urgent in times of drought. With predicted increases in the frequency and severity of drought, the District may face more intense impacts when droughts occur.
- Population changes—Any growth in the population that receives the District’s water will increase the urgency of ensuring the reliability of NID assets during times of drought.
- Future development—NID has no authority related to development. The effects of new development on drought impacts within the District would largely be related to growth management and building code practices of the County and the cities within the District’s boundaries. New development within NID’s service area could increase the demand on water supply, increasing the potential need for water restrictions during drought.

Extreme Cold

All people and structures in the District are equally vulnerable to extreme cold. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to NID.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NID. The District also has experienced specific impacts as the lining to the South Yuba Canal has been damaged by extreme freeze/thaw action on the concrete at high elevation and needs significant repair to prevent serious damage to critical infrastructure.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature (Geospatial Innovation Facility n.d.). Therefore, its effect on extreme cold impacts for NID is assumed to be the same as described for all of Nevada County in Volume I. Temperature projections for Nevada County indicate general increases over the coming decades, likely reducing potential impacts from the extreme cold hazard.
- Population changes—Impacts of extreme cold on NID are largely associated with damage to facilities. Increases to population would not change extreme cold impacts.
- Future development—NID has no authority related to development. The effects of new development on extreme cold impacts within the District would largely be related to building code practices of the County and the cities within the District’s boundaries. Impacts are not expected to change with new development.



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Extreme Heat

All people and structures in the District are equally vulnerable to extreme heat. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to NID.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NID. For NID, the most significant impact is the contribution of extreme heat to fire potential in the forested areas where the District has its water supply facilities.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature (Geospatial Innovation Facility n.d.). Therefore, its effect on extreme heat impacts for NID is assumed to be the same as described for all of Nevada County in Volume I. Extreme heat events are likely to become more frequent, severe, and prolonged as temperatures rise. These conditions make it easier for wildfires to ignite and spread, which could threaten NID’s water supply facilities.
- Population changes—Any growth in the population that receives the District’s water will increase the urgency of ensuring the reliability of NID assets during times of extreme heat.
- Future development— NID has no authority related to development. New development in the District may exacerbate extreme heat events due to the urban heat island effect but is dependent upon the encompassing jurisdiction’s planning and building codes impacts.

Flood

The District assets most vulnerable to flood are those located within mapped flood hazard areas: areas adjacent to Deer Creek, Greenhorn Creek, Little Greenhorn Creek, Rock Creek, and Squirrel Creek. The District includes Grass Valley and Nevada City, so its general and socially vulnerable populations and general building counts that are vulnerable to this hazard include the numbers listed for those cities in Volume I. The District also covers a large part of the unincorporated areas in the western county, where the County’s population density is greatest. Its vulnerabilities there are likely at a percentage rate similar to what is listed for the total unincorporated county in Volume I.

An essential consideration for flood in the District is the proper maintenance of water carrying canals and other assets that could contribute to flooding if severely damaged. Needed improvements have been identified for the Maben Canal, the South Yuba Canal, and the Rucker Creek canal system.

Potential impacts on people and general building stock can be approximated by review of the impacts estimated in Volume I for Grass Valley, Nevada City, and the unincorporated county.

Potential future changes in impacts have been assessed as follows:

- Climate change— At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on flood impacts for NID is assumed to be the same as described for all of Nevada



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County in Volume I. Like the rest of Nevada County, the District will likely see increased flood risk as climate change increases storm intensities and temperatures.

- Population changes—Any change in the population living in floodplains in the District will have a corresponding change in potential flood impacts.
- Future development—NID has no authority related to development. The effects of new development on flood impacts within the District would largely be related to growth management, floodplain management, and building code practices of the County and the cities within the District's boundaries.

Wildfire

The analysis of wildfire vulnerability in this HMP is based on hazard mapping previously performed for Nevada County that provides results for four forecast zones across the County, as described in Volume I (Nevada County OES 2023). NID spans two of the four forecast zone, in the western county—Higgins/Penn Valley and Grass Valley/Nevada City—though it does not extend across the full area of those zones. Volume I provides a detailed description of the mapping of wildfire hazard priority areas and quantitative estimates of the associated vulnerability of people and structures in those forecast zones. CAL FIRE's fire hazard severity zone mapping shows the higher-elevation northeastern half of the District as generally very high fire hazard and the lower-elevation southwestern half as mostly high hazard. The NID's 70,000-acre watershed, which is crucial for supplying water to reservoirs and conveyance systems, is largely in the very high fire hazard zone.

Data collected by state and federal agencies demonstrate that tree mortality has reached epidemic levels across the entire western slope of the Sierra Nevada range, which includes a large portion of the NID sphere. This data predicts further tree mortality in the very near future, resulting in stands of dead/dying trees that constitute extremely dangerous levels of combustible fuels, directly contributing to the severity and scale of wildfires.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NID. The District's forested watersheds are increasingly threatened by wildfires, which pose risks to community safety, water quality, and long-term water resource sustainability.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on wildfire impacts for NID is assumed to be the same as described for all of Nevada County in Volume I. It is predicted that the number of large fires and total area burned will increase with the changing climate.
- Population changes—Any change in the population living in fire hazard zones in the District will have a corresponding change in potential wildfire impacts.
- Future development—NID has no authority related to development. The effects of new development on wildfire impacts within the District would largely be related to growth



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management and building code practices of the County and the cities within the District's boundaries.

Winter Storm

All people and structures in the District are equally vulnerable to winter storm. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to NID.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NID. In addition, large reservoirs in the Sierra foothills and small reservoirs within the canal system are filling with sediment from continued years of use. Adequate reservoir storage is essential during winter storms with heavy rain. As the reservoirs accumulate sediment, water storage is reduced and the ability to regulate water efficiency is diminished.

Potential future changes in impacts have been assessed as follows:

- Climate change—Warming temperatures are projected to raise the divide between rain and snow by as much as 3,000 feet. Being in the lower elevation portion of the County, NID is less likely to see this effect than higher-elevation areas to the east. Countywide, climate change is predicted to bring more extreme storms in winter.
- Population changes—The impacts of winter storms on NID's facilities are not generally related to population. Changing population in the District is not likely to change the winter storm impacts.
- Future development—The impacts of winter storms on NID's facilities are not generally related to development. New development in the District is not likely to change the winter storm impacts.

6.5.3 Identified Issues

Table 6-13 lists issues related to the top hazards of concern for NID. These issues were identified based on local knowledge, the hazard event history, hazard rankings, hazard location, current capabilities, and the assessments of hazard vulnerability and potential impacts described in detail in Volume I. Addressing these issues is an important community priority for the District, and the mitigation strategy has been developed to incorporate, where feasible, actions that would help to resolve one or more of these issues.

TABLE 6-13. HAZARD ISSUES

Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Upgrade the Scotts Flat Spillway as necessary to safely pass the probable maximum flood as required by California Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC). The spillway was damaged by previous winter storms.	Dam Failure	X	
The Maben Canal requires upgrades due to deficiencies. Repairs are needed for berms, undersized siphon downstream and flow restrictions. Additionally, the Maben Canal, which serves year-round in-home water use, must be rehabilitated and enlarged.	Drought, Flood	X	X
There are numerous leaks on the shotcrete section of the canal near Old Auburn Road.	Drought, Flood	X	X
Orr Creek, Dry Creek, and Rock Creek Siphons are steel pipes constructed in the 1940s. The siphons are deteriorated, undersized, and have reached the end of their useful life.	Drought		X
The existing motor control center (MCC) at the North Auburn Water Treatment Plant needs rebuilding to accommodate high-lift pumps and convert them to variable frequency drives.	Drought		X
The existing lining to the South Yuba Canal has been damaged by extreme freeze/thaw action on the concrete at high elevation and needs significant repair to prevent serious damage to critical infrastructure.	Extreme Cold, Flood	X	
The Rucker Creek canal system experiences significant operational inefficiencies and safety hazards, particularly during storm events. These issues necessitate frequent operator callouts, which pose risks to personnel and disrupt canal operations.	Flood, Winter Storm	X	
The station service battery bank and charger at the Dutch Flat #2 Powerhouse have reached the end of their useful lives.	Drought		X
The Chicago Park Powerhouse is currently facing significant operational challenges due to outdated equipment. The station service battery bank and charger have reached the end of their useful lives. Additionally, the hardware for critical SCADA systems is outdated, and existing components are aging. These issues pose risks to critical infrastructure and equipment safety.	Drought		X
The Rollins Powerhouse (RPH) faces efficiency and safety challenges due to outdated equipment. Specifically, the mechanical governor and the electro-mechanical relays needs replacement or upgrading.	Drought		X

Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
The current canal system lacks real-time operational capabilities, leading to inefficiencies in water distribution and management. Manual gate operations and the absence of precise measurement at canal outlets result in water wastage, suboptimal allocation, and delayed responses to changing conditions. This inefficiency impacts agricultural productivity, water conservation efforts, and overall system reliability. To address these challenges, automated gates at canal inlets and measuring stations at canal outlets enables real-time monitoring and control of water flow throughout the canal system.	Drought		X
A meadow restoration project is needed to reduce forest density and reconnect the rivers to its floodplain, thereby enhancing snow accumulation, rewetting the floodplain, improving water supply, and creating a healthier habitat for diverse species.	Drought		X
The efficiency of water distribution in irrigation canals is significantly compromised due to seepage, leaks, and evaporation. This results in substantial water loss, which affects agricultural productivity and water resource management.	Drought		X
The District faces a critical need to enhance its water storage capacity to meet the growing demands of its population and agricultural activities.	Drought		X
Despite ongoing efforts, there remains a significant gap in public and district understanding and participation in both supply and demand side conservation programs. This gap hinders the effectiveness of initiatives such as customer education and outreach, rebate programs, and irrigation season augmentation. To achieve sustainable water management, it is crucial to enhance awareness and engagement in these conservation efforts.	Drought		X
Large reservoirs located within the Sierra foothills are filling with sediment from years of upstream erosion, historic mining activities, and natural sediment transport. Adequate reservoir storage capacity is beneficial during storms and heavy rain. As the reservoir accumulates sediment, water storage capacity is reduced which can result in supply variability for NID raw and treated water customers.	Winter Storm	X	
Small reservoirs located within the canal system are filling with sediment from continued years of use. Adequate reservoir storage is very beneficial during storms and heavy rain. As the reservoir accumulates sediment, water storage is reduced and the ability to regulate water efficiency is diminished. Reduced reservoir storage can result in upstream canal overtopping and property damage.	Flood, Winter Storm	X	



Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Canal crossings are facilitated with numerous culverts throughout the Placer County area. These culverts are often undersized, aged, and failing. During heavy rain events these culverts backup water causing flooding and overtopping of the canal upstream of the culvert. Overtopping often results in erosion of the canal berm and presents possible property damage.	Flood, Winter Storm	X	
Data collected by state and federal agencies demonstrate that tree mortality has reached epidemic levels across the entire western slope of the Sierra Nevada range, which includes a large portion of the NID sphere. This data predicts further tree mortality increases in the very near future, resulting in stands of dead/dying trees that constitute extremely dangerous levels of combustible fuels, directly contributing to the severity and scale of wildfires. The hazard trees within the area pose a significant threat to public health and safety threatening power lines, roads, evacuation corridors, infrastructure, and other existing structures. Forest conditions adjacent to Scotts Flat Reservoir and other NID reservoirs, camping facilities, operations & hydro facilities are rapidly worsening as persistent drought stress and bark beetle infestations have created increased pockets of diseased, dying and dead tree stands.	Drought, Extreme Heat, Wildfire	X	
The Nevada Irrigation District manages 70,000-acre watershed, which is crucial for supplying water to reservoirs and conveyance systems. The forested watersheds are increasingly threatened by hazards such as wildfires, which pose risks to community safety, water quality, and long-term water resource sustainability.	Drought, Extreme Heat, Wildfire	X	

6.6 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.

6.6.1 Past Mitigation Action Status

Table 6-14 indicates progress on the District's mitigation strategy identified in the 2017 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.



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TABLE 6-14. STATUS OF PREVIOUS MITIGATION ACTIONS

A1— Nevada Irrigation District (NID) Headquarters Office & Facilities Generator	
Hazards Addressed	Multi-Hazard
Responsible Party	Nevada Irrigation District
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	Priority addressed, generator was installed and is working as designed.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	This action has been completed.
A2— Reservoir Sediment Removal Program	
Hazards Addressed	Water Supply Reliability, Drought, and Water Shortage, Flood Control
Responsible Party	Nevada Irrigation District
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	On going for maintenance.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Priority being addressed in NID's Plan for Water process. This is an ongoing maintenance activity
If discontinue, explain why	



A3— Scotts Flat Spillway Replacement	
Hazards Addressed	Dam Failure, Drought, and Water Shortage
Responsible Party	Nevada Irrigation District
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	The final solution requires studies and hydraulic modeling of alternatives; design of modifications of spillway chute, chute walls, and the terminal energy dissipation structure as well as final construction of design. This project is for public health & safety, is regulatorily required and involves NID's critical infrastructure. Replacement to be completed by 2027.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Upgrade the Scotts Flat Spillway as necessary to safely pass the probable maximum flood as required by DSOD and FERC.
If discontinue, explain why	
A4— Small Reservoir Cleaning	
Hazards Addressed	Water Supply Reliability, Drought, and Water Shortage, Flood Control
Responsible Party	Nevada Irrigation District
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	On going for maintenance.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing maintenance activities to remove the sedimentation and debris build-up from water conveyance into NID's smaller reservoir systems.
If discontinue, explain why	



A5— Community Investment Projects	
Hazards Addressed	Drought and Water Shortage, Wildfire, Climate Change
Responsible Party	Nevada Irrigation District
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	The NID Board directed discontinuance of this program.
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	The NID Board directed discontinuance of program and projects.
A6— Canal Culvert Replacement Program	
Hazards Addressed	Water Supply Reliability, Climate Change, Flood Localized
Responsible Party	Nevada Irrigation District
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	On going for maintenance.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Ongoing maintenance activities to ensure adequate water conveyance in NID canal systems.
If discontinue, explain why	



A7— Hazard Tree & Fire Fuel Removal	
Hazards Addressed	Multi-Hazard, Wildfire, Climate Change, Landslide
Responsible Party	Nevada Irrigation District
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	On going for maintenance.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Wildfire is a pressing threat to the health of watersheds in the Sierra Nevada region. To address this risk and provide protection to communities and water infrastructure removal of hazard trees and ladder fuels is essential.
If discontinue, explain why	

6.6.2 Additional Mitigation Efforts

NID has not undertaken any mitigation efforts since the last HMP other than the mitigation actions from the previous plan.

6.6.3 Proposed Hazard Mitigation Actions for the HMP Update

The action worksheets included at the end of this annex list the mitigation actions that NID 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 6-15 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.

Volume I identifies 14 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 (-1, 0, or 1) for each of the evaluation criteria. Table 6-16 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Hazards with a high or medium risk ranking are those of greatest concern to the District. Mitigation actions target those hazards, though some of the identified actions also provide potential risk-reduction benefits for lower-ranked hazards. NID reviewed the history of occurrences involving avalanche, hazard material releases, and volcano. There were no occurrences within the last 20 years that impacted NID, and the NID planning team ranked these hazards as low, so they are not hazards of concern for the jurisdiction. No specific actions were developed for these lower-ranked hazards.

TABLE 6-15. ANALYSIS OF MITIGATION ACTIONS BY HAZARD AND CATEGORY

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Avalanche										
Dam Failure		X			X				X	
Drought		X	X	X	X	X	X	X	X	X
Earthquake		X			X					X
Extreme Cold		X	X		X			X		
Extreme Heat		X	X		X			X		
Flood		X			X	X			X	X
Hazardous Materials Release										
Landslide		X								
Wildfire		X	X	X	X	X	X	X		X
Winter Storm		X			X			X		X
Volcano										

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 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 and Firewise Communities

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 citizens, 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

TABLE 6-16. SUMMARY OF PRIORITIZATION OF ACTIONS

Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2024-NID-01	Scotts Flat Spillway Repair	1	1	1	0	0	0	1	1	1	1	1	1	1	1	11	High
2024-NID-02	Maben Canal Phase IV	1	1	1	0	0	0	1	1	1	0	1	0	1	0	8	Medium
2024-NID-03	Tarr Canal Rehabilitation	1	1	1	0	0	0	1	1	1	0	1	1	1	0	9	Medium
2024-NID-04	Combie Ophir Siphons 2 & 3	1	1	1	0	0	1	1	1	1	0	1	1	1	0	10	Medium
2024-NID-05	North Auburn Water Treatment Plant	1	1	1	0	0	1	0	1	1	0	1	1	1	0	9	Medium
2024-NID-06	Bowman North Dam Upstream Lining Improvement Project	0	1	1	0	0	0	0	0	1	1	1	1	1	0	7	Medium
2024-NID-07	Rucker Creek Spill Gate Replacement	1	0	1	0	0	1	0	1	1	1	1	0	1	0	8	Medium
2024-NID-08	Dutch Flat #2 Powerhouse Upgrades	1	1	1	0	0	1	0	1	1	1	1	0	1	1	10	Medium
2024-NID-09	Chicago Park Powerhouse Upgrades	1	1	1	0	0	1	0	1	1	1	1	1	1	1	11	High
2024-NID-10	Rollins Powerhouse Upgrades	1	1	1	0	0	1	0	1	1	1	1	1	1	1	11	High
2024-NID-11	Canal Automation	1	1	1	0	0	1	1	1	1	1	1	0	1	0	10	Medium
2024-NID-12	Meadow Restoration within District Lands	1	1	1	0	0	1	1	1	1	1	1	0	1	0	10	Medium



Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	Total	
2024-NID-13	Encasement and Lining of Canals	1	1	1	0	0	1	1	1	1	1	1	0	1	0	10	Medium
2024-NID-14	Augment Additional and/or New Water Storage	1	1	1	0	0	1	1	1	1	0	1	0	1	0	9	Medium
2024-NID-15	Demand and Supply Side Conservation Efforts	1	1	1	0	0	1	1	1	1	1	1	0	1	0	10	Medium
2024-NID-16	Reservoir Sediment Removal Program Maintenance	1	1	1	0	0	1	1	1	1	0	1	0	1	0	9	Medium
2024-NID-17	Small Reservoir Cleaning and Maintenance	1	1	1	0	0	1	1	1	1	0	1	0	1	0	9	Medium
2024-NID-18	Canal Culvert Replacement Program	1	1	1	0	0	1	1	1	1	1	1	0	1	0	10	Medium
2024-NID-19	Hazard Tree and Fire Fuel Removal	1	1	1	0	0	1	1	1	1	1	1	0	1	1	11	High
2024-NID-20	Community Forest Management Plan	1	1	1	0	0	1	1	1	1	1	1	0	0	1	10	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



2024-NID-01. SCOTTS FLAT SPILLWAY REPAIR

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Upgrade the Scotts Flat Spillway as necessary to safely pass the probable maximum flood as required by California Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC). The spillway was damaged by previous winter storms.	
Description of the Solution:	The final solution requires studies and hydraulic modeling of alternatives; design of modifications of spillway chute, chute walls, and the terminal energy dissipation structure as well as final construction of design. This project is for public health & safety, is regulatorily required and involves NID's critical infrastructure.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, BRIC, HMGP and/or Loan Programs	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,5,6,7,8	
Benefits:	Repairs will enhance spillway integrity.	
Impact on Socially Vulnerable Populations:	Protecting communities living downstream of a dam is crucial. By ensuring an updated dam structure capable of controlled releases allows those communities to remain intact and reduces the risk of loss of life and property in those areas.	
Impact on Future Development:	A community is more likely to remain in or relocate to an area where a dam failure is less likely to occur.	
Impact on Critical Facilities/Lifelines:	Utility services are likely to remain intact with the decreased risk of damage to the structure.	
Impact on Capabilities:	Conducting a study and hydraulic modeling analysis will allow for more efficient allocation of resources and grant funds to retrofit structures as needed.	
Climate Change Considerations:	Consideration should be taken for increases in frequency and severity of rainfall events.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-NID-02. MABEN CANAL PHASE IV

Lead Agency:	Nevada Irrigation District		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	<p>The Maben Canal requires upgrades due to deficiencies. Repairs are needed for berms, undersized siphon downstream and flow restrictions. Additionally, the Maben Canal, which serves year-round in-home water use, must be rehabilitated and enlarged</p>		
Description of the Solution:	<p>The project will repair various berm repairs due to undersized siphon downstream. Flow restrictions, over-toppings, and routine leaks. NID will rehabilitate and enlarge the Maben Canal, placing approximately 662 feet of 18" pipe within the existing canal alignment, and replacing an existing 12" pipe/siphon with a new 24" pipe; 480 feet long. Currently there is a moratorium for new or expanding customer use. This project will lower capital costs, reduced operating and maintenance costs, increased revenue potential, and reduces threat or impact to health and safety.</p>		
Estimated Cost:	High		
Potential Funding Sources:	BRIC Grant, District General Fund		
Implementation Timeline:	Within 5 years.		
Goals Met:	1,3,6,7,8,9,10		
Benefits:	<p>This project will ensure reliable water supply, minimize the risks of flooding or infrastructure failure, and support the well-being of the community.</p>		
Impact on Socially Vulnerable Populations:	<p>This project aims to guarantee reliable in-home water access for those who depend on it while minimizing health and safety risks.</p>		
Impact on Future Development:	<p>A community is more likely to remain in or relocate to an area where there is flood prevention in place.</p>		
Impact on Critical Facilities/Lifelines:	<p>By placing larger pipes (18" and 24") within the existing canal alignment, the project aims to enhance water conveyance. This reduces the risk of blockages, improves water flow, and minimizes disruptions to customers relying on the canal for year-round in-home use.</p>		
Impact on Capabilities:	<p>This project will lower capital costs, reducing operating and maintenance expenses, and increasing revenue potential are critical aspects. These improvements contribute to the sustainability of the water system and benefit both the utility and its customers.</p>		
Climate Change Considerations:	<p>Consideration should be taken for increases in frequency and severity of rainfall events.</p>		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	



CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NID-03. TARR CANAL REHABILITATION

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	There are numerous leaks on the shotcrete section of the canal near Old Auburn Road. This type of inefficiency can exacerbate drought conditions when they do occur.	
Description of the Solution:	NID plans to encase 6,750 feet of the canal with a precast concrete box culvert. Further investigation may reveal additional shotcrete and reshaping portions of the canal. This project will lower operating costs and will provide regional benefit to the community; deferral of the project could cause a disruption to service and pose a threat to health and safety of our community.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, BRIC	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	The upgrades from this project will reduce current water loss from the canal.	
Impact on Socially Vulnerable Populations:	Areas that were previously vulnerable to frequency or severe flooding events will be less likely to be impacted by flooding events.	
Impact on Future Development:	Future development in the impacted area will be less likely to be flooded.	
Impact on Critical Facilities/Lifelines:	The implementation of box culverts, reshaping, and shotcrete sections will enhance water conservation by reducing current water loss.	
Impact on Capabilities:	The proposed encasement of 6,750 feet of the canal with a precast concrete box culvert, along with potential shotcrete repairs and reshaping, will enhance operational capabilities. By lowering operating costs and benefiting the region, this project ensures reliable service and minimizes health and safety risks for our community.	
Climate Change Considerations:	Climate change can cause an increased intensity of storms. This project can assist in long-term resilience during a hazard event.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-04. COMBIE OPHIR SIPHONS 2 & 3

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Orr Creek, Dry Creek, and Rock Creek Siphons are steel pipes constructed in the 1940s. The siphons are deteriorated, undersized, and have reached the end of their useful life.	
Description of the Solution:	NID will design and construct 853 feet of pipeline to replace the Orr Creek siphon, 3,292 feet of pipeline to replace the Dry Creek siphon, and 3,952 feet of pipeline to replace the Rock Creek siphon. All siphons require crossing various creeks, Hwy 49, and on hospital property requiring extensive permitting and CEQA. Combie-Ophir is a critical infrastructure for delivering raw water to customers in South Nevada and Placer Counties. The project will have a regional benefit, potential for increased revenues, and will improve our overall level of service.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, BRIC	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	Improved infrastructure can lead to increased revenue and enhance overall level of service.	
Impact on Socially Vulnerable Populations:	The Combie-Ophir infrastructure plays a crucial role in ensuring equitable access to raw water for all customers, including those who are socially vulnerable.	
Impact on Future Development:	The pipeline replacements (853 feet for Orr Creek, 3,292 feet for Dry Creek, and 3,952 feet for Rock Creek) create a foundation for future development. Upgraded infrastructure supports growth and ensures reliable water supply for expanding communities.	
Impact on Critical Facilities/Lifelines:	Replacing siphons that cross creeks, highways, and hospital property enhances critical facilities. Reliable water conveyance is vital for hospitals, emergency services, and other essential institutions.	
Impact on Capabilities:	By improving Combie-Ophir, the project strengthens NID's capabilities. It lowers operating costs, potentially increases revenues, and elevates overall service quality for customers in South Nevada and Placer Counties.	
Climate Change Considerations:	Climate change compounds the consequences of inadequate maintenance, making it crucial to address these aging steel pipes.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)



CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NID-05. NORTH AUBURN WATER TREATMENT PLANT

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The existing motor control center (MCC) at the North Auburn Water Treatment Plant needs rebuilding to accommodate high-lift pumps and convert them to variable frequency drives. Exposure to excessive and prolonged extreme conditions can weaken or damage such equipment, elevating the risk for malfunction or failure.</p>	
Description of the Solution:	<p>NID will install a motor control center (MCC), electrical panels, and site electrical improvements such as wiring and conduits, along with building modifications to accommodate new variable frequency drives. The project will result in lower operating costs, provide a regional benefit to the community, and will reduce the threat/impact to health and safety of our community.</p>	
Estimated Cost:	Medium	
Potential Funding Sources:	District General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	2,3,6,7,9	
Benefits:	<p>By converting the high-lift pumps to variable frequency drives, the project aims to reduce energy consumption and operational expenses.</p>	
Impact on Socially Vulnerable Populations:	<p>Improved water treatment infrastructure ensures better health outcomes for all community members, including those who may be more susceptible to health risks.</p>	
Impact on Future Development:	<p>The use of variable frequency drives allows for better control and optimization, supporting scalability and adaptability as demand grows.</p>	
Impact on Critical Facilities/Lifelines:	<p>The MCC and electrical improvements directly impact critical lifelines by ensuring uninterrupted water supply.</p>	
Impact on Capabilities:	<p>The project enhances NID's ability to manage water distribution efficiently.</p>	
Climate Change Considerations:	<p>Climate-related disruptions (e.g., storms, heatwaves) may lead to downtime or increased maintenance costs for the MCC and electrical systems.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-06. BOWMAN NORTH DAM UPSTREAM LINING IMPROVEMENT PROJECT

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The existing lining to the South Yuba Canal has been damaged by extreme freeze/thaw action on the concrete at high elevation and needs significant repair to prevent serious damage to critical infrastructure.	
Description of the Solution:	NID will fix and improve the lining on the upstream side of the Bowman North Dam. Repairs are being required by the Division of Safety of Dams (DSOD).	
Estimated Cost:	Medium	
Potential Funding Sources:	HMGP, BRIC, FMA, HHPD, District General Fund	
Implementation Timeline:	With 5 years	
Goals Met:	1,2,3,6,7,8,9	
Benefits:	The dam is a crucial piece of infrastructure. By fixing the lining, the project helps protect this vital asset, ensuring it continues to function effectively and safely.	
Impact on Socially Vulnerable Populations:	The most vulnerable populations may live directly downstream of the dam. Preventing its failure allows those communities to remain intact and reduces the risk of loss of life and property in those areas.	
Impact on Future Development:	A community is more likely to remain in or relocate to an area where dam failure is less likely to occur.	
Impact on Critical Facilities/Lifelines:	The dam is a critical component of the water supply system. Repairing it ensures a continuous and reliable water source for various needs, including drinking water, irrigation, and industrial processes.	
Impact on Capabilities:	By meeting the requirements of the Division of Safety of Dams (DSOD), the District demonstrates its capability to adhere to safety standards and regulations, enhancing its reputation and operational effectiveness.	
Climate Change Considerations:	By completing this upgrade, this ensures the dam remains functional and safe under extreme weather events due to climate change.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-07. RUCKER CREEK SPILL GATE REPLACEMENT

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Rucker Creek Spill canal system experiences significant operational inefficiencies and safety hazards, particularly during storm events that produce strong winds or lead to overflows and significant soil movement. These issues necessitate frequent operator callouts, which pose risks to personnel and disrupt canal operations.</p>	
Description of the Solution:	NID will replace existing radial gate at Rucker Creek Diversion with an overshot gate to improve personnel safety and operational performance.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,7,8,9	
Benefits:	<p>This project will enhance the operational efficiency of the canal and mitigate safety hazards associated with operator callouts during adverse weather conditions.</p>	
Impact on Socially Vulnerable Populations:	<p>Efficient canal operations support sustainable water use, benefiting the environment and ensuring a reliable water supply for the community.</p>	
Impact on Future Development:	<p>Improved efficiency and safety can pave the way for future infrastructure projects, as a well-maintained canal system is a strong foundation for further development.</p>	
Impact on Critical Facilities/Lifelines:	<p>Improved canal operations can help maintain access to critical services during emergencies, such as healthcare, transportation, and communication networks, ensuring that these lifelines remain functional when they are needed most.</p>	
Impact on Capabilities:	<p>This project strengthens the District's ability to manage its water resources efficiently, respond to emergencies safely, and maintain robust and resilient infrastructure.</p>	
Climate Change Considerations:	<p>Climate change can intensify storms, increasing the risk to personnel and causing canal disruptions. This project addresses immediate operational and safety concerns, ensuring long-term resilience and sustainability.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-08. DUTCH FLAT #2 POWERHOUSE UPGRADES

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The station service battery bank and charger at the Dutch Flat #2 Powerhouse have reached the end of their useful lives. The equipment is more vulnerable to damage or even failure in the event of an earthquake, flood, or winter storm.	
Description of the Solution:	This project aims to replace the outdated battery bank and charger and provide a reliable backup power source to ensure the protection of critical infrastructure, mitigate service disruptions, and enhance equipment safety.	
Estimated Cost:	Medium	
Potential Funding Sources:	District General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,5,6,7,8,10	
Benefits:	This project will ensure that essential systems remain operational during power outages, reducing the likelihood of interruptions in service.	
Impact on Socially Vulnerable Populations:	Ensuring a stable power supply reduces the risk of outages that can disproportionately affect socially vulnerable populations who may lack alternative resources.	
Impact on Future Development:	A reliable power infrastructure supports local businesses and attracts new investments, fostering economic growth and development in the area.	
Impact on Critical Facilities/Lifelines:	Providing a backup power source ensures that critical services, such as healthcare, emergency response, and water supply, remain operational during power outages.	
Impact on Capabilities:	The project strengthens the District's infrastructure, making it more resilient to disruptions and better equipped to handle future challenges.	
Climate Change Considerations:	Climate change can cause more intense and frequent storms leading to power outages. This project will help provide reliable backup power and avoid the risk of a disruption in service for the community.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-09. CHICAGO PARK POWERHOUSE UPGRADES

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Chicago Park Powerhouse is currently facing significant operational challenges due to outdated equipment. The station service battery bank and charger have reached the end of their useful lives. Additionally, the hardware for critical SCADA systems is outdated, and existing components are aging. These issues pose risks to critical infrastructure and equipment safety, particularly during earthquakes, floods, and winter storms.</p>	
Description of the Solution:	<p>To address these challenges, NID will undertake a comprehensive upgrade of the Chicago Park Powerhouse. This includes replacing the station service battery bank and charger with new units to ensure the protection of critical infrastructure and equipment safety. Additionally, hardware for SCADA systems will be replaced to ensure operational efficiency and safeguarding critical systems. Furthermore, the project will improve facility efficiency and performance by replacing or upgrading the existing turbine and main transformer, and by disassembling, cleaning, and rebuilding the generator.</p>	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund	
Implementation Timeline:	With 5 years	
Goals Met:	1,2,3,5,6,7,8,10	
Benefits:	<p>This project will enhance the safety, efficiency, and reliability of the powerhouse, protecting critical infrastructure and ensuring equipment safety.</p>	
Impact on Socially Vulnerable Populations:	<p>Ensuring a stable power supply reduces the risk of outages that can disproportionately affect socially vulnerable populations who may lack alternative resources.</p>	
Impact on Future Development:	<p>A reliable power infrastructure supports local businesses and attracts new investments, fostering economic growth and development in the area.</p>	
Impact on Critical Facilities/Lifelines:	<p>Enhancing the reliability of the power supply system improves the District's ability to respond to and recover from natural disasters and other emergencies.</p>	
Impact on Capabilities:	<p>Ensuring compliance with PG&E standards enhances the District's reputation and demonstrates its commitment to maintaining high safety and operational standards.</p>	
Climate Change Considerations:	<p>Climate change can cause more intense and frequent storms leading to power outages. This project will help provide reliable backup power and avoid the risk of a disruption in service for the community.</p>	



Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-NID-10. ROLLINS POWERHOUSE UPGRADES

Lead Agency:	Nevada Irrigation District		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	The Rollins Powerhouse (RPH) faces efficiency and safety challenges due to outdated equipment. Specifically, the mechanical governor and the electro-mechanical relays need replacement or upgrading to ensure their operation during and after earthquakes, floods, and winter storms.		
Description of the Solution:	NID will replace or upgrade the existing governor and appurtenance for operational efficiency, health and safety and regulatory compliance. This project will provide improved high voltage protection for RPH by upgrading the relay system.		
Estimated Cost:	High		
Potential Funding Sources:	District General Fund		
Implementation Timeline:	Within 5 years		
Goals Met:	1,2,3,5,6,7,8,10		
Benefits:	The project aims to enhance operational efficiency, health and safety compliance, and regulatory standards by replacing or upgrading the existing governor and appurtenance at Rollins Powerhouse. Additionally, the upgraded relay system will provide improved high voltage protection for RPH.		
Impact on Socially Vulnerable Populations:	By ensuring operational efficiency, the project maintains reliable power supply. Vulnerable communities, including those dependent on essential services, benefit from uninterrupted electricity for medical equipment, communication, and daily needs.		
Impact on Future Development:	By enhancing operational efficiency, ensuring health and safety compliance, and meeting regulatory standards, the upgraded system creates a foundation for sustainable growth and reliable power supply in the long term.		
Impact on Critical Facilities/Lifelines:	Upgrading the governor enhances health and safety by preventing equipment failures. Critical facilities, emergency services, and infrastructure rely on stable power. The project safeguards these lifelines, minimizing disruptions during emergencies and supporting community resilience.		
Impact on Capabilities:	This project will improve plant efficiency and better protect onsite equipment.		
Climate Change Considerations:	Climate change increases the frequency and severity of extreme weather events. Upgrading the relay system enhances the plant's efficiency and reliability.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	High		



2024-NID-11. CANAL AUTOMATION

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The current canal system lacks real-time operational capabilities, leading to inefficiencies in water distribution and management. Manual gate operations and the absence of precise measurement at canal outlets result in water wastage, suboptimal allocation, and delayed responses to changing conditions. This inefficiency impacts agricultural productivity, water conservation efforts, and overall system reliability. To address these challenges, automated gates at canal inlets and measuring stations at canal outlets, enables real-time monitoring and control of water flow throughout the canal system.</p>	
Description of the Solution:	<p>Install automated gates at inlets and measuring stations at outlets. This option would install automated gates at the head of canals and measuring stations at the end canals to allow for real time operation of the canal system.</p>	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,5,6,7,8,10	
Benefits:	<p>Automated gates allow for precise control of water flow, ensuring optimal distribution and reducing wastage. This can be particularly beneficial during periods of drought or heavy rainfall.</p>	
Impact on Socially Vulnerable Populations:	<p>Automated gates can help manage water distribution more efficiently, ensuring that communities, especially those that are socially vulnerable, have consistent access to water. This can reduce the risk of water shortages and improve overall quality of life.</p>	
Impact on Future Development:	<p>Real-time operation of the canal system can support sustainable development by optimizing water usage and reducing waste. This can be particularly beneficial in areas experiencing rapid growth or facing water scarcity issues.</p>	
Impact on Critical Facilities/Lifelines:	<p>Water is a critical resource for agriculture, industry, and daily living. By improving the management of water resources, automated gates can help maintain the reliability of these critical lifelines, ensuring that essential services remain uninterrupted.</p>	
Impact on Capabilities:	<p>The implementation of automated systems enhances the capability to monitor and respond to changes in water levels and flow rates in real-time.</p>	



Climate Change Considerations:	Climate change can result in more severe weather events, including intense rainfall and prolonged droughts, which cause significant variations in water levels. These fluctuations can also contribute to the deterioration of infrastructure.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Priority	Medium		

2024-NID-12. MEADOW RESTORATION WITHIN DISTRICT LANDS

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	A meadow restoration project is needed to reduce forest density and reconnect the rivers to its floodplain, thereby enhancing snow accumulation, rewetting the floodplain, improving water supply, and creating a healthier habitat for diverse species.	
Description of the Solution:	Meadow restoration within properties owned by District. Current English Meadow Restoration Project is anticipated to increase meadow storage.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, Sierra Nevada Conservancy, Wildlife Conservation Board, HMPG	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,5,6,7,8,10	
Benefits:	This project will improve the natural ability to store and release water in a more self-sustaining manner.	
Impact on Socially Vulnerable Populations:	Creating a healthier habitat for diverse species can improve the overall quality of life for residents, providing cleaner air and water.	
Impact on Future Development:	The project promotes sustainable land management practices, which can serve as a model for future development projects.	
Impact on Critical Facilities/Lifelines:	Reconnecting the river to its floodplain can reduce the risk of flooding, protecting infrastructure and homes.	
Impact on Capabilities:	Enhancing habitats supports a wide range of species, increasing biodiversity and ecosystem resilience.	
Climate Change Considerations:	As climate change leads to a warmer and more frequently burned landscape, maintaining functional watersheds will become critical to our future water resources.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-13. ENCASEMENT AND LINING OF CANALS

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The efficiency of water distribution in irrigation canals is compromised due to seepage, leaks, and evaporation. This results in substantial water loss, which affects agricultural productivity and water resource management.	
Description of the Solution:	Encasement and lining of canals with pipes, wire mesh, etc. to reduce loss due to seepage, leaks and evaporation.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,5,6,7,8,10	
Benefits:	This project aims to minimize water loss and enhance the overall efficiency of water delivery systems.	
Impact on Socially Vulnerable Populations:	Efficient water use helps maintain natural ecosystems that many communities rely on for resources and recreation.	
Impact on Future Development:	The risk of significant damage occurring to the structure will be reduced, which will allow operations to adapt and resume in a more efficient manner.	
Impact on Critical Facilities/Lifelines:	Upgrading canal systems can make them more resilient to natural disasters, ensuring that critical water supplies are maintained during emergencies.	
Impact on Capabilities:	Ensuring continuity of operations allows for a more rapid return to normalcy after a hazard event.	
Climate Change Considerations:	Consideration should be taken for increases in flooding frequency and severity.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-14. AUGMENT ADDITIONAL AND/OR NEW WATER STORAGE

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The District faces a critical need to analyze its water storage capacity to meet the growing demands of its population and agricultural activities and changing hazard conditions due to climate change. These social and environmental factors can exacerbate the impacts of droughts, floods, wildfires, and winter storms when they do occur due to increased stress on infrastructure and social services.</p>	
Description of the Solution:	Create new and/or raise existing dam heights for increase in additional total district water storage capacity.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, HMGP, BRIC, HHPD	
Implementation Timeline:	Ongoing, greater than five years to full implementation	
Goals Met:	1,2,3,5,6,7,8,10	
Benefits:	<p>This project will increase the total water storage capacity within the District, ensuring a reliable water supply for various needs, including domestic use, irrigation, and industrial purposes.</p>	
Impact on Socially Vulnerable Populations:	<p>This project will ensure a stable water supply during droughts for communities that are vulnerable to water shortages.</p>	
Impact on Future Development:	Reliable water supply is important for planning and development.	
Impact on Critical Facilities/Lifelines:	Enhancing water storage capacity is essential during emergencies.	
Impact on Capabilities:	Increasing water storage can improve irrigation efficiency.	
Climate Change Considerations:	Enhancing water infrastructure can reinforce communities' resilience against climate change effects, including extended drought periods.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-15. DEMAND AND SUPPLY SIDE CONSERVATION EFFORTS

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Despite ongoing efforts, there remains a significant gap in public understanding and participation in both supply and demand side conservation programs. This gap hinders the effectiveness of initiatives such as customer education and outreach, rebate programs, and irrigation season augmentation. To achieve sustainable water management, it is crucial to enhance awareness and engagement in these conservation efforts.</p>	
Description of the Solution:	<p>Continue to emphasize public and district understanding and efforts at both supply and demand side conservation programs including, but not limited to customer education and outreach, rebate programs, irrigation season augmentation, etc.</p>	
Estimated Cost:	Low	
Potential Funding Sources:	District General Fund, BRIC	
Implementation Timeline:	Within 5 years	
Goals Met:	1,2,3,4, 5,6,7,8,9, 10	
Benefits:	<p>This outreach program would increase community awareness and enhance resilience.</p>	
Impact on Socially Vulnerable Populations:	<p>An outreach program promotes equitable access to resources and services during emergencies.</p>	
Impact on Future Development:	<p>The outreach program can enhance irrigation efficiency by promoting demand-driven water management and supply optimization practices, including advanced irrigation techniques and sustainable land-use planning.</p>	
Impact on Critical Facilities/Lifelines:	<p>Implementing an outreach program can prioritize mitigation measures, reduce risks, and enhance overall resilience within critical facilities. Acquiring knowledge about risk reduction measures is essential.</p>	
Impact on Capabilities:	<p>This type of program would foster collective collaboration amongst diverse stakeholders strengthening the District's capacity to address natural and man-made hazards and implement mitigation measures.</p>	
Climate Change Considerations:	<p>Outreach programs play a crucial role in promoting investments in nature-based solutions to enhance community resilience in the face of climate change challenges.</p>	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)



CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-NID-16. RESERVOIR SEDIMENT REMOVAL PROGRAM MAINTENANCE

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Large reservoirs located within the Sierra foothills are filling with sediment from years of upstream erosion, historic mining activities, and natural sediment transport. Adequate reservoir storage capacity is beneficial during storms and heavy rain. As the reservoir accumulates sediment, water storage capacity is reduced which can result in supply variability for NID raw and treated water customers.	
Description of the Solution:	Nevada Irrigation District has initiated an ongoing large reservoir sediment removal program to alleviate this problem.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, HMGP	
Implementation Timeline:	Ongoing, greater than five years to full implementation	
Goals Met:	1,3,5,6,7,8	
Benefits:	With the removal of sediment this project will enhance water quality.	
Impact on Socially Vulnerable Populations:	By improving water quality and availability, the program ensures that socially vulnerable communities have better access to clean water.	
Impact on Future Development:	The removal of sediment increases the storage capacity of reservoirs, which supports future development by ensuring a reliable water supply.	
Impact on Critical Facilities/Lifelines:	Enhanced water storage and quality directly benefit critical facilities such as hospitals, schools, and emergency services.	
Impact on Capabilities:	The program also enhances the capabilities of the Nevada Irrigation District by incorporating innovative sediment recovery and water treatment processes.	
Climate Change Considerations:	This program is part of broader efforts to adapt to and mitigate the effects of climate change, ensuring a more resilient water supply for the future.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-17. SMALL RESERVOIR CLEANING AND MAINTENANCE

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Small reservoirs located within the canal system are filling with sediment from continued years of use. Adequate reservoir storage is very beneficial during storms and heavy rain. As the reservoir accumulates sediment, water storage is reduced and the ability to regulate water efficiency is diminished. Reduced reservoir storage can result in upstream canal overtopping and property damage.	
Description of the Solution:	Nevada Irrigation District has initiated a small reservoir cleaning program to alleviate this problem.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, HMGP	
Implementation Timeline:	Ongoing, greater than five years to full implementation	
Goals Met:	1,3,5,6,7,8	
Benefits:	By incorporating cleaning and maintenance of small reservoirs, this project aims to improve water quality.	
Impact on Socially Vulnerable Populations:	By improving water quality and availability, the program ensures that socially vulnerable communities have better access to clean water.	
Impact on Future Development:	Cleaning and maintenance of small reservoirs increases the storage capacity of these reservoirs, which supports future development by ensuring a reliable water supply.	
Impact on Critical Facilities/Lifelines:	Enhanced water storage and quality directly benefit critical facilities such as hospitals, schools, and emergency services.	
Impact on Capabilities:	The program also enhances the capabilities of the Nevada Irrigation District by incorporating innovative sediment recovery and water treatment processes.	
Climate Change Considerations:	Consideration should be taken for increases in frequency and severity of rainfall events.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-18. CANAL CULVERT REPLACEMENT PROGRAM

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Canal crossings are facilitated with numerous culverts throughout the Placer County area. These culverts can be undersized, aged, and failing. During heavy rain events these culverts backup water causing flooding and overtopping of the canal upstream of the culvert. Overtopping often results in erosion of the canal berm and presents possible property damage. These culverts are also important for the efficient distribution of water during droughts.</p>	
Description of the Solution:	NID will conduct ongoing maintenance activities to ensure adequate water conveyance in NID canal systems.	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, HMGP, BRIC	
Implementation Timeline:	Ongoing, greater than five years to full implementation	
Goals Met:	1,3,5,6,7,8	
Benefits:	Overall flooding will be reduced, which will result in less frequency of road closures and reduced damage occurring to culverts and roadways during severe events.	
Impact on Socially Vulnerable Populations:	Areas that were previously vulnerable to frequency or severe flooding events will be less likely to be impacted by flooding events.	
Impact on Future Development:	Future development in the impacted area will be less likely to be flooded.	
Impact on Critical Facilities/Lifelines:	Evacuation routes will remain intact.	
Impact on Capabilities:	Identifying the culverts that are at greatest risk of damage or failure can allow for resource staging to take place where the need is greatest ahead of a flood event.	
Climate Change Considerations:	Climate change is likely to result in more frequent and severe rainfall events. This action upsizes culvert sizes to meet changing stormwater needs as the result of climate change.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-NID-19. HAZARD TREE AND FIRE FUEL REMOVAL

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>Data collected by state and federal agencies demonstrate that tree mortality has reached epidemic levels across the entire western slope of the Sierra Nevada range, which includes a large portion of the NID sphere. This data predicts further tree mortality increases in the very near future, resulting in stands of dead/dying trees that constitute extremely dangerous levels of combustible fuels, directly contributing to the severity and scale of wildfires. The hazard trees within the area pose a significant threat to public health and safety threatening power lines, roads, evacuation corridors, infrastructure, and other existing structures. Forest conditions adjacent to Scotts Flat Reservoir and other NID reservoirs, camping facilities, operations & hydro facilities are rapidly worsening as persistent drought stress and bark beetle infestations have created increased pockets of diseased, dying and dead tree stands.</p>	
Description of the Solution:	<p>Wildfire is a pressing threat to the health of watersheds in the Sierra Nevada region. To address this risk and provide protection to communities and water infrastructure removal of hazard trees and ladder fuels is essential.</p>	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, CAL FIRE Wildfire Prevention Grants	
Implementation Timeline:	Ongoing, greater than five years to full implementation	
Goals Met:	1,3,5,6,7,8	
Benefits:	By reducing the potential for catastrophic wildfires, we can prevent significant property damage and save lives.	
Impact on Socially Vulnerable Populations:	By removing hazardous trees, this project prioritizes the safety of socially vulnerable populations. It reduces the risk of falling trees near homes and public spaces, enhancing their well-being.	
Impact on Future Development:	Clearing dead or dying trees contributes to sustainable development. It ensures safer neighborhoods and encourages investment in areas where fire risk is minimized.	
Impact on Critical Facilities/Lifelines:	Unobstructed paths for natural drainage protect critical lifelines. Emergency response routes remain accessible, even during adverse conditions.	
Impact on Capabilities:	This project strengthens the City's resilience. By reducing fire fuel on Open Space Parcels, it enhances our ability to safeguard communities and maintain essential services.	



Climate Change Considerations:	Climate change can lead to intense wildfires and drought conditions. This project can help mitigate the risk of fire spreading to structures and protect communities.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-NID-20. COMMUNITY FOREST MANAGEMENT PLAN

Lead Agency:	Nevada Irrigation District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Nevada Irrigation District manages 70,000-acre watershed, which is crucial for supplying water to reservoirs and conveyance systems. The forested watersheds are increasingly threatened by hazards such as floods, landslides, and wildfires, all of which pose risks to community safety, water quality, and long-term water resource sustainability.</p>	
Description of the Solution:	<p>NID is developing a Forest Management Plan which incorporates and identifies hazards to the forested watersheds supplying water to our reservoirs and water conveyance systems. This plan is intended to inform and support NID plan and implement forest and vegetation management projects which seek to ensure safer communities, reduced wildfire risk and severity, and long-term water resource protection within NID's 70,000 acre watershed.</p>	
Estimated Cost:	High	
Potential Funding Sources:	District General Fund, Grants	
Implementation Timeline:	Within 5 years	
Goals Met:	1,3,5,6,7,8	
Benefits:	<p>This project collectively contributes to a more resilient and sustainable water management system, benefiting both the environment and the communities that depend on it.</p>	
Impact on Socially Vulnerable Populations:	A CMP project can prioritize the safety of socially vulnerable populations.	
Impact on Future Development:	This plan can foster low-emission economic growth by promoting sustainable utilization of forests resources.	
Impact on Critical Facilities/Lifelines:	Emergency response routes remain accessible, even during adverse conditions.	
Impact on Capabilities:	This project will enhance community resilience by promoting practices that protect against natural hazards like wildfire, floods, and landslides.	
Climate Change Considerations:	Climate change can lead to intense weather events, damaging forests and making it harder to manage and protect them.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



7. Truckee Donner Public Utilities District Annex

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

This annex is part of a multi-jurisdictional HMP that was developed to meet plan participation requirements for all participating jurisdictions while accommodating their specific needs and limitations. Because many participating jurisdictions are rural agencies with limited staff, the planning process included establishing a Steering Committee and engaging a contract consultant to work with Nevada County in undertaking certain elements of the plan update on behalf of the jurisdictions. These elements included outreach to stakeholders and the public, risk assessment for all countywide hazards of concern, initial ranking of hazard risks, updates of hazard mitigation goals and objectives, and establishment of procedures for implementing and maintaining the HMP. This annex presents only the information specific to TDPUD as a participating jurisdiction. All other plan elements are included in Volume I and are referenced in this annex as appropriate.

7.1 Hazard Mitigation Planning Team

The Truckee Donner Public Utility District identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from District departments. The Public Information and Strategic Affairs Director represented the utility on the Nevada County Hazard Mitigation Plan Planning Partnership and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan.

Table 7-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.

TABLE 7-1. HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact	Alternate Point of Contact
Name/Title: Steven Poncelet, Public Information & Strategic Affairs Director Address: 11570 Donner Pass Road Truckee, CA 96161 Phone Number: 530-582-3951 Email: steven@tdpud.org	Name/Title: Scott Botn, Risk + Compliance Specialist Address: 11570 Donner Pass Road Truckee, CA 96161 Phone Number: 530-582-3987 Email: Scottbotn@tdpud.org
Contributions to the Annex	
Name/Title: Steven Poncelet, Public Information & Strategic Affairs Method of Participation: Provided updated information on history of hazards, capabilities, and mitigation actions.	
Name/Title: Scott Botn, Risk and Compliance Specialist Method of Participation: Provided input to TDPUD annex.	
Name/Title: Jared Carpenter, Electric Utility Director Method of Participation: Provided input to TDPUD annex and projects.	
Name/Title: Chad Reed, Water Utility Director Method of Participation: Provided input to TDPUD annex and projects.	

7.2 Community Profile

TDPUD is one of the 6,000 special districts in California. TDPUD offers electric and water services to the greater Truckee area including portions of Nevada and Placer Counties. The District serves more than 15,000 customers, most of which are residential (NCPA n.d.). It occupies 45.5 square miles beginning 4 miles from the northern border just beyond Alder Creek Road south to the Placer County line, and 11 miles from the western shore of Donner Lake eastward to the rim of Boca Dam and includes the community of Hirschdale. The TDPUD has approximately 212 miles of water mains, 135 miles of overhead electric lines, and 100 miles of underground electric lines.

7.3 Jurisdictional Capability Assessment and Integration

TDPUD 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



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COUNTY
CALIFORNIA

Office of Emergency
Services



TETRA TECH

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 TDPUD to identify opportunities for integrating mitigation concepts into ongoing District procedures.

7.3.1 Planning and Regulatory Capability

Table 7-2 summarizes the planning and regulatory tools that are available to TDPUD. As a special district, TDPUD does not have planning and regulatory capabilities. Construction and development in the District are subject to the building codes, planning and land use regulation, and development standards of the County or municipality where they occur.

TABLE 7-2. PLANNING AND REGULATORY CAPABILITY AND INTEGRATION

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	N/A			
Zoning/Land Use Code	N/A			
Subdivision Code	N/A			
Site Plan Code	N/A			
Stormwater Management Code	N/A			
Post-Disaster Recovery/Reconstruction Code	N/A			
Real Estate Disclosure Requirements	N/A			
Growth Management	N/A			
Environmental Protection Ordinance	N/A			
Flood Damage Prevention Ordinance	N/A			
Wellhead Protection	N/A			
Emergency Management Ordinance	N/A			
Climate Change Ordinance	N/A			



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
PLANNING DOCUMENTS				
General/Comprehensive Plan	N/A			
Capital Improvement Plan	Yes	TDPUD 10 -Year Capital Improvement Plan adopted as part of the budget process, most recently November 2023.	Local	Electric & Water Utility Directors
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>TDPUD's Electric and Water Utilities rely upon complex and expensive infrastructure to deliver safe, reliable, and affordable electric and water 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.</p>				
Disaster Debris Management Plan	N/A			
Floodplain Management or Watershed Plan	N/A			
Stormwater Management Plan	N/A			
Open Space Plan	N/A			
Urban Water Management Plan	Yes	Truckee & Hirschdale Water Systems 2020 Urban Water Management Plans	Local	Water Utility Director
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>Urban Water Management Plan's identify current and projected water needs and compare against current water supply assessments and future supply.</p>				
Habitat Conservation Plan	N/A			
Economic Development Plan	N/A			
Community Wildfire Protection Plan	N/A			
Community Forest Management Plan	N/A			
Transportation Plan	N/A			
Agriculture Plan	N/A			
Climate Action/Resilience/Sustainability Plan	N/A			
Tourism Plan	N/A			



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Business/ Downtown Development Plan	N/A			
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	Yes	TDPUD Emergency Operations Plan	Local	Risk and Compliance Specialist
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i></p> <p>The TDPUD Emergency Operations Plan establishes the Emergency Management Organization required to mitigate any significant emergency or disaster affecting the TDPUD. The Plan establishes the TDPUD's operational concepts associated with field response to emergencies; the Emergency Operations Center activities and the recovery process. The plan is implemented by the Risk and Compliance Specialist.</p>				
Continuity of Operations Plan	No			
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A</p>				
Substantial Damage Response Plan	No			
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A</p>				
Threat and Hazard Identification and Risk Assessment	No			
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A</p>				
Post-Disaster Recovery Plan	No			
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A</p>				
Public Health Plan				
<p><i>How has or will this be integrated with the HMP and how does this reduce risk?</i> N/A</p>				

7.3.2 Integration

Table 7-2 describes how some local planning mechanisms have been integrated into this HMP and how information from this HMP can be integrated into these mechanisms when they are updated in the future. Procedures for this future integration are outlined in Section 21.2.2 of Volume I of this HMP. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings are as follows:

- Using HMP hazard assessment data and action item information for potential emergency plans and annex updates or emergency response plans
- Incorporating hazard information, such as floodplain data, to potentially review and update codes and regulation
- Utilizing hazard analyses for future district annexation
- Updating capital improvement or strategic plans based on listed mitigation action items



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7.3.3 Development and Permitting Capability

Table 7-3 summarizes the capabilities of TDPUD to oversee and track development.

TABLE 7-3. DEVELOPMENT AND PERMITTING CAPABILITY

	Yes/No	Comment
Do you issue development permits? <ul style="list-style-type: none"> 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	Development permits are issued through local governments.
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? <ul style="list-style-type: none"> If you have a buildable land inventory, please describe 	No	
Describe the level of buildout in your jurisdiction.	N/A	

7.3.4 Administrative and Technical Capability

Table 7-4 summarizes potential staff and personnel resources available to TDPUD and their current responsibilities that contribute to hazard mitigation.

TABLE 7-4. ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
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	No	



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Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	TDPUD's Electric and Water Utilities perform maintenance on our electric and water infrastructure to reduce the risk of outages and maintain system performance. This includes vegetation management programs on TDPUD's overhead power lines and defensible space and forest management on TDPUD owned properties.
Mutual aid agreements	Yes	California Utilities Emergency Association (CUEA) and California Water/Wastewater Agency Response Network (CALWARN)
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 and Risk Management Director.
Other	Yes	TDPUD is a small utility with ~80 total employees serving 15,000 electric and water customers. TDPUD does have a Risk and HR Director and one of TDPUD's recent staff additions was the Risk + Compliance specialist. This increased staffing facilitated the adoption of TDPUD's Emergency Operations Plan in 2024 and will lead the implementation and training going forward.
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	No	
Engineers or professionals trained in building or infrastructure construction practices	Yes	TDPUD's Electric and Water Utilities design, construct, operate, and maintain electric and water infrastructure.
Planners or engineers with an understanding of natural hazards	Yes	TDPUD's Electric and Water Utilities design, construct, operate, and maintain electric and water infrastructure. This includes an understanding of natural hazards
Staff with expertise or training in benefit/cost analysis	Yes	TDPUD's Electric and Water Utilities design, construct, operate, and maintain electric 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	



Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Environmental scientists familiar with natural hazards	No	
Surveyors	No	
Emergency manager	No	
Grant writers	Yes	TDPUD has written and submitted grants but typically rely on outside resources as a small public owned electric and water utility. There is no dedicated staff but grants have supported safe and reliable operation of infrastructure.
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

7.3.5 Fiscal Capability

Table 7-5 summarizes financial resources available to TDPUD.

TABLE 7-5. FISCAL CAPABILITIES

Financial Resources	Accessible or Eligible to Use? (Yes/No)
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	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
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

7.3.6 Education and Outreach Capability

Table 7-6 summarizes the education and outreach resources available to TDPUD.

TABLE 7-6. EDUCATION AND OUTREACH CAPABILITIES

Outreach Resources	Available? (Yes/No)	Comment
Public information officer or communications office	Yes	TDPUD's PIO is part of the leadership team and is supported by a Communications Specialist along with outside marketing and design consultants.
Personnel skilled or trained in website development	Yes	PIO and Communications Specialist plus selected staff
Hazard mitigation information available on your website	Yes	The website lists resources such as the Nevada County Local HMP, wildfire preparedness, generator safety, and Energy Public Safety Outage Management. See Link (Emergency Preparedness & Response Truckee Donner Public Utility District (tdpud.org))
Social media for hazard mitigation education and outreach	Yes	TDPUD is active on Facebook, X (Twitter), and Instagram. TDPUD's main focus has been education and outreach on wildfire and winter preparedness.
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	TDPUD communicates with our customers through our Outage Management System, website, e-mail, text, and phone. Public communication is augmented with social media and Nixle alerts.
Natural disaster/safety programs in place for schools	N/A	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	TDPUD's electric and water utility customer base includes socially vulnerable and underserved populations. TDPUD customer programs include financial and other assistance. TDPUD contracts with a local non-profit (Sierra Community House) to help conduct outreach and get socially vulnerable and underserved populations to engage with TDPUD and take advantage of our support programs.
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	In addition to robust customer and community outreach using customer account platforms, web, social media, radio, and print media, TDPUD works directly with local public agencies and public safety partners to inform citizens.
If yes, please describe.		The TDPUD has developed communications channels (phone, e-mail, text, website, outage management systems, and digital to communicate with our customers and community. While not targeted at natural hazards, the severe mountainous weather in which TDPUD operates in the high Sierra Nevada Mountains and the impacts on system reliability are a major communications area.



7.3.7 Community Classifications

Table 7-7 summarizes classifications for community programs available to TDPUD.

TABLE 7-7. COMMUNITY CLASSIFICATIONS

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	N/A		
Building Code Effectiveness Grading Schedule (BCEGS)	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

7.3.8 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 7-8 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

TABLE 7-8. ADAPTIVE CAPACITY

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Avalanche	Moderate
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flood	Moderate
Hazardous Materials Release	Moderate
Landslide	Moderate

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Wildfire	Moderate
Winter Storm	Moderate
Volcano	Moderate

7.4 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. Truckee Donner Public Utility District is not responsible for permitting for new construction. Development permits are issued through local governments.

Since the approval of the last HMP, TDPUD has not experienced any major development in hazard-prone areas. Consequently, there have been no changes that have increased or decreased the overall vulnerability of the District. Additionally, there are no anticipated developments that would impact the vulnerability in the near future.

Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 7-9 and Table 7-10.

TABLE 7-9. RECENT MAJOR DEVELOPMENT AND INFRASTRUCTURE FROM 2017 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
NONE IDENTIFIED					

TABLE 7-10. 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
NONE IDENTIFIED					

7.5 Jurisdictional Risk Assessment

The risk assessment in Volume I provides information regarding the overall planning area's risks from the identified hazards, as well as preliminary hazard rankings for all participating jurisdictions. Key local risk assessment information for TDPUD is presented below.



7.5.1 Jurisdiction-Specific Hazard Risks

Volume I of this plan describes the 12 hazards identified as presenting the greatest risk to Nevada County overall. TDPUD identified how its local risks differ from the overall planning area based on a review of hazard events that specifically affected the District and consideration of the hazard ranking defined in Volume I. Each of these is described below.

Hazard Event History

The history of natural and non-natural hazard events in TDPUD is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 7-11 provides details on loss and damage in TDPUD during hazard events since the last hazard mitigation plan update.

TABLE 7-11. HAZARD EVENT HISTORY IN TDPUD

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in TDPUD
Regional Earthquakes	Earthquake	No	TDPUD has numerous faults in the greater region including the discovery of the Polaris Fault in 2011 which is now on the USGS's list of most active and dangerous faults. The community periodically feels the effects of the movement of the numerous faults in the region.	TDPUD and the region have increased awareness of the potential of a catastrophic earthquake with the discovery of the Polaris Fault in 2011. TDPUD, using the official USGS site, identified nearly 1500 earthquakes within a 50-mile radius with a magnitude of 2 or more between 2017 and 2023. There were 15 earthquakes with a magnitude 4 or greater with the largest earthquake having a magnitude of 6. While TDPUD did not experience any direct damage, the prospect of Polaris experiencing a large local earthquake or one of the other regional faults experiencing a major earthquake have elevated this risk and the need to mitigate.
October 8 – October 31, 2017	Wildfires (DR-4344, FM-5271)	Yes	The 2017 California wildfire season resulted in nearly 1.6 million acres of burned land across 9,000+ wildfires. Nevada County experienced 7 wildfires during this season, with the most notable being the Lobo Fire (Wind Complex) and Pleasant Fire that burned a combined 1,000+ acres of land.	Although the County was impacted, TDPUD did not report significant impacts.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in TDPUD
December 2017 – February 2018	Severe Storms	Yes	Near historic winter storm. Series of major winter storms/atmospheric rivers over a 3-month period	TDPUD experienced power outages and increased costs to respond.
January 20, 2020 – May 11, 2023	Pandemic (DR-4482, EM-3428)	Yes	The coronavirus pandemic resulted in roughly 20,521 cases and 155 attributed deaths as of fall 2023.	TDPUD was subject to closures and masking/social distancing requirements.
August 14 – September 26, 2020	Wildfires (DR-4558, FM-5332)	Yes	Historic wildfires swept across the State of California in 2020, resulting in over 4.3 million acres burned across the State. In Nevada County, the Jones Fire burned 705 acres and resulted in 7 injuries to civilians and fire personnel.	
July 2021	Wildfire	No	Truckee Tahoe Airport Wildfire. Plane approaching Truckee Tahoe Airport crashes short of the runway in a neighborhood near Ponderosa Golf course. Crash explosion causes a wildfire with numerous full grown pine trees fully engulfed and requiring a multi-jurisdictional response to contain the wildfire.	TDPUD experienced electric distribution system damage (poles, wires, transformers) and increased expenses responding to the emergency. There have also been legal costs associated with the plane crash investigation and protecting TDPUD's rate payers.
August 2021	Wildfire	No	Donner Lake Wildfire. House fire on donner lake during a declared red flag warning escapes to adjacent forest with some full grown pine trees fully engulfed. Wildfire was only contained with aerial support dropping fire retardant.	TDPUD experienced increased costs to respond to the emergency. Given the red flag conditions during the fire (30-40 MPH winds) and location on the western portion of Truckee, this was a near-miss for the entire community. TDPUD's electric and water facilities could have been impacted.
July 14 – October 25, 2021	Wildfires (DR-4610)	Yes	The River Fire burned over 2,600 acres through Nevada County before being contained. At least 21 structures were damaged, 142 structures were destroyed, and 4 injuries were reported as a result of this fire.	Although the County was impacted, TDPUD did not report significant impacts.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in TDPUD
December 2021	Severe Storms	Yes	Very wet and windy winter storms following a period of drought that led to significant tree damage.	Formal emergency declared, mutual aid from Roseville Electric, and almost \$2M in damage. TDPUD applied for and received disaster relief of ~\$1.3M from CalOES.
July 2022	Wildfire	No	TTSA Butterfield Wildfire. An over 10 acre wildfire near the Truckee Tahoe Sanitation Agency (TTSA) regional water treatment plant was the result of arson and required a multi-jurisdictional response.	TDPUD experienced increased costs to respond to the emergency. TDPUD's electric and water facilities could have been impacted
December 27, 2022 – January 31, 2023	Severe Storms (DR-4683)	Yes	Severe winter storms, flooding, landslides, and mudslides impacted residents and property across Nevada County.	TDPUD experienced power outages and increased costs to respond.
February 21 – July 10, 2023	Severe Storms (DR-4699, EM-3592)	Yes	Severe winter storms, straight-line winds, flooding, landslides, and mudslides impacted communities across Nevada County.	TDPUD experienced power outages and increased costs to respond.

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

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.

TDPUD reviewed the calculated preliminary hazard ranking to assess the relative risk of the hazards of concern to the community. During its review of the hazard/vulnerability risk ranking, the TDPUD indicated the following:

- Drought is a Low hazard of concern for the District, not Medium as per the countywide calculation.
- Earthquake is a Medium hazard of concern for the District, not Low as per the countywide calculation, because of the risks posed by the Polaris Fault. This fault runs through the Martis Valley, the District's main source of groundwater and where most of its wells are. A seismic



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event on this fault could impact the District's water and electric systems. Many District facilities were constructed prior to the knowledge of the Polaris Fault.

- Extreme heat is a Low hazard of concern for the District, not Medium as per the countywide calculation.
- Winter storm is a Medium hazard of concern for the District, not High as per the countywide calculation.
- Volcano is a Medium hazard of concern for the District, not Low as per the countywide calculation, due to the potential for volcanic ashfall to contaminate water supplies or cause power outages.

The revised rankings also account for the changes in community priorities described in Section 20.2 in Volume I of this HMP.

Table 7-12 shows TDPUD's final hazard rankings. Hazards with a high or medium risk ranking are those of greatest concern to the District. Mitigation actions target those hazards, though some of the identified actions also provide potential risk-reduction benefits for lower-ranked hazards.

TABLE 7-12. HAZARD RANKING

Hazard	Rank	Hazard	Rank
Avalanche	Low	Flood	Low
Dam Failure	Low	Hazardous Materials Release	Low
Drought	Low	Landslide	Low
Earthquake	Medium	Wildfire	High
Extreme Cold	Low	Winter Storm	Medium
Extreme Heat	Low	Volcano	Medium

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

7.5.2 Vulnerability and Potential Impacts for Hazards of Local Concern

Based on the above jurisdiction-specific information, the following sections describe vulnerability and potential impacts for the hazards of greatest concern to TDPUD (listed alphabetically, not in order of risk ranking). The special purpose districts that participated in this HMP focus on maintaining critical facilities to provide specific services to customers. 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.

Earthquake

All people and structures in the District are equally vulnerable to earthquake. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to TDPUD.



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TDPUD power and water distribution facilities are at risk of significant damage due to earthquakes, which can compromise the safety and reliability of these utility services. The area's major fault, Polaris, was only discovered in 2010, so some TDPUD facilities were constructed prior to updated construction standards. The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to TDPUD.

Potential future changes in impacts have been assessed as follows:

- Climate change—Climate change is unlikely to have a significant effect on earthquake impacts in TDPUD.
- Population changes—The impacts of earthquake on TDPUD's facilities are not generally related to population. Changing population in the District is not likely to change the earthquake impacts.
- Future development—New development in TDPUD's service area may require extension of power and water facilities to serve that development, but locally enforced building codes should limit seismic impacts on those facilities.

Wildfire

The analysis of wildfire vulnerability in this HMP is based on hazard mapping previously performed for Nevada County that provides results for four forecast zones across the County, as described in Volume I (Nevada County OES 2023). TDPUD covers the south-central area of the easternmost of these, the Truckee/Donner Forecast Zone. Volume I provides a detailed description of the mapping of wildfire hazard priority areas and quantitative estimates of the associated vulnerability of people and structures in that forecast zone. CAL FIRE's fire hazard severity zone mapping shows almost all of the mapped portion of the District (which excludes Truckee's central urban area) as very high fire hazard area. The location of the Truckee-Tahoe Airport is mapped as mostly high hazard, with a small central area of moderate hazard.

TDPUD faces significant wildfire risks in high-risk areas due to the proximity of vegetation near power lines and critical circuits. Wildfires pose a significant threat to the safety of the community and the reliability of electric and water utility services. The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NID.

Potential future changes in impacts have been assessed as follows:

- Climate change—at the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on wildfire impacts for TDPUD is assumed to be the same as described for all of Nevada County in Volume I. It is predicted that the number of large fires and total area burned will increase with the changing climate.
- Population changes—Any increase in the population living in fire hazard zones in the District will have a corresponding increase in potential wildfire impacts.

- Future development—TDPUD has no authority related to development. The effects of new development on wildfire impacts within the District would largely be related to growth management and building code practices of the County and the Town of Truckee.

Winter Storm

All people and structures in the District are equally vulnerable to winter storm. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to TDPUD.

TDPUD faces significant risks to its electric overhead system due to severe weather events and aging infrastructure. These vulnerabilities can lead to frequent power outages, infrastructure damage, and safety hazards for the community. The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to TDPUD.

Potential future changes in impacts have been assessed as follows:

- Climate change—Warming temperatures are projected to raise the divide between rain and snow by as much as 3,000 feet. Being in the higher elevation portion of the County, TDPUD is more likely to see this effect than lower-elevation areas to the east. Countywide, climate change is predicted to bring more extreme storms in winter.
- Population changes—The impacts of winter storms on TDPUD's facilities are not generally related to population. Changing population in the District is not likely to change the winter storm impacts.
- Future development— The impacts of winter storms on TDPUD's facilities are not generally related to development. New development in the District is not likely to change the winter storm impacts.

Volcano

All people and structures in the District are equally vulnerable to volcano. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to TDPUD.

Within the TDPUD service area, overgrown vegetation and overhead utilities could hinder ingress/egress during a volcanic eruption event. The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to TDPUD.

Potential future changes in impacts have been assessed as follows:

- Climate change—As the atmosphere warms due to climate change, the plumes of ash and gas emitted by large volcanic eruptions will rise higher, increasing the potential for damage in TDPUD from more distant volcanoes.
- Population changes—The impacts of volcano on TDPUD's facilities are not generally related to population. Changing population in the District is not likely to change the volcano impacts.
- Future development— The impacts of volcano on TDPUD's facilities are not generally related to development. New development in the District is not likely to change the volcano impacts.



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7.5.3 Identified Issues

Table 7-13 lists issues related to the top hazards of concern for NID. These issues were identified based on local knowledge, the hazard event history, hazard rankings, hazard location, current capabilities, and the assessments of hazard vulnerability and potential impacts described in detail in Volume I. Addressing these issues is an important community priority for the District, and the mitigation strategy has been developed to incorporate, where feasible, actions that would help to resolve one or more of these issues.

TABLE 7-13. HAZARD ISSUES

Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Truckee Donner Public Utility District is introducing its first-ever Emergency Operations Plan (EOP) in 2024. As this is a new initiative, the District will work diligently to ensure that all staff members are adequately trained and prepared to implement the EOP. Without proper training, staff may lack the necessary knowledge and skills to effectively respond to emergencies, potentially compromising the safety and reliability of utility services during critical situations. The use of outside consultants and expertise would help ensure timely implementation of the EOP.	All hazards of local concern		X
Truckee Donner Public Utility District faces increasing risks of wildfires due to climate change and other environmental factors. These wildfires pose a significant threat to the safety of the community and the reliability of electric and water utility services. Without a proactive approach to mitigate these risks, such as wildfire safety power outages during extreme wildfire danger, TDPUD's infrastructure and the surrounding areas remain vulnerable to catastrophic damage and power outages during high-risk periods.	Wildfire	X	X
TDPUD water system has evolved over the decades and has both old and new infrastructure. In some areas, the current spacing of water system hydrants does not meet the industry standards prescribed by the American Water Works Association (AWWA) for effective fire protection. This inadequate spacing can lead to insufficient water supply during fire emergencies, potentially compromising the ability to control and extinguish fires promptly. As a result, the safety of the community and the protection of property are at risk.	Wildfire		X
TDPUD facilities are at risk of significant damage due to earthquakes, which can compromise the safety and reliability of utility services. Truckee's major fault, Polaris, was only discovered in 2010 so some TDPUD facilities were constructed prior to updated construction standards. Without proper identification of vulnerabilities and implementation of hardening measures, these facilities remain susceptible to seismic events, potentially leading to prolonged service disruptions, costly repairs, and safety hazards for the community.	Earthquake	X	

Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
TDPUD faces significant wildfire risks in high-risk areas due to the proximity of vegetation near power lines and critical circuits. This vegetation can fall on electric equipment, potentially leading to severe damage to utility infrastructure, prolonged power outages, and safety hazards for the community. Enhanced vegetation management and strategic sectionalization would improve TDPUD's ability to prevent and respond to wildfires.	Wildfire	X	
TDPUD faces significant risks to its electric overhead system due to severe weather events, aging infrastructure, and increased wildfire threats. These vulnerabilities can lead to frequent power outages, infrastructure damage, and safety hazards for the community. Without enhanced hardening measures, the electric overhead system remains susceptible to these risks, potentially compromising the reliability and safety of utility services.	Wildfire, Winter Storm	X	
The Town of Truckee is facing significant challenges in maintaining safe and reliable evacuation routes for its residents. Overgrown vegetation and an electric overhead system along some of these key routes pose serious risks, including increased fire hazards and potential impacts to evacuation routes. These issues threaten the safety and well-being of the community, especially during critical evacuation scenarios.	All hazards of local concern	X	X

7.6 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.

7.6.1 Past Mitigation Action Status

Table 7-14 indicates progress on the District's mitigation strategy identified in the 2017 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.

7.6.2 Additional Mitigation Efforts

In addition to the mitigation actions completed from the previous plan, TDPUD identified the following mitigation efforts completed since the last HMP:

- TDPUD, as part of operating electric and water utility infrastructure, conducts ongoing mitigation efforts and system hardening. These are documents in the TDPUD's capital, financial, and operating plans. Some examples include CA SB 901 Wildfire Mitigation Plan; Electric and Water Capital Improvement Plans, and the 10-Year Financial Master Plan. TDPUD has also taken steps to address physical and cyber security, communications infrastructure, and improve practices/procedures.



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TABLE 7-14. STATUS OF PREVIOUS MITIGATION ACTIONS

A1—Fuel Reduction Plan – Trout Creek Trail Area	
Hazards Addressed	Wildfire
Responsible Party	Kathy Neus/Administration
Summary of Original Problem and Solution (Project)	
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	Completed Fall 2017/Winter 2018
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	The action has been completed
A2—Fuel Reduction Plan - Hilltop	
Hazards Addressed	Wildfire
Responsible Party	Kathy Neus/Administration
Summary of Original Problem and Solution (Project)	
Action Review	
Status	Complete
Progress, or obstacles that have prevented implementation	Completed Fall 2017/Winter 2018
Next Steps	
Include in the 2024 HMP or Discontinue?	Discontinue
If include, revise/reword as appropriate	
If discontinue, explain why	The action has been completed

7.6.3 Proposed Hazard Mitigation Actions for the HMP Update

The action worksheets included at the end of this annex list the mitigation actions that TDPUD 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 7-15 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.

TABLE 7-15. ANALYSIS OF MITIGATION ACTIONS BY HAZARD AND CATEGORY

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Avalanche	X				X					X
Dam Failure	X				X					X
Drought	X				X					X
Earthquake	X	X	X	X	X	X		X		X
Extreme Cold	X				X					X
Extreme Heat	X				X					X
Flood	X				X					X
Hazardous Materials Release	X				X					X
Landslide	X				X					X
Wildfire	X	X	X	X	X	X		X		X
Winter Storm	X	X	X	X	X	X		X		X
Volcano	X				X					X

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 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 and Firewise Communities

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 citizens, 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

Volume I identifies 14 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 (-1, 0, or 1) for each of the evaluation criteria. Table 7-16 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.



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TABLE 7-16. SUMMARY OF PRIORITIZATION OF ACTIONS

Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low	
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
2024-TDPUD-01	Provide Training to Staff and Implement the TDPUD 2024 EOP	1	1	1	0	0	1	1	1	1	1	1	1	1	1	12	High
2024-TDPUD-02	Develop and Implement Electric Utility Preemptive De energization Program	1	1	1	0	0	1	1	1	1	1	1	1	1	0	11	High
2024-TDPUD-03	Decrease Water System Hydrant Spacing	1	1	1	0	0	0	1	1	1	1	1	1	1	0	10	High
2024-TDPUD-04	Earthquake Identification and Hardening Project	1	1	1	0	0	0	1	0	1	1	1	0	1	0	9	Medium
2024-TDPUD-05	Enhanced Vegetation Management for High Wildfire Areas and, Sectionalization	1	1	1	0	0	0	1	1	1	1	1	0	1	0	9	Medium
2024-TDPUD-06	Enhanced Electric Overhead System Hardening	1	1	1	0	0	0	1	1	1	1	1	0	1	0	9	Medium
2024-TDPUD-07	Vegetation Management in Right of Ways and Utility Easements and Electric Overhead System Hardening	1	1	1	0	0	0	1	1	1	1	1	0	1	0	9	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



**2024-TDPUD-01. PROVIDE TRAINING TO STAFF AND IMPLEMENT THE TDPUD
2024 EOP**

Lead Agency:	Truckee Donner Public Utility District	
Supporting Agencies:	-	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>Truckee Donner Public Utility District is introducing its first-ever Emergency Operations Plan (EOP) in 2024. As this is a new initiative, the District will work diligently to ensure that all staff members are adequately trained and prepared to implement the EOP. Without proper training, staff may lack the necessary knowledge and skills to effectively respond to avalanches, dam failures, drought, earthquakes, extreme cold and heat, floods, hazardous materials releases, landslides, wildfires, winter storms, and volcano events. Lack of training could potentially compromise the safety and reliability of utility services during critical situations. The use of outside consultants and expertise would help ensure timely implementation of the EOP.</p>	
Description of the Solution:	<p>To address this issue, TDPUD will provide comprehensive training to all staff members on the 2024 EOP. This training will include detailed instructions on emergency procedures, roles and responsibilities, and the use of emergency equipment. By implementing this training program, TDPUD aims to enhance staff preparedness, improve response times, and ensure the safety and continuity of utility services during emergencies.</p>	
Estimated Cost:	Medium	
Potential Funding Sources:	Operational Funds, BRIC, HMGP, PDM, other grant programs	
Implementation Timeline:	1-2 years	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	<p>This initiative will ensure that staff are well-equipped with the necessary knowledge and skills to respond effectively to emergencies, thereby improving response times and minimizing disruptions to utility services.</p>	
Impact on Socially Vulnerable Populations:	<p>Consistent and reliable utility services during emergencies ensure that vulnerable groups have access to essential resources like electricity and water, which are critical for their well-being.</p>	
Impact on Future Development:	<p>A well-prepared staff can better manage and mitigate the impacts of emergencies, leading to more resilient infrastructure that supports future development.</p>	
Impact on Critical Facilities/Lifelines:	<p>Training ensures that critical lifelines such as power and water remain operational during emergencies, minimizing disruptions to essential services.</p>	
Impact on Capabilities:	<p>The project builds a culture of preparedness and resilience within TDPUD, ensuring that the organization is better equipped to handle future emergencies.</p>	



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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 TDPUD staff will need to respond to, making the training even more critical.		
Mitigation Category	<input checked="" type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	High		



2024-TDPUD-02. DEVELOP AND IMPLEMENT ELECTRIC UTILITY PREEMPTIVE DE-ENERGIZATION PROGRAM

Lead Agency:	Truckee Donner Public Utility District		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	<p>Truckee Donner Public Utility District faces increasing risks of wildfires due to climate change and other environmental factors. These wildfires pose a significant threat to the safety of the community and the reliability of electric and water utility services. Additionally, earthquakes and winter storms also threaten utility services: abrupt soil movement can destabilize facilities, while winter storms can produce flood waters or high winds that lead to downed trees or other damage to utilities. Without a proactive approach to mitigate these risks, such as wildfire safety power outages during extreme wildfire danger, TDPUD's infrastructure and the surrounding areas remain vulnerable to catastrophic damage and power outages during high-risk periods.</p>		
Description of the Solution:	<p>To address this issue, TDPUD will develop and implement an Electric Utility Preemptive De-energization Program. This program will involve strategically shutting down power in high-risk areas during extreme weather conditions to prevent TDPUD's electric utility infrastructure from being the source of a catastrophic wildfire. This project involves the need for both capital investment (situational awareness, sectionalizing, and system controls) along with the comprehensive training that will be provided to staff on the procedures and protocols for preemptive de-energization. By implementing this program, TDPUD aims to enhance community safety, protect critical infrastructure, and ensure a rapid and coordinated response to potential wildfire threats.</p>		
Estimated Cost:	High		
Potential Funding Sources:	District Operational Funds, BRIC, HMGP, PDM		
Implementation Timeline:	1-5 years		
Goals Met:	1, 2, 3, 5, 6, 7, 8, 9		
Benefits:	<p>The Electric Utility Preemptive De-energization Program not only mitigates wildfire risks but also contributes to the safety, resilience, and development of the community, while enhancing TDPUD's operational capabilities and public trust.</p>		
Impact on Socially Vulnerable Populations:	<p>By preventing wildfires through preemptive de-energization, the project protects socially vulnerable populations who may have limited means to evacuate or recover from wildfire damage.</p>		
Impact on Future Development:	<p>A proactive approach to wildfire prevention can make the area more attractive to new residents and businesses, fostering economic growth and development.</p>		



Impact on Critical Facilities/Lifelines:	By strategically shutting down power in high-risk areas, the project helps maintain the overall integrity of the electric grid and minimizes the disruptions to critical services like hospitals and emergency response centers.		
Impact on Capabilities:	The project builds a culture of resilience within TDPUD, equipping the organization to handle future climate-related challenges more effectively.		
Climate Change Considerations:	Climate change is leading to more frequent and severe wildfires due to rising temperatures, prolonged droughts, and changing precipitation patterns. This increases the necessity for a preemptive de-energization program to mitigate these heightened risks.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	High		

2024-TDPUD-03. DECREASE WATER SYSTEM HYDRANT SPACING

Lead Agency:	Truckee Donner Public Utility District		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	<p>TDPUD water system has evolved over the decades and has both old and new infrastructure. In some areas, the current spacing of water system hydrants does not meet the industry standards prescribed by the American Water Works Association (AWWA) for effective fire protection. This inadequate spacing can lead to insufficient water supply during fire emergencies, potentially compromising the ability to control and extinguish fires promptly. The aged infrastructure is also potentially more vulnerable to malfunction or failure during an earthquake or winter storm. As a result, the safety of the community and the protection of property are at risk.</p>		
Description of the Solution:	<p>TDPUD is working to decrease the spacing of water system hydrants to align with the industry standards set by the AWWA. This project would involve installing additional hydrants in strategic locations to ensure optimal coverage and water availability for fire protection. By implementing this solution, TDPUD aims to enhance fire-fighting capabilities, improve community safety, and protect property from fire-related damage.</p>		
Estimated Cost:	High		
Potential Funding Sources:	BRIC, HMGP, PDM		
Implementation Timeline:	2-5 or more years		
Goals Met:	1, 2, 3, 5, 6, 7, 8, 9		
Benefits:	<p>This project significantly enhances fire protection capabilities, improves community safety, and supports future growth, while ensuring compliance with industry standards and promoting operational efficiency.</p>		
Impact on Socially Vulnerable Populations:	<p>Improved fire-fighting capabilities ensure that vulnerable groups have access to essential services and support during fire emergencies.</p>		
Impact on Future Development:	<p>Adequate hydrant spacing supports future residential and commercial development by ensuring that new areas are well-protected against fire risks.</p>		
Impact on Critical Facilities/Lifelines:	<p>Properly spaced hydrants ensure that critical lifelines, such as hospitals, schools, and emergency services, have reliable fire protection, minimizing disruptions during emergencies.</p>		
Impact on Capabilities:	<p>The project enhances the overall capabilities of TDPUD by ensuring that water resources are optimally utilized during fire emergencies.</p>		
Climate Change Considerations:	<p>Climate change underlines the critical need for decreasing hydrant spacing to meet AWWA standards, making it an essential component of TDPUD's strategy to protect the community, infrastructure, and environment from the increasing risks posed by a changing climate.</p>		



Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-TDPUD-04. EARTHQUAKE IDENTIFICATION AND HARDENING PROJECT

Lead Agency:	Truckee Donner Public Utility	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>TDPUD facilities are at risk of significant damage due to earthquakes, which can compromise the safety and reliability of utility services. Truckee's major fault, Polaris, was only discovered 2010 so some TDPUD facilities were constructed prior to updated construction standards. Without proper identification of vulnerabilities and implementation of hardening measures, these facilities remain susceptible to seismic events, potentially leading to prolonged service disruptions, costly repairs, and safety hazards for the community.</p>	
Description of the Solution:	<p>TDPUD is working to undertake an Earthquake Identification and Hardening Project. This project would involve a comprehensive assessment of all facilities to identify vulnerabilities to seismic activity. Based on the findings, TDPUD would implement targeted hardening measures to reinforce structures and systems, ensuring they can withstand earthquakes. By executing this project, TDPUD aims to enhance the resilience of its facilities, maintain continuous utility services, and protect the safety of the community during seismic events.</p>	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, PDM	
Implementation Timeline:	5 or more years	
Goals Met:	1, 2, 3, 5, 6, 7, 8, 9	
Benefits:	<p>By identifying and reinforcing vulnerable facilities, the project ensures that TDPUD's infrastructure can withstand seismic events, reducing the risk of damage and service disruptions.</p>	
Impact on Socially Vulnerable Populations:	<p>By reinforcing facilities, the project helps protect socially vulnerable populations who may be disproportionately affected by service disruptions and safety hazards during earthquakes.</p>	
Impact on Future Development:	<p>A resilient infrastructure supports future residential and commercial development by ensuring that new areas are well-protected against seismic risks.</p>	
Impact on Critical Facilities/Lifelines:	<p>Strengthening TDPUD facilities ensures that the impacts to critical services, such as hospitals, emergency response centers, and schools, are minimized during and after earthquakes.</p>	
Impact on Capabilities:	<p>By implementing targeted hardening measures, TDPUD builds a culture of preparedness and resilience, ensuring that the organization is better equipped to handle future earthquakes.</p>	



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 hardening measures to ensure facilities can withstand earthquakes.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		

2024-TDPUD-05. ENHANCED VEGETATION MANAGEMENT FOR HIGH WILDFIRE AREAS AND SECTIONALIZATION

Lead Agency:	Truckee Donner Public Utility District		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	<p>TDPUD faces significant wildfire risks in high-risk areas due to the proximity of vegetation near power lines and critical circuits. This vegetation can fall on electric equipment, potentially leading to severe damage to utility infrastructure, prolonged power outages, and safety hazards for the community. Enhanced vegetation management and strategic sectionalization would improve TDPUD's ability to prevent and respond to wildfires. Excessive vegetation can also exacerbate impacts during winter storms such as through increased debris carried by flood waters or downed trees caused by strong winds.</p>		
Description of the Solution:	<p>TDPUD is working to implement an enhanced vegetation management project focused on high wildfire risk areas and sectionalization to allow for targeted preemptive de-energizations. This project would involve enhanced clearing and maintenance of vegetation near power lines to reduce the risk of TDPUD infrastructure being the ignition of catastrophic wildfires. Additionally, TDPUD would implement sectionalization strategies to isolate and protect critical circuits during preemptive de-energizations. By executing this program, TDPUD aims to further mitigate wildfire risks, protect infrastructure, and ensure the safety and reliability of utility services for the community.</p>		
Estimated Cost:	High		
Potential Funding Sources:	BRIC, HMGP, PDM		
Implementation Timeline:	5 or more years		
Goals Met:	1, 2, 3, 5, 6, 7, 8, 9		
Benefits:	<p>Enhanced clearing and maintenance of vegetation near power lines and key circuits significantly reduce the risk of TDPUD infrastructure being the ignition source of catastrophic, thereby lowering the risk of fire ignition and spread. Sectionalization would limit the impacts of preemptive de-energizations.</p>		
Impact on Socially Vulnerable Populations:	<p>Minimizing the risks of catastrophic wildfire and mitigating the impacts of preemptive de-energization helps ensure that vulnerable groups have access to essential resources like electricity and water, which are critical for their well-being.</p>		
Impact on Future Development:	<p>Demonstrating a commitment to wildfire prevention and service reliability can attract new residents and businesses, fostering community growth and development.</p>		
Impact on Critical Facilities/Lifelines:	<p>Improved resilience allows for quicker recovery and restoration of services, minimizing disruptions to critical facilities.</p>		



Impact on Capabilities:	The project enhances the overall capabilities of TDPUD by ensuring that enhanced vegetation management and sectionalization strategies are fully funded and effectively implemented.		
Climate Change Considerations:	Climate change is leading to more frequent and severe wildfires due to rising temperatures, prolonged droughts, and changing precipitation patterns. This increases the necessity for enhanced vegetation management and sectionalization.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



2024-TDPUD-06. ENHANCED ELECTRIC OVERHEAD SYSTEM HARDENING

Lead Agency:	Truckee Donner Public Utility District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>TDPUD faces significant risks to its electric overhead system due aging infrastructure, which is more likely to fail during an earthquake, wildfire, or winter storm. These vulnerabilities can lead to frequent power outages, infrastructure damage, and safety hazards for the community. Without enhanced hardening measures, the electric overhead system remains susceptible to these risks, potentially compromising the reliability and safety of utility services.</p>	
Description of the Solution:	<p>TDPUD is working to undertake an Enhanced Electric Overhead System Hardening project. This project would involve upgrading and reinforcing the electric overhead infrastructure to withstand severe weather conditions and reduce wildfire risks. Measures would include undergrounding overhead power lines, installing covered conductor, replacing and/or hardening overhead power poles, and installing advanced controls. By executing this project, TDPUD aims to improve the resilience and reliability of the electric overhead system, ensuring continuous and safe utility services for the community.</p>	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, PDM	
Implementation Timeline:	5 or more years	
Goals Met:	1, 2, 3, 5, 6, 7, 8, 9	
Benefits:	<p>Upgrading and reinforcing the electric overhead infrastructure enhances its ability to withstand severe weather conditions and reduce wildfire risks, ensuring more reliable utility services.</p>	
Impact on Socially Vulnerable Populations:	<p>Ensuring continuous utility services means that vulnerable groups have consistent access to essential resources like electricity, which is critical for their well-being.</p>	
Impact on Future Development:	<p>A resilient electric overhead system supports future residential and commercial development by ensuring that new areas are well-served and protected against severe weather and wildfire risks.</p>	
Impact on Critical Facilities/Lifelines:	<p>Strengthening the electric overhead system ensures that critical facilities, such as hospitals, emergency response centers, and schools, reduces the risk of extended power outages.</p>	
Impact on Capabilities:	<p>The project enhances the overall capabilities of TDPUD by ensuring that the electric overhead system is better equipped to handle severe weather and wildfire risks.</p>	
Climate Change Considerations:	<p>The impacts of climate change are putting electric utility facilities at risk creating the possibility of more and prolonged power outages.</p>	

Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-TDPUD-07. VEGETATION MANAGEMENT IN RIGHT OF WAYS AND UTILITY EASEMENTS AND ELECTRIC OVERHEAD SYSTEM HARDENING

Lead Agency:	Truckee Donner Public Utility District	
Supporting Agencies:	Town of Truckee	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	<p>The Town of Truckee is facing significant challenges in maintaining safe and reliable evacuation routes for its residents. Overgrown vegetation and an electric overhead system along some of these key routes pose serious risks, including increased fire hazards and potential impacts to evacuation routes, especially during volcano events, winter storms, and earthquakes. These issues threaten the safety and well-being of the community, especially during critical evacuation scenarios.</p>	
Description of the Solution:	<p>To address these challenges, a collaborative project has been initiated between the Town of Truckee and TDPUD. This project focuses on enhanced vegetation management within Town Rights of Way and TDPUD Public Utility Easements. By clearing overgrowth and mitigating fire hazards along key evacuation routes, the project aims to improve safety and accessibility. Additionally, the project includes hardening the TDPUD Electric Overhead System to enhance its resilience against extreme weather events and reduce the likelihood of potential impacts to evacuation routes. This comprehensive approach will ensure safer and more reliable evacuation routes for the community.</p>	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, HMGP, PDM	
Implementation Timeline:	5 or more years	
Goals Met:	1, 2, 3, 5, 6, 7, 8, 9	
Benefits:	<p>This collaborative project between the Town of Truckee and TDPUD not only addresses immediate safety concerns but also lays the foundation for a more resilient and thriving community.</p>	
Impact on Socially Vulnerable Populations:	<p>By clearing overgrown vegetation and mitigating fire hazards, the project ensures that evacuation routes are accessible and safe, particularly benefiting socially vulnerable populations who may have limited mobility or resources.</p>	
Impact on Future Development:	<p>Strengthening the electric overhead system and managing vegetation proactively creates a more resilient infrastructure, which is crucial for supporting future development and growth in the area.</p>	
Impact on Critical Facilities/Lifelines:	<p>Ensuring that key evacuation routes are clear, and that the electric system is robust helps maintain the operation of critical facilities such as hospitals, emergency services, and shelters during emergencies.</p>	



Impact on Capabilities:	The project enhances the community's overall preparedness for emergencies by ensuring that evacuation routes are reliable, and that the electric system can withstand extreme weather events.	
Climate Change Considerations:	Climate change is associated with more frequent and severe weather events, such as storms and heatwaves, which can damage the electric overhead system.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input checked="" type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

8. Washington County Water District

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

This annex is part of a multi-jurisdictional HMP that was developed to meet plan participation requirements for all participating jurisdictions while accommodating their specific needs and limitations. Because many participating jurisdictions are rural agencies with limited staff, the planning process included establishing a Steering Committee and engaging a contract consultant to work with Nevada County in undertaking certain elements of the plan update on behalf of the jurisdictions. These elements included outreach to stakeholders and the public, risk assessment for all countywide hazards of concern, initial ranking of hazard risks, updates of hazard mitigation goals and objectives, and establishment of procedures for implementing and maintaining the HMP. This annex presents only the information specific to Washington County Water District as a participating jurisdiction. All other plan elements are included in Volume I and are referenced in this annex as appropriate.

8.1 Hazard Mitigation Planning Team

The Washington County Water District identified primary and alternate HMP points of contact and developed this plan over the course of several months with input from District departments. The District's Fire Chief represented the District on the Nevada County Hazard Mitigation Plan Planning Partnership and Steering Committee and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan.

Table 8-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.



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TABLE 8-1. HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact	Alternate Point of Contact
Name/Title: Mike Stewart, Fire Chief Address: 15406 Washington Rd, Nevada City, CA 95959 Phone Number: 530-265-4720 Email: waftac.chief@gmail.com	Name/Title: Tina Jackson, Manager Address: 15406 Washington Rd, Nevada City, CA 95959 Phone Number: 530-265-4720 Email: washingtoncowtr@gmail.com
Contributions to the Annex	
Name/Title: Mike Stewart, Fire Chief Method of Participation: Provided updated information on hazard events, capabilities, and mitigation actions.	
Name/Title: Tina Jackson, Manager Method of Participation: Participated in the review process.	

8.2 Community Profile

The Washington County Water District (WCWD) is an independent special district responsible for providing water and fire protection services to the unincorporated community known as the Town of Washington. The WCWD is governed by a Board of Directors elected by the District's voters. The Town of Washington is in Nevada County, approximately 13 miles east of Nevada City, on the South Fork of the Yuba River. The community is small and isolated, with few opportunities for expansion due to wild and rugged watershed lands, and additionally surrounded entirely by Tahoe National Forest property (CABY 2024).

The WCWD is the only water agency serving the community. The District provides water through 122 hook-ups that serve approximately 140 residents and businesses, including a campground and a bar/hotel. Washington is a popular recreation destination, which results in considerable spikes in summertime water use (CABY 2024).

8.3 Jurisdictional Capability Assessment and Integration

WCWD 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



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TETRA TECH

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 WCWD to identify opportunities for integrating mitigation concepts into ongoing District procedures.

8.3.1 Planning and Regulatory Capability

Table 8-2 summarizes the planning and regulatory tools that are available to WCWD. As a special district, WCWD does not have planning and regulatory capabilities. Construction and development in the District are subject to the building codes, planning and land use regulation, and development standards of the County or municipality where they occur.

8.3.2 Integration

Table 8-2 describes how some local planning mechanisms have been integrated into this HMP and how information from this HMP can be integrated into these mechanisms when they are updated in the future. Procedures for this future integration are outlined in Section 21.2.2 of Volume I of this HMP.

Because of the limited geographic size of the District and number of staff, the District could utilize the information captured during the planning process and identified action items to assist in the development of a capital improvement plan, water management plan, or emergency plans. The District could also partner with an allied agency to collaborate on the integration of the updated data in the development of these plans. Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings are as follows:

- Using HMP hazard assessment data and action item information for potential emergency plans and annex updates and/or emergency response plans
- Incorporating hazard information, such as floodplain data, to potentially review and update zoning, land use, planning, and building codes; subdivision ordinance; and water management for new neighborhoods, communities, or other developments
- Using hazard analyses for general plan updates
- Updating capital improvement or strategic plans based on specific mitigation action items listed in this annex

8.3.3 Development and Permitting Capability

Table 8-3 summarizes the capabilities of WCWD to oversee and track development.

8.3.4 Administrative and Technical Capability

Table 8-4 summarizes potential staff and personnel resources available to WCWD and their current responsibilities that contribute to hazard mitigation.

8.3.5 Fiscal Capability

Table 8-5 summarizes financial resources available to WCWD.



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TABLE 8-2. PLANNING AND REGULATORY CAPABILITY

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	N/A			
Zoning/Land Use Code	N/A			
Subdivision Code	N/A			
Site Plan Code	N/A			
Stormwater Management Code	N/A			
Post-Disaster Recovery/Reconstruction Code	N/A			
Real Estate Disclosure Requirements	N/A			
Growth Management	N/A			
Environmental Protection Ordinance	N/A			
Flood Damage Prevention Ordinance	N/A			
Wellhead Protection	N/A			
Emergency Management Ordinance	N/A			
Climate Change Ordinance	N/A			
PLANNING DOCUMENTS				
General/Comprehensive Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Capital Improvement Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Disaster Debris Management Plan	N/A			
Floodplain Management or Watershed Plan	N/A			
Stormwater Management Plan	N/A			
Open Space Plan	N/A			
Urban Water Management Plan	N/A			
Habitat Conservation Plan	N/A			
Economic Development Plan	N/A			



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Community Wildfire Protection Plan	N/A			
Community Forest Management Plan	N/A			
Transportation Plan	N/A			
Agriculture Plan	N/A			
Climate Action/Resilience/Sustainability Plan	N/A			
Tourism Plan	N/A			
Business/ Downtown Development Plan	N/A			
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Continuity of Operations Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Substantial Damage Response Plan	N/A			
Threat and Hazard Identification and Risk Assessment	N/A			
Post-Disaster Recovery Plan	N/A			
Public Health Plan	N/A			

TABLE 8-3. DEVELOPMENT AND PERMITTING CAPABILITY

	Yes/No	Comment
Do you issue development permits?	No	Development permits are issued through local governments.
<ul style="list-style-type: none"> If you issue development permits, what department is responsible? If you do not issue development permits, what is your process for tracking new development? 		
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? <ul style="list-style-type: none"> If you have a buildable land inventory, please describe 	No	
Describe the level of buildout in your jurisdiction.	99%	



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TABLE 8-4. ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
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	Yes	
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	
Other	No	
TECHNICAL/STAFFING CAPABILITY		
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	FD supports 2X monthly food distributions
Environmental scientists familiar with natural hazards	No	
Surveyors	No	
Emergency manager	Yes	Mike Stewart, Fire Chief
Grant writers	No	
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	



TABLE 8-5. FISCAL CAPABILITIES

Financial Resources	Accessible or Eligible to Use? (Yes/No)
Community development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvements project funding	No
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	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

8.3.6 Education and Outreach Capability

Table 8-6 summarizes the education and outreach resources available to WCWD.

TABLE 8-6. EDUCATION AND OUTREACH CAPABILITIES

Outreach Resources	Available? (Yes/No)	Comment:
Public information officer or communications office	Yes	-
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	Facebook
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	No	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	FD supports 2X monthly food distributions.
Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events?	No	-
If yes, please describe.		-



8.3.7 Community Classifications

Table 8-7 summarizes classifications for community programs available to WCWD.

TABLE 8-7. COMMUNITY CLASSIFICATIONS

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	N/A		
Building Code Effectiveness Grading Schedule (BCEGS)	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		

N/A = Not applicable

8.3.8 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 8-8 summarizes the adaptive capacity for each identified hazard of concern and the District's capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement

TABLE 8-8. ADAPTIVE CAPACITY

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Avalanche	Moderate
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flood	Moderate
Hazardous Materials Release	Moderate
Landslide	Moderate

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Wildfire	Moderate
Winter Storm	Moderate
Volcano	Moderate

8.4 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. WCWD is not responsible for permitting for new construction. Upon request for water from a developer, the District assesses the engineering requirements of any development.

Since the approval of the last HMP, WCWD has not experienced any major development in hazard-prone areas. Consequently, there have been no changes that have increased or decreased the overall vulnerability of the District. Additionally, there are no anticipated developments that would impact the vulnerability in the near future.

Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 8-9 and Table 8-10.

TABLE 8-9. RECENT MAJOR DEVELOPMENT AND INFRASTRUCTURE FROM 2017 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
NONE IDENTIFIED					

TABLE 8-10. 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
NONE IDENTIFIED					

8.5 Jurisdictional Risk Assessment

The risk assessment in Volume I provides information regarding the overall planning area's risks from the identified hazards, as well as preliminary hazard rankings for all participating jurisdictions. Key local risk assessment information for WCWD is presented below.



8.5.1 Jurisdiction-Specific Hazard Risks

Volume I of this plan describes the 12 hazards identified as presenting the greatest risk to Nevada County overall. WCWD identified how its local risks differ from the overall planning area based on a review of hazard events that specifically affected the District and consideration of the hazard ranking defined in Volume I. Each of these is described below.

Hazard Event History

The history of natural and non-natural hazard events in WCWD is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 8-11 provides details on loss and damage in WCWD during hazard events since the last hazard mitigation plan update.

TABLE 8-11. HAZARD EVENT HISTORY IN WCWD

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in WCWD
October 8 – October 31, 2017	Wildfires (DR-4344, FM-5271)	Yes	The 2017 California wildfire season resulted in nearly 1.6 million acres of burned land across 9,000+ wildfires. Nevada County experienced 7 wildfires during this season, with the most notable being the Lobo Fire (Wind Complex) and Pleasant Fire that burned a combined 1,000+ acres of land.	Although the County was impacted, the WCWD did not report significant damages.
January 20, 2020 – May 11, 2023	Pandemic (DR-4482, EM-3428)	Yes	The coronavirus pandemic resulted in roughly 20,521 cases and 155 attributed deaths as of fall 2023.	\$1,800 in PPE
August 14 – September 26, 2020	Wildfires (DR-4558, FM-5332)	Yes	Historic wildfires swept across the State of California in 2020, resulting in over 4.3 million acres burned across the State. In Nevada County, the Jones Fire burned 705 acres and resulted in 7 injuries to civilians and fire personnel.	Although the County was impacted, the WCWD did not report significant damages.
July 14 – October 25, 2021	Wildfires (DR-4610)	Yes	The River Fire burned over 2,600 acres through Nevada County before being contained. At least 21 structures were damaged, 142 structures were destroyed, and 4 injuries were reported as a result of this fire.	Although the County was impacted, the WCWD did not report significant damages.
December 27, 2022 – January 31, 2023	Severe Storms (DR-4683)	Yes	Severe winter storms, flooding, landslides, and mudslides impacted residents and property across Nevada County.	Loss of commercial power, \$2,800.00 in LPG for standby generators

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in WCWD
February 21 – July 10, 2023	Severe Storms (DR-4699, EM-3592)	Yes	Severe winter storms, straight-line winds, flooding, landslides, and mudslides impacted communities across Nevada County.	Loss of commercial power, \$3,200.00 in LPG for standby generators

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable

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.

WCWD reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the District. The District agreed with many of the calculated hazard rankings. The ranking for flood was adjusted from Low to Medium due to the observed frequency and impacts of past events. The dam failure and earthquake rankings were increased from Low to Medium due to structural/infrastructure vulnerabilities and the potential for more intense impacts, although no events of these types have occurred in recent history. The revised rankings also account for the changes in community priorities described in Section 20.2 in Volume I of this HMP.

Table 8-12 shows WCWD's final hazard rankings. Hazards with a high or medium risk ranking are those of greatest concern to the District. Mitigation actions target those hazards, though some of the identified actions also provide potential risk-reduction benefits for lower-ranked hazards.

TABLE 8-12. HAZARD RANKING

Hazard	Rank	Hazard	Rank
Avalanche	Low	Flood	Medium
Dam Failure	Medium	Hazardous Materials Release	Low
Drought	Medium	Landslide	Low
Earthquake	Medium	Wildfire	High
Extreme Cold	Low	Winter Storm	High
Extreme Heat	Medium	Volcano	Low



8.5.2 Vulnerability and Potential Impacts for Hazards of Local Concern

Based on the above jurisdiction-specific information, the following sections describe vulnerability and potential impacts for the hazards of greatest concern to WCWD (listed alphabetically, not in order of risk ranking). The special purpose districts that participated in this HMP focus on maintaining critical facilities to provide specific services to customers. 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.

Dam Failure

Several dams upstream of the WCWD, including Bowman (rated extremely high hazard), Fuller Lake, and Lake Spaulding, have mapped dam failure inundation areas that follow the South Fork Yuba River through the WCWD service area. Any district facilities within these mapped inundations areas are vulnerable to the dam failure hazard.

In the event of a failure of one of the dams upstream of the WCWD service area, the South Yuba River could suddenly rise from a few feet to over 90 feet in the timeframe of about 15 to 60 minutes. The potential damage to above-ground WCWD facilities within the inundation area could be significant.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Projected increase in extreme precipitation at higher elevations in Nevada County may increase the risk of failure of dams upstream of WCWD with inundation areas that cross the District’s boundaries.
- Population changes—No projections have been developed for the overall future population in the District, though population in unincorporated areas countywide have increased slightly in recent years. Any future increase within the WCWD service area could lead to a corresponding increase in number of people potentially impacted by a dam failure event.
- Future development—WCWD has no authority related to development. The effects of new development on dam failure impacts within the District would largely be related to growth management and building code practices of the County and the cities within the District’s boundaries.

Drought

All people and structures in the District are equally vulnerable to drought. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to WCWD.

The qualitative countywide impacts of drought described in the risk assessment in Volume I are equally applicable to WCWD. In addition, the reliability of the District’s facilities during a drought is especially important given WCWD’s role as a provider of water for residential and commercial uses.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). The reliability of WCWD assets in providing water for residential and commercial uses and for firefighting is especially urgent in times of drought. With predicted increases in the frequency and severity of drought, the District will have greater urgency to maintain and repair its assets.
- Population changes—No projections have been developed for the overall future population in the District, though population in unincorporated areas countywide have increased slightly in recent years. Any growth in the population that receives the District’s water will increase the urgency of ensuring the reliability of NID assets during times of drought.
- Future development—WCWD has no authority related to development. The effects of new development on drought impacts within the District would largely be related to growth management and building code practices of the County and the cities within the District’s boundaries. New development within NID’s service area could increase the demand on water supply, increasing the potential need for water restrictions during drought.

Earthquake

All people and structures in the District are equally vulnerable to earthquake. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to WCWD.

All WCWD water distribution facilities are at risk of damage due to earthquakes, which can compromise the safety and reliability of these utility services. The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to the District.

Potential future changes in impacts have been assessed as follows:

- Climate change—Climate change is unlikely to have a significant effect on earthquake impacts in WCWD.
- Population changes—The impacts of earthquake on WCWD’s facilities are not generally related to population. Changing population in the District is not likely to change the earthquake impacts.
- Future development—WCWD has no authority related to development. The effects of new development on dam failure impacts within the District would largely be related to growth management and building code practices of the County and the cities within the District’s boundaries. New development in WCWD’s service area may require extension of water facilities to serve that development, but locally enforced building codes should limit seismic impacts on those facilities.

Extreme Heat

All people and structures in the District are equally vulnerable to extreme heat. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to WCWD.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to WCWD. For WCWD, the most significant impacts are the contribution of extreme heat to fire

potential and the related demand on the District's firefighting capabilities, and its contribution to drought potential and the related demand on the District's water supply system.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature (Geospatial Innovation Facility n.d.). Temperature projections for Nevada County indicate general increases over the coming decades, likely increasing the potential impacts from the extreme heat hazard.
- Population changes—The impacts of extreme heat on WCWD's facilities are not generally related to population. Changing population in the District is not likely to change the extreme heat impacts.
- Future development—The impacts of extreme heat on WCWD's facilities are not generally related to development. This impact is not expected to change with new development.

Flood

The District assets most vulnerable to flood are those located within mapped flood hazard areas along the South Fork Yuba River and Washington Creek. The current intake structure and associated piping that captures and brings raw water to the District's filter plant is damaged and/or becomes unusable during flood events. The District also has experienced loss of water conveyance facilities over the South Fork Yuba River during past flooding. The qualitative flood vulnerability discussion in Volume I is applicable to WCWD.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Like the rest of Nevada County, the District will likely see increased flood risk as climate change increases storm intensities and temperatures.
- Population changes—No projections have been developed for the overall future population in the District, though population in unincorporated areas countywide have increased slightly in recent years. Any increase in the population living in floodplains in the District will have a corresponding increase in potential flood impacts.
- Future development—WCWD has no authority related to development. The effects of new development on flood impacts within the District would largely be related to growth management, floodplain management, and building code practices of the County.

Wildfire

The analysis of wildfire vulnerability in this HMP is based on hazard mapping previously performed for Nevada County that provides results for four forecast zones across the County, as described in Volume I (Nevada County OES 2023). WCWD is in the southwest portion of the Tahoe National Forest Area Forecast Zone in the center of the County. Volume I provides a detailed description of the

mapping of wildfire hazard priority areas and quantitative estimates of the associated vulnerability of people and structures in that forecast zone. CAL FIRE's fire hazard severity zone mapping shows all of the mapped portion of the District (which excludes federal lands in the Tahoe National Forest) as very high fire hazard area.

Over the years there have been many fires in the South Fork Yuba River Canyon, from a tenth of an acre to many thousands of acres. The District's existing filter plant building is constructed of wood siding with a metal roof, with forest growth directly adjacent to the structure, putting it at high risk of potential wildfire damage. The qualitative countywide impacts of wildfire described in the risk assessment in Volume I are equally applicable to NID.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on wildfire impacts for WCWD is assumed to be the same as described for all of Nevada County in Volume I. It is predicted that the number of large fires and total area burned will increase with the changing climate.
- Population changes—No projections have been developed for the overall future population in the District, though population in unincorporated areas countywide have increased slightly in recent years. Any increase in the population living in fire hazard zones in the District will have a corresponding increase in potential wildfire impacts.
- Future development—WCWD has no authority related to development. The effects of new development on wildfire impacts within the District would largely be related to growth management and building code practices of the County.

Winter Storm

All people and structures in the District are equally vulnerable to winter storm. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to WCWD.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NID. For WCWD, the most significant impact is the contribution of winter storms to flood potential and the related potential damage to District assets in the floodplain.

Potential future changes in impacts have been assessed as follows:

- Climate change—Warming temperatures are projected to raise the divide between rain and snow by as much as 3,000 feet. Being in the higher elevation portion of the County, WCWD is more likely to see this effect than higher-elevation areas to the east. Countywide, climate change is predicted to bring more extreme storms in winter.
- Population changes—The impacts of winter storms on WCWD's facilities are not generally related to population. Changing population in the District is not likely to change the winter storm impacts.

- Future development— The impacts of winter storms on WCWD's facilities are not generally related to development. New development in the District is not likely to change the winter storm impacts.

8.5.3 Identified Issues

Table 8-13 lists issues related to the top hazards of concern for WCWD. These issues were identified based on local knowledge, the hazard event history, hazard rankings, hazard location, current capabilities, and the assessments of hazard vulnerability and potential impacts described in detail in Volume I. Addressing these issues is an important community priority for the District, and the mitigation strategy has been developed to incorporate, where feasible, actions that would help to resolve one or more of these issues.

TABLE 8-13. HAZARD ISSUES

Issue	Related Hazard	Associated with Vulnerability or Impact	Associated with Capability
Bowman Lake, and its feeder lakes, Lake Spalding, and its feeder lakes, Texas Creek, Fall Creek, and Rucker Creek all have impoundments on them that are upstream of Washington community. In the event of a dam failure, these would cause the South Yuba River to suddenly rise from a few feet to over 90 feet, in the timeframe of about 15 to 60 minutes.	Dam Failure	X	
Over the years there have been many fires in the S Yuba River Canyon stretching from 1/10 acre to many thousands of acres. A fire break is needed to better protect the Washington community.	Wildfire	X	
The current intake structure and associated piping that captures and brings raw water to the filter plant is damaged and/or becomes unusable during flood events.	Flood	X	
The majority of customers served by the Washington County Water District's storage tank are served through an 8" water line that is suspended under the Washington Road bridge, crossing the Yuba River. Prior to the flood of 1997 the water system had an additional crossing across the river, behind the Washington Hotel. This crossing was washed out during the New Year's flood of 1996-1997.	Flood	X	
The existing filter plant building for the Washington County Water District is constructed of wood siding with a metal roof. Additionally, forest growth is directly adjacent to the structure.	Wildfire	X	
There is a need to identify the existing gaps in community awareness and preparedness regarding natural and man-made hazards. Determine the factors contributing to low hazard mitigation engagement and assess the effectiveness of current outreach efforts.	All hazards of local concern		X
There is a need for effective strategies for enhancing community awareness and preparedness regarding wildfire risks. These strategies need to encourage the community to take proactive measures to prevent property loss.	Wildfire	X	X

8.6 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.

8.6.1 Past Mitigation Action Status

Table 8-14 indicates progress on the District's mitigation strategy identified in the 2017 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 8-14. STATUS OF PREVIOUS MITIGATION ACTIONS

A1—Impound Dam Intake Upgrade	
Hazards Addressed	Flood Mitigation
Responsible Party	Washington County Water District
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	Unable to secure funding.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep wording the same.
If discontinue, explain why	
A2—Yuba River Waterline Replacement	
Hazards Addressed	Stormwater Flooding
Responsible Party	Washington County Water District
Action Review	
Status	In Progress
Progress, or obstacles that have prevented implementation	Partial funding from FEMA for portion damaged by wildfire, unable to secure funding for the remainder.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep wording the same.
If discontinue, explain why	



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A3—Filter Plant Wildfire Mitigation and Upgrade	
Hazards Addressed	Wildfire Mitigation, Earthquake
Responsible Party	Washington County Water District
Action Review	
Status	No Progress
Progress, or obstacles that have prevented implementation	Unable to secure funding.
Next Steps	
Include in the 2024 HMP or Discontinue?	Include
If include, revise/reword as appropriate	Keep wording the same.
If discontinue, explain why	

8.6.2 Additional Mitigation Efforts

WCWD has not undertaken any mitigation efforts since the last HMP other than the mitigation actions from the previous plan.

8.6.3 Proposed Hazard Mitigation Actions for the HMP Update

The action worksheets included at the end of this annex list the mitigation actions that WCWD 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 8-15 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.

Volume I identifies 14 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 (-1, 0, or 1) for each of the evaluation criteria. Table 8-16 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

TABLE 8-15. ANALYSIS OF MITIGATION ACTIONS BY HAZARD AND CATEGORY

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Avalanche				X			X			X
Dam Failure		X		X		X	X		X	X
Drought				X			X			X
Earthquake		X		X		X	X	X	X	X
Extreme Cold				X			X			X
Extreme Heat				X			X			X
Flood		X		X		X	X		X	X
Hazardous Materials Release				X			X			X
Landslide				X			X			X
Wildfire			X	X		X	X	X		X
Winter Storm		X	X	X		X	X	X		X
Volcano				X			X			X

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 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 and Firewise Communities

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 citizens, 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

TABLE 8-16. SUMMARY OF PRIORITIZATION OF ACTIONS

Project Number	Project Name	Scores for Evaluation Criteria													High / Medium / Low		
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives		
2024-WCWD-01	Washington Community Warning System	1	1	1	1	1	1	0	1	1	0	0	1	0	9	Medium	
2024-WCWD-02	Fuel Break – Town of Washington/S Yuba Canyon	1	1	1	1	0	1	1	1	1	0	1	1	1	12	High	
2024-WCWD-03	Impound Dam Intake	1	1	1	0	1	0	1	1	1	0	1	1	1	12	High	
2024-WCWD-04	Yuba River Waterline Replacement	1	0	1	0	1	1	1	1	1	0	1	0	1	10	Medium	
2024-WCWD-05	Filter Plant Wildfire Mitigation and Upgrade	1	1	1	0	0	0	1	1	1	1	1	0	1	10	Medium	
2024-WCWD-06	Hazard Mitigation Outreach Program	1	1	1	0	0	0	1	1	1	1	1	0	1	1	10	Medium
2024-WCWD-07	Public Education on Firewise Property	1	1	1	0	0	0	1	1	1	1	1	0	1	1	10	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



2024-WCWD-01. WASHINGTON COMMUNITY WARNING SYSTEM

Lead Agency:	Washington County Water District	
Supporting Agencies:	Sheriff's Office, Grass Valley ECC, Washington Fire, NID, PG&E, and Nevada County OES	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Bowman Lake, and its feeder lakes, Lake Spalding, and its feeder lakes, Texas Creek, Fall Creek, and Rucker Creek all have impoundments on them that are upstream of Washington community. In the event of a dam failure, these would cause the South Yuba River to suddenly rise from a few feet to over 90 feet, in the timeframe of about 15 to 60 minutes.	
Description of the Solution:	The solution to this problem would be to install a tsunami type of radio telemetry warning system consisting of three to five air horns plus the one on the fire house. This will cover the canyon from about one mile west of town to above the confluence of Canyon Creek and the South Yuba River.	
Estimated Cost:	Medium	
Potential Funding Sources:	HMGP, Next Generation Warning System Program, Local Funding through Stakeholders	
Implementation Timeline:	1-5 years	
Goals Met:	1, 2, 3, 6, 7, 8, 10	
Benefits:	This would be a better warning system with faster activation, saving time and decreasing the potential for loss of life.	
Impact on Socially Vulnerable Populations:	Providing increased warning time to vulnerable populations, such as those that have no means of transportation or require assistance to evacuate, is likely to increase their chances of survival during a dam failure event.	
Impact on Future Development:	Residences and businesses are more likely to remain in place with the knowledge that they will receive accurate and timely warning of a dam failure.	
Impact on Critical Facilities/Lifelines:	This improvement will reduce disruption of critical services.	
Impact on Capabilities:	This warning system will use sensors to detect and trigger alarms, allowing dam operators to take prompt corrective actions.	
Climate Change Considerations:	Climate change can lead to intense rainfall events which can raise the risk of floodwaters running over or around dams, potentially causing them to fail.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	Medium	

2024-WCWD-02. FUEL BREAK – TOWN OF WASHINGTON/S YUBA CANYON

Lead Agency:	Washington County Water District	
Supporting Agencies:	TNF, FSCNC, Nevada County OES, Washington Fire, Property Owners	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	Over the years there have been many fires in the South Yuba River Canyon stretching from a tenth acre to many thousands of acres. A fire break is needed to better protect the Washington community.	
Description of the Solution:	A fire break will be created on the North and South sides of the S Yuba River to protect the community and land, both private and public, from wildfires.	
Estimated Cost:	Medium	
Potential Funding Sources:	CAL FIRE Wildfire Prevention Grants, HMGP	
Implementation Timeline:	2-3 years	
Goals Met:	1, 2, 3, 6, 7, 8, 9, 10	
Benefits:	By having a fire break in place, this would protect life, property, and the environment.	
Impact on Socially Vulnerable Populations:	Fire breaks can alter the spread of wildfires, affecting the areas exposed. When fire breaks are strategically placed, they can reduce the risk of fire reaching vulnerable communities.	
Impact on Future Development:	Fire breaks can assist in wildfire risk reduction which benefits future development by safeguarding communities, infrastructure, and natural resources.	
Impact on Critical Facilities/Lifelines:	Fire breaks will reduce disruption of critical services. For example, fire breaks can indirectly impact electricity supply by reducing wildfire risk near power lines.	
Impact on Capabilities:	Through community engagement and integrated planning will ensure effective wildfire management.	
Climate Change Considerations:	Climate change can alter fire dynamics, affecting both natural and artificial fire breaks.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input checked="" type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)
Priority	High	



2024-WCWD-03. IMPOUND DAM INTAKE

Lead Agency:	Washington County Water District	
Supporting Agencies:	California Rural Water Association	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The current intake structure and associated piping that captures and brings raw water to the filter plant is damaged and/or becomes unusable during flood or earthquake events and is more vulnerable to damage or failure in the event of a dam failure or winter storm.	
Description of the Solution:	Rebuild intake gate with self-shedding diverter. Additionally, rebuild collection box with metal lid and remove approximately 100 feet of existing 12 inch plastic piping and replace with restrained ductile iron piping, to include an anchor tie down for the pipe.	
Estimated Cost:	Medium	
Potential Funding Sources:	California Proposition 1	
Implementation Timeline:	24 months	
Goals Met:	1, 2, 6, 7, 8, 9, 10	
Benefits:	Strengthen reliability of drinking water to the community, especially during prolonged flooding.	
Impact on Socially Vulnerable Populations:	Reliable drinking water supports overall community well-being and reduces health risks by offering better water quality, especially during emergencies.	
Impact on Future Development:	Growing counties and cities need water for sanitation, hygiene, and infrastructure. Dependable water supply enables future development and quality of life improvements.	
Impact on Critical Facilities/Lifelines:	Critical facilities rely on water for medical purposes, cooling systems, and fire suppression, having a reliable water supply ensures uninterrupted operations during emergencies.	
Impact on Capabilities:	Being able to provide drinking water to the community during prolonged flooding with enhance preparedness and community resilience.	
Climate Change Considerations:	Due to climate change, more intense rainfall events can lead to flooding. Unfortunately, this can render intake structures unusable before any improvements can be made.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	High	

2024-WCWD-04. YUBA RIVER WATERLINE REPLACEMENT

Lead Agency:	Washington County Water District		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	<p>The majority of customers served by the Washington County Water District's storage tank are served through an 8 inch water line that is suspended under the Washington Road bridge, crossing the Yuba River. Prior to the flood of 1997 the water system had an additional crossing across the river, behind the Washington Hotel. This crossing was washed out during the New Year's flood of 1996-1997.</p>		
Description of the Solution:	<p>An additional river crossing would allow the water system to continue to function should the Washington Bridge crossing be washed out. The District would provide engineering, permits, and replacement of a 6" water line across the Yuba River behind the Washington Hotel. An alternative to this improvement would be construction of additional storage on the south side of the Yuba River.</p>		
Estimated Cost:	High		
Potential Funding Sources:	BRIC, Local Funding		
Implementation Timeline:	Within 5 years.		
Goals Met:	1, 2, 3, 6, 7, 8, 9, 10		
Benefits:	<p>Making this upgrade will avoid a prolonged water outage causing a public health hazard or reducing the ability to suppress a fire.</p>		
Impact on Socially Vulnerable Populations:	<p>During a water outage, there would be a reliable water supply which is essential for maintaining good health and ensuring sanitary conditions.</p>		
Impact on Future Development:	<p>A reliable water supply is essential for future and long-term development because it provides support for production, job creation and infrastructure expansion.</p>		
Impact on Critical Facilities/Lifelines:	<p>An additional crossing ensures that water supply systems remain functional even if the Washington Bridge is unusable allowing water related services to remain without disruption.</p>		
Impact on Capabilities:	<p>Water-dependent businesses play a crucial role in local economies. Ensuring their continued operation during water outages is essential for maintaining revenue and economic stability.</p>		
Climate Change Considerations:	<p>Climate change enhances rainfall events causing potential for extreme flooding.</p>		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input checked="" type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



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2024-WCWD-05. FILTER PLANT WILDFIRE MITIGATION AND UPGRADE

Lead Agency:	Washington County Water District	
Supporting Agencies:	-	
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano
Description of the Problem:	The current filter plant building for the Washington County Water District requires an assessment of its vulnerability to seismic events and wildfire risks. The building, which has wood siding and a metal roof, is also situated directly adjacent to forest growth.	
Description of the Solution:	Washington County Water District will replace the existing wood frame structure with concrete block construction. They will also rebuild the roof with new metal roofing material and remove vegetation and trees adjacent to the structure.	
Estimated Cost:	High	
Potential Funding Sources:	BRIC, Local Funding	
Implementation Timeline:	Within 5 years.	
Goals Met:	1, 2, 3, 6, 7, 8, 9	
Benefits:	Loss of this structure would cause a long-term water outage in the community. The project would greatly strengthen the District's ability to withstand destruction of a crucial asset to the drinking water system.	
Impact on Socially Vulnerable Populations:	Experiencing a long-term water outage can lead to health risks, lack of hygiene practices and unsanitary conditions.	
Impact on Future Development:	A reliable water supply is essential to support population growth and future development.	
Impact on Critical Facilities/Lifelines:	A reliable water supply is essential for critical facilities to operate without interruption. It supports firefighting, drinking water, and other vital services.	
Impact on Capabilities:	In an emergency with prolonged water outages, the county's economy may be affected. Relying on preparedness, contingency plans, and alternative water sources becomes crucial.	
Climate Change Considerations:	Escalating temperatures due to climate change can affect water distribution which can alter stress patterns in the Earth's crust, potentially triggering earthquakes. In addition, hotter, drier conditions can increase the likelihood of wildfires.	
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input checked="" type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input type="checkbox"/> Education and Awareness Programs (EAP)
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input type="checkbox"/> Public Information (PI)	<input checked="" type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input type="checkbox"/> Emergency Services (ES)
Priority	Medium	



2024-WCWD-06. HAZARD MITIGATION OUTREACH PROGRAM

Lead Agency:	Washington County Water District	
Supporting Agencies:	-	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>The District has had low engagement in hazard mitigation efforts. There is a gap in awareness and preparedness for hazards that could affect the District. In a hazard event, the District's constituents may be unprepared to mitigate or respond sufficiently to protect themselves and their property, elevating the possibility of adverse impacts. Such gaps include awareness of evacuation routes or refuge areas for avalanches, dam failure, earthquakes, flood, hazardous materials release, landslides, wildfires, winter storms, and volcanos, as well as preventative measures, like conserving water during a drought or the availability of community cooling or heat centers during extreme cold or heat.</p>	
Description of the Solution:	<p>Design and implement an effective hazard mitigation outreach program to raise community awareness, educate residents, and promote proactive measures that reduce vulnerability to natural and human-made hazards to include the ones below:</p> <ul style="list-style-type: none"> • Avalanche • Dam Failure • Drought • Earthquake • Extreme Cold • Extreme Heat • Flood • Hazardous Materials Release • Landslide • Wildfire • Winter Storms • Volcano 	
Estimated Cost:	Low	
Potential Funding Sources:	BRIC, Local Funding	
Implementation Timeline:	Within 5 years.	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	This outreach program would increase community awareness and enhance resilience.	
Impact on Socially Vulnerable Populations:	An outreach program promotes equitable access to resources and services during emergencies.	
Impact on Future Development:	The outreach program can promote hazard-resistant construction and resilient development practices to include building codes, and land-use planning.	



Impact on Critical Facilities/Lifelines:	Implementing an outreach program can prioritize mitigation measures, reduce risks, and enhance overall resilience within critical facilities. Acquiring knowledge about risk reduction measures is essential.		
Impact on Capabilities:	This type of program would foster collective collaboration amongst diverse stakeholders strengthening the District's capacity to address natural and man-made hazards and implement mitigation measures.		
Climate Change Considerations:	Outreach programs play a crucial role in promoting investments in nature-based solutions to enhance community resilience in the face of climate change challenges.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



2024-WCWD-07. PUBLIC EDUCATION ON FIREWISE PROPERTY

Lead Agency:	Washington County Water District		
Supporting Agencies:	-		
Hazards of Concern:	<input type="checkbox"/> Avalanche <input type="checkbox"/> Dam Failure <input type="checkbox"/> Drought <input type="checkbox"/> Earthquake <input type="checkbox"/> Extreme Cold <input type="checkbox"/> Extreme Heat	<input type="checkbox"/> Flood <input type="checkbox"/> Hazardous Materials Release <input type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input type="checkbox"/> Winter Storms <input type="checkbox"/> Volcano	
Description of the Problem:	Investigate effective strategies for enhancing community awareness and preparedness regarding wildfire risks. These strategies need to encourage the community to take proactive measures to prevent property loss.		
Description of the Solution:	The District will develop and implement targeted educational programs that raise awareness about wildfire risks, promote best practices for prevention and mitigation, and empower communities to take proactive measures. These programs should engage residents, schools, local organizations, and government agencies to foster a culture of fire safety and resilience. Specifically, focus on educating property owners about Firewise landscaping, defensible space, and home hardening techniques to protect their homes and surroundings from wildfire damage.		
Estimated Cost:	Low		
Potential Funding Sources:	District General Fund		
Implementation Timeline:	2-3 years		
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10		
Benefits:	This outreach program would increase community awareness and enhance resilience.		
Impact on Socially Vulnerable Populations:	An outreach program promotes equitable access to resources and services during emergencies.		
Impact on Future Development:	The outreach program can promote hazard-resistant construction and resilient development practices to include building codes, and land-use planning.		
Impact on Critical Facilities/Lifelines:	Implementing an outreach program can prioritize mitigation measures, reduce risks, and enhance overall resilience within critical facilities. Acquiring knowledge about risk reduction measures is essential.		
Impact on Capabilities:	Through community engagement and integrated planning will ensure effective wildfire management.		
Climate Change Considerations:	Outreach programs play a crucial role in promoting investments in nature-based solutions to enhance community resilience in the face of climate change challenges.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input checked="" type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



9. Nevada County Consolidated Fire District

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

This annex is part of a multi-jurisdictional HMP that was developed to meet plan participation requirements for all participating jurisdictions while accommodating their specific needs and limitations. Because many participating jurisdictions are rural agencies with limited staff, the planning process included establishing a Steering Committee and engaging a contract consultant to work with Nevada County in undertaking certain elements of the plan update on behalf of the jurisdictions. These elements included outreach to stakeholders and the public, risk assessment for all countywide hazards of concern, initial ranking of hazard risks, updates of hazard mitigation goals and objectives, and establishment of procedures for implementing and maintaining the HMP. This annex presents only the information specific to NCCFD as a participating jurisdiction. All other plan elements are included in Volume I and are referenced in this annex as appropriate.

9.1 Hazard Mitigation Planning Team

The Nevada County Consolidated Fire District identified primary and alternate HMP points of contact and developed this plan over the course of several months with input from District departments. The District's Fire Chief represented the District on the Nevada County Hazard Mitigation Plan Planning Partnership and Steering Committee and supported the local planning process requirements by securing input from persons with specific knowledge to enhance the plan.

Table 9-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume I.



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TABLE 9-1. HAZARD MITIGATION PLANNING TEAM

Primary Point of Contact	Alternate Point of Contact
Name/Title: Jason Robitaille, Fire Chief Address: 640 Coyote St. Nevada City, CA 95959 Phone Number: 530-913-5542 Email: jasonrobitaille@nccfire.com	Name/Title: Nicole Long, Administrative Services Manager Address: 640 Coyote St, Nevada City, CA 95959 Phone Number: 530-265-4431 Email: nicolelong@nccfire.com
Contributions to the Annex	
Name/Title: Jason Robitaille, Fire Chief Method of Participation: Provided updated information on hazard events, and capabilities.	
Name/Title: Pat Sullivan, Division Chief Method of Participation: Planning team member	
Name/Title: Patrick Mason, Fire Marshal Method of Participation: Planning team member	
Name/Title: Nicole Long, Administrative Services Method of Participation: Planning team member	

9.2 Community Profile

The Nevada County Consolidated Fire District (NCCFD) was formed in July of 1991 by the consolidation of the Gold Flat and Bullion Fire Protection Districts. In January of 1993, Alta-Oaks-Sunset Fire District consolidated with NCCFD, following in January of 1998, the Watt Park Fire Protection District consolidated. In October 2003, the most recent consolidation took place with the addition of the 49er Fire Protection District to the NCCFD (NCCFD 2024).

Today, the NCCFD is a full-service emergency response agency with full-time paid staff covering 143 square miles of residential, commercial, industrial, and rural areas, through five service areas and 9 stations. There are four staffed District-owned stations, one jointly staffed city fire department station with Penn Valley Fire Department, and five un-staffed District-owned stations. The field staff consists of a Chief, a Division Chief, three Battalion Chiefs, a Fire Marshall, Fire Prevention Officer II, nine Captains, six Lieutenants, 12 Firefighter/Operators, two Mechanics, and summer seasonals and interns. Additionally, the administrative staff consists of an Administrative Services Manager, Finance Assistant, and an Administrative Services Assistant (NCCFD 2024).

9.3 Jurisdictional Capability Assessment and Integration

NCCFD 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



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- 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 their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for NCCFD to identify opportunities for integrating mitigation concepts into ongoing District procedures.

9.3.1 Planning and Regulatory Capability

Table 9-2 summarizes the planning and regulatory tools that are available to NCCFD. As a special district, NID does not have planning and regulatory capabilities. Construction and development in the District are subject to the building codes, planning and land use regulation, and development standards of the County or municipality where they occur.

9.3.2 Integration

Table 9-2 describes how some local planning mechanisms have been integrated into this HMP and how information from this HMP can be integrated into these mechanisms when they are updated in the future. Procedures for this future integration are outlined in Section 21.2.2 of Volume I of this HMP. The District could utilize the information captured during the planning process and identified action items to assist in the development of a capital improvement plan. The District could also partner with other fire agencies to collaborate on the integration of the updated data in the development of plans such as incorporating hazard information into emergency planning and response, disaster management, and district growth.

Specific mechanisms to be reviewed for potential incorporation of HMP principles and findings are as follows:

- Using HMP hazard assessment data and action item information for potential emergency plans and annex updates and/or emergency response plans
- Incorporating hazard information, such as floodplain data, to potentially review and update zoning, land use, planning, and building codes; subdivision ordinance; and water management for new neighborhoods, communities, or other developments
- Using hazard analyses for general plan updates
- Updating capital improvement or strategic plans based on specific mitigation action items listed in this annex

TABLE 9-2. PLANNING AND REGULATORY CAPABILITY

	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
CODES, ORDINANCES, & REGULATIONS				
Building Code	N/A			
Zoning/Land Use Code	N/A			
Subdivision Code	N/A			
Site Plan Code	N/A			
Stormwater Management Code	N/A			
Post-Disaster Recovery/Reconstruction Code	N/A			
Real Estate Disclosure Requirements	N/A			
Growth Management	N/A			
Environmental Protection Ordinance	N/A			
Flood Damage Prevention Ordinance	N/A			
Wellhead Protection	N/A			
Emergency Management Ordinance	N/A			
Climate Change Ordinance	N/A			
PLANNING DOCUMENTS				
General/Comprehensive Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Capital Improvement Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Disaster Debris Management Plan	N/A			
Floodplain Management or Watershed Plan	N/A			
Stormwater Management Plan	N/A			
Open Space Plan	N/A			
Urban Water Management Plan	N/A			
Habitat Conservation Plan	N/A			



	Jurisdiction has this? (Yes/No)	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Economic Development Plan	N/A			
Community Wildfire Protection Plan	N/A			
Community Forest Management Plan	N/A			
Transportation Plan	N/A			
Agriculture Plan	N/A			
Climate Action/Resilience/Sustainability Plan	N/A			
Tourism Plan	N/A			
Business/ Downtown Development Plan	N/A			
RESPONSE/RECOVERY PLANNING				
Emergency Operations Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Continuity of Operations Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Substantial Damage Response Plan	N/A			
Threat and Hazard Identification and Risk Assessment	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Post-Disaster Recovery Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Public Health Plan	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				
Other	No			
<i>How has or will this be integrated with the HMP and how does this reduce risk? N/A</i>				

9.3.3 Development and Permitting Capability

Table 9-3 summarizes the capabilities of NCCFD to oversee and track development.



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TABLE 9-3. DEVELOPMENT AND PERMITTING CAPABILITY

	Yes/No	Comment
Do you issue development permits? <ul style="list-style-type: none"> 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	Development permits are issued through local governments. However, the District collects mitigation fees for any new development
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	
Do you have a buildable land inventory? <ul style="list-style-type: none"> If you have a buildable land inventory, please describe 	No	
Describe the level of buildout in your jurisdiction.	N/A	

9.3.4 Administrative and Technical Capability

Table 9-4 summarizes potential staff and personnel resources available to NCCFD and their current responsibilities that contribute to hazard mitigation.

9.3.5 Fiscal Capability

Table 9-5 summarizes financial resources available to NCCFD.

9.3.6 Education and Outreach Capability

Table 9-6 summarizes the education and outreach resources available to NCCFD.

9.3.7 Community Classifications

Table 9-7 summarizes classifications for community programs available to NCCFD.

9.3.8 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 9-8 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- Strong: Capacity exists and is in use.
- Moderate: Capacity might exist; but is not used or could use some improvement.
- Weak: Capacity does not exist or could use substantial improvement



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TABLE 9-4. ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
ADMINISTRATIVE CAPABILITY		
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	Yes	2 staff, enforcement of the California Fire Code, addressing wildfire, climate change, severe weather, etc.
Emergency Management/Public Safety Department	Yes	The District is a Fire Suppression, BLS Special District and would support mitigation all hazards. (42 personnel)
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	N/A	-
Mutual aid agreements	Yes	Mutual aid agreements exist with other local fire agencies, state and federal. Would support mitigating all hazards.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	Firefighter, Lieutenant, Captain, Fire Prevention Officers, Battalion Chiefs, Division Chiefs, Fire Chief all have efforts to mitigate or reduce natural hazard risks.
Other	No	-
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	N/A	-
Engineers or professionals trained in building or infrastructure construction practices	N/A	-
Planners or engineers with an understanding of natural hazards	N/A	-
Staff with expertise or training in benefit/cost analysis	Yes	Staff of 1, Administrative Services Manager
Professionals trained in conducting damage assessments	No	

Resources	Available? (Yes/No)	Comment (available staff, responsibilities, support of hazard mitigation)
Personnel skilled or trained in GIS and/or Hazus applications	Yes	The District has 1 personnel that has GIS training and assigned to an incident management team to help mitigate wildfire.
Staff that work with socially vulnerable populations or underserved communities	Yes	Same as Nevada City. Community Compliance Officer, Risk Reduction Officer, and OES Specialist. Additionally, all of staff respond to calls for the socially vulnerable populations and underserved communities.
Environmental scientists familiar with natural hazards	N/A	-
Surveyors	N/A	-
Emergency manager	Yes	All safety staff are trained to manage emergencies.
Grant writers	No	-
Resilience Officer	N/A	-
Other (this could include stormwater engineer, environmental specialist, etc.)	No	-

TABLE 9-5. FISCAL CAPABILITIES

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



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TABLE 9-6. EDUCATION AND OUTREACH CAPABILITIES

Outreach Resources	Available? (Yes/No)	Comment:
Public information officer or communications office	Yes	The District has a few staff that have been trained as PIOs.
Personnel skilled or trained in website development	Yes	(2) personnel manage the website.
Hazard mitigation information available on your website	Yes	Department of Fire Prevention has information regarding this on the website.
Social media for hazard mitigation education and outreach	Yes	Messages sent out on a regular basis on assistance and how to mitigate.
Citizen boards or commissions that address issues related to hazard mitigation	N/A	-
Warning systems for hazard events	N/A	-
Natural disaster/safety programs in place for schools	N/A	-
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Same as Nevada City. Nevada City Officer of Emergency Services and partnership with Sierra Roots and HOME team.
Does the jurisdiction have any public outreach mechanisms / programs in place to inform citizens on natural hazards, risk, and ways to protect themselves during such events?	No	-
If yes, please describe.	N/A	-

TABLE 9-7. COMMUNITY CLASSIFICATIONS

Program	Participating? (Yes/No)	Classification	Date Classified
Community Rating System (CRS)	N/A	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	N/A	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	3/3x	4/2023
National Weather Service StormReady Certification	N/A	-	-
Firewise Communities classification	Yes	There are 25 communities in the District.	Multiple dates
Other: Organizations with mitigation focus (advocacy group, non-government)	No	-	-

N/A = Not applicable


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TABLE 9-8. ADAPTIVE CAPACITY

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Avalanche	Moderate
Dam Failure	Moderate
Drought	Moderate
Earthquake	Moderate
Extreme Cold	Moderate
Extreme Heat	Moderate
Flood	Moderate
Hazardous Materials Release	Moderate
Landslide	Moderate
Wildfire	Moderate
Winter Storm	Moderate
Volcano	Moderate

9.4 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. Development permits are issued through local governments.

Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 9-9 and Table 9-10.

TABLE 9-9. RECENT MAJOR DEVELOPMENT AND INFRASTRUCTURE FROM 2017 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
NONE IDENTIFIED					

TABLE 9-10. 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
NONE IDENTIFIED					

9.5 Jurisdictional Risk Assessment

The risk assessment in Volume I provides information regarding the overall planning area's risks from the identified hazards, as well as preliminary hazard rankings for all participating jurisdictions. Key local risk assessment information for NCCFD is presented below.

9.5.1 Jurisdiction-Specific Hazard Risks

Volume I of this plan describes the 12 hazards identified as presenting the greatest risk to Nevada County overall. NCCFD identified how its local risks differ from the overall planning area based on a review of hazard events that specifically affected the District and consideration of the hazard ranking defined in Volume I. Each of these is described below.

Hazard Event History

The history of natural and non-natural hazard events in NCCFD is detailed in Volume I, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 9-11 provides details on loss and damage in NCCFD during hazard events since the last hazard mitigation plan update.

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.

NCCFD reviewed the preliminary hazard ranking calculated as described in Volume I to assess the relative risk of the hazards of concern to the District. The District agreed with the calculated hazard rankings except the flood ranking, which was increased from Low to Medium due to observed past frequency and impacts in the jurisdiction. The revised rankings also account for the changes in community priorities described in Section 20.2 in Volume I of this HMP.

Table 9-12 shows NCCFD's final hazard rankings. Hazards with a high or medium risk ranking are those of greatest concern to the District. Mitigation actions target those hazards, though some of the identified actions also provide potential risk-reduction benefits for lower-ranked hazards.



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TABLE 9-11. HAZARD EVENT HISTORY IN NCCFD

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in NCCFD
October 8 – October 31, 2017	Wildfires (DR-4344, FM-5271)	Yes	The 2017 California wildfire season resulted in nearly 1.6 million acres of burned land across 9,000+ wildfires. Nevada County experienced 7 wildfires during this season, with the most notable being the Lobo Fire (Wind Complex) and Pleasant Fire that burned a combined 1,000+ acres of land.	\$132,884.23 (Personnel only)
January 20, 2020 – May 11, 2023	Pandemic (DR-4482, EM-3428)	Yes	The coronavirus pandemic resulted in roughly 20,521 cases and 155 attributed deaths as of fall 2023.	\$10,214.46
August 14 – September 26, 2020	Wildfires (DR-4558, FM-5332)	Yes	Historic wildfires swept across the State of California in 2020, resulting in over 4.3 million acres burned across the State. In Nevada County, the Jones Fire burned 705 acres and resulted in 7 injuries to civilians and fire personnel.	\$128,622.76 (Personnel only)
July 14 – October 25, 2021	Wildfires (DR-4610)	Yes	The River Fire burned over 2,600 acres through Nevada County before being contained. At least 21 structures were damaged, 142 structures were destroyed, and 4 injuries were reported as a result of this fire.	\$55,078.73 (Personnel only)
December 27, 2022 – January 31, 2023	Severe Storms (DR-4683)	Yes	Severe winter storms, flooding, landslides, and mudslides impacted residents and property across Nevada County.	\$20,433.35
February 21 – July 10, 2023	Severe Storms (DR-4699, EM-3592)	Yes	Severe winter storms, straight-line winds, flooding, landslides, and mudslides impacted communities across Nevada County.	\$29,530.32

EM = Emergency Declaration (FEMA)

FEMA = Federal Emergency Management Agency

DR = Major Disaster Declaration (FEMA)

N/A = Not applicable



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TABLE 9-12. HAZARD RANKING

Hazard	Rank	Hazard	Rank
Avalanche	Low	Flood	Medium
Dam Failure	Low	Hazardous Materials Release	Low
Drought	Medium	Landslide	Low
Earthquake	Low	Wildfire	High
Extreme Cold	Low	Winter Storm	High
Extreme Heat	Medium	Volcano	Low

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

9.5.2 Vulnerability and Potential Impacts for Hazards of Local Concern

Based on the above jurisdiction-specific information, the following sections describe vulnerability and potential impacts for the hazards of greatest concern to NCCFD (listed alphabetically, not in order of risk ranking). The special purpose districts that participated in this HMP focus on maintaining critical facilities to provide specific services to customers. 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.

Drought

All people and structures in the District are equally vulnerable to drought. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to NCCFD.

The qualitative countywide impacts of drought described in the risk assessment in Volume I are equally applicable to NCCFD. In addition, as a provider of fire protection, the District is dependent on reliable firefighting water supply, which can be threatened in cases of extreme drought.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). The dependence of NCCFD on a reliable water supply for firefighting is especially important in times of drought. With predicted increases in the frequency and severity of drought, the District will have greater urgency to maintain access to adequate water.
- Population changes—The impacts of drought on NCCFD’s facilities are not generally related to population. Changing population in the District is not likely to change the drought impacts.
- Future development—The impacts of drought on NCCFD’s facilities are not generally related to development. This impact is not expected to change with new development.



Extreme Heat

All people and structures in the District are equally vulnerable to extreme heat. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to NCCFD.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NCCFD. For the District, the most significant impacts related to extreme heat are increased fire risk and potentially reduced water supply as a result of hot dry weather.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature (Geospatial Innovation Facility n.d.). Temperature projections for Nevada County indicate general increases over the coming decades, likely increasing the potential impacts from the extreme heat hazard.
- Population changes—The impacts of extreme heat on NCCFD’s facilities are not generally related to population. Changing population in the District is not likely to change the extreme heat impacts.
- Future development—The impacts of extreme heat on NCCFD’s facilities are not generally related to development. This impact is not expected to change with new development.

Flood

The District assets most vulnerable to flood are those located within mapped flood hazard areas along the South Fork Yuba River, Deer Creek, Wolf Creek, Little Greenhorn Creek, and Clipper Creek. No quantitative analysis has been performed on flood vulnerability within the District’s service area. The qualitative flood vulnerability discussion in Volume I is applicable to NCCFD.

No quantitative estimates have been developed of potential flood damage to the District’s assets. The qualitative flood vulnerability discussion in Volume I is applicable to NCCFD. No other impacts specific to NCCFD have been identified.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California’s climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Like the rest of Nevada County, the District will likely see increased flood risk as climate change increases storm intensities and temperatures.
- Population changes—No projections have been developed for the overall future population in the District, though population in unincorporated areas countywide have increased slightly in recent years. Any increase in the population living in floodplains in the District will have a corresponding increase in potential flood impacts.



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- Future development— NCCFD has no authority related to development. The effects of new development on flood impacts within the District would largely be related to growth management, floodplain management, and building code practices of the County.

Wildfire

The analysis of wildfire vulnerability in this HMP is based on hazard mapping previously performed for Nevada County that provides results for four forecast zones across the County, as described in Volume I (Nevada County OES 2023). NCCFD spans three of the four forecast zone, in the western county—Higgins/Penn Valley, Grass Valley/Nevada City, and Tahoe National Forest Area—though it does not extend across the full area of those zones. Volume I provides a detailed description of the mapping of wildfire hazard priority areas and quantitative estimates of the associated vulnerability of people and structures in those forecast zones. CAL FIRE's fire hazard severity zone mapping shows the higher-elevation northeastern half of the District as generally very high fire hazard and the lower-elevation southwestern half as mostly high hazard.

As a fire district, NCCFD has a particular interest in maintaining its capabilities to respond to all fires, including wildfires, though the potential impact of wildfire on its assets is generally the same as in all jurisdictions in Nevada County. The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NCCFD.

Potential future changes in impacts have been assessed as follows:

- Climate change—At the geographic scale used for California's climate projection tool Cal-Adapt, projected climate change through mid-century does not vary meaningfully across Nevada County for temperature or precipitation (Geospatial Innovation Facility n.d.). Therefore, its effect on wildfire impacts for NCCFD is assumed to be the same as described for all of Nevada County in Volume I. It is predicted that the number of large fires and total area burned will increase with the changing climate.
- Population changes—No projections have been developed for the overall future population in the District, though population in unincorporated areas countywide have increased slightly in recent years. Any increase in the population living in fire hazard zones in the District will have a corresponding increase in potential wildfire impacts.
- Future development— NCCFD has no authority related to development. The effects of new development on wildfire impacts within the District would largely be related to growth management and building code practices of the County.

Winter Storm

All people and structures in the District are equally vulnerable to winter storm. The hazard is uniform across Nevada County, and the vulnerability discussion in Volume I is applicable to NCCFD.

The qualitative countywide impacts described in the risk assessment in Volume I are equally applicable to NCCFD. No other impacts specific to NCCFD have been identified.

Potential future changes in impacts have been assessed as follows:

- Climate change—Warming temperatures are projected to raise the divide between rain and snow by as much as 3,000 feet. Being in the lower elevation portion of the County, NCCFD is less likely to see this effect than higher-elevation areas to the east. Countywide, climate change is predicted to bring more extreme storms in winter.
- Population changes—The impacts of winter storms on NCCFD's facilities are not generally related to population. Changing population in the District is not likely to change the winter storm impacts.
- Future development— The impacts of winter storms on NCCFD's facilities are not generally related to development. New development in the District is not likely to change the winter storm impacts.

9.5.3 Identified Issues

After review of NCCFD's hazard event history, hazard rankings, hazard location, and current capabilities, NCCFD identified one issue related to the top hazards of concern for the District. This issue is the identification of gaps in awareness and preparedness related to both natural and man-made hazards leading to low community engagement in hazard mitigation efforts. Addressing this issue is an important community priority for the District, and the mitigation strategy has been developed to incorporate, where feasible, actions to help resolve it.

9.6 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.

9.6.1 Past Mitigation Action Status

NCCFD did not participate in the previous HMP.

9.6.2 Proposed Hazard Mitigation Actions for the HMP Update

The action worksheet included at the end of this annex describes the mitigation action that NCCFD would like to pursue in the future to reduce the effects of hazards. The action is 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 9-13 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.

Volume I identifies 14 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 (-1, 0, or 1) for each of the evaluation criteria. Table 9-14 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

TABLE 9-13. ANALYSIS OF MITIGATION ACTIONS BY HAZARD AND CATEGORY

Hazard	Actions That Address the Hazard, by Action Category									
	FEMA				CRS					
	LPR	SIP	NSP	EAP	PR	PP	PI	NR	SP	ES
Avalanche				X			X			X
Dam Failure				X			X			X
Drought				X			X			X
Earthquake				X			X			X
Extreme Cold				X			X			X
Extreme Heat				X			X			X
Flood				X			X			X
Hazardous Materials Release				X			X			X
Landslide				X			X			X
Wildfire				X			X			X
Winter Storm				X			X			X
Volcano				X			X			X

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 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 and Firewise Communities

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 citizens, 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

TABLE 9-14. SUMMARY OF PRIORITIZATION OF ACTIONS

Project Number	Project Name	Scores for Evaluation Criteria														High / Medium / Low
		Life Safety	Property Protection	Cost-Effectiveness	Political	Legal	Fiscal	Environmental	Social Vulnerability	Administrative	Hazards of Concern	Climate Change	Timeline	Community Lifelines	Other Local Objectives	
2024-NCCFD-01	Hazard Mitigation Outreach Program	1	1	1	0	0	0	1	1	1	1	1	0	1	1	Medium

Note: Volume I, Section 6 (Mitigation Strategy) conveys guidance on prioritizing mitigation actions. Low (0-6), Medium (7-10), High (11-14).



2024-NCCFD-01. HAZARD MITIGATION OUTREACH PROGRAM

Lead Agency:	Nevada County Consolidated Fire District	
Supporting Agencies:	-	
Hazards of Concern:	<input checked="" type="checkbox"/> Avalanche <input checked="" type="checkbox"/> Dam Failure <input checked="" type="checkbox"/> Drought <input checked="" type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Extreme Cold <input checked="" type="checkbox"/> Extreme Heat	<input checked="" type="checkbox"/> Flood <input checked="" type="checkbox"/> Hazardous Materials Release <input checked="" type="checkbox"/> Landslide <input checked="" type="checkbox"/> Wildfire <input checked="" type="checkbox"/> Winter Storms <input checked="" type="checkbox"/> Volcano
Description of the Problem:	<p>The District has had low engagement in hazard mitigation efforts. There is a gap in awareness and preparedness for hazards that could affect the District. In a hazard event, the District's constituents may be unprepared to mitigate or respond sufficiently to protect themselves and their property, elevating the possibility of adverse impacts. Such gaps include awareness of evacuation routes or refuge areas for avalanches, dam failure, earthquakes, flood, hazardous materials release, landslides, wildfires, winter storms, and volcanos, as well as preventative measures, like conserving water during a drought or the availability of community cooling or heat centers during extreme cold or heat.</p>	
Description of the Solution:	<p>Design and implement an effective hazard mitigation outreach program to raise community awareness, educate residents, and promote proactive measures that reduce vulnerability to natural and human-made hazards to include the ones below:</p> <ul style="list-style-type: none"> • Avalanche • Dam Failure • Drought • Earthquake • Extreme Cold • Extreme Heat • Flood • Hazardous Materials Release • Landslide • Wildfire • Winter Storms • Volcano 	
Estimated Cost:	Low	
Potential Funding Sources:	BRIC, District General Fund	
Implementation Timeline:	Within 5 years.	
Goals Met:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	
Benefits:	This outreach program would increase community awareness and enhance resilience.	
Impact on Socially Vulnerable Populations:	An outreach program promotes equitable access to resources and services during emergencies.	
Impact on Future Development:	The outreach program can promote hazard-resistant construction and resilient development practices to include building codes, and land-use planning.	



Impact on Critical Facilities/Lifelines:	Implementing an outreach program can prioritize mitigation measures, reduce risks, and enhance overall resilience within critical facilities. Acquiring knowledge about risk reduction measures is essential.		
Impact on Capabilities:	This type of program would foster collective collaboration amongst diverse stakeholders strengthening the District's capacity to address natural and man-made hazards and implement mitigation measures.		
Climate Change Considerations:	Outreach programs play a crucial role in promoting investments in nature-based solutions to enhance community resilience in the face of climate change challenges.		
Mitigation Category	<input type="checkbox"/> Local Plans and Regulations (LPR) <input type="checkbox"/> Structure and Infrastructure Project (SIP)	<input type="checkbox"/> Natural Systems Protection (NSP) <input checked="" type="checkbox"/> Education and Awareness Programs (EAP)	
CRS Category	<input type="checkbox"/> Preventative Measures (PR) <input type="checkbox"/> Property Protection (PP) <input checked="" type="checkbox"/> Public Information (PI)	<input type="checkbox"/> Natural Resource Protection (NR) <input type="checkbox"/> Structural Flood Control Projects (SP) <input checked="" type="checkbox"/> Emergency Services (ES)	
Priority	Medium		



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APPENDIX A: Participating Jurisdiction Letters of Intent

December 4, 2023

Paul Cummings
Nevada County Office of Emergency Services
Nevada City, CA
Via email

Re: Letter of Commitment as a Participating Jurisdiction in the Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan

Dear Nevada County Office of Emergency Services,

As the Federal Emergency Management Agency's (FEMA) Local Hazard Mitigation Plan (LHMP) requirements under 44 CFR §201.6 identify criteria for multi-jurisdictional mitigation plans including the participation and collaboration of regional planning and mitigation partners, this letter of commitment is submitted to confirm the City of Grass Valley participation in the Nevada County Multi-Jurisdictional LHMP update as a Planning Partner.

As a condition of participation, the City of Grass Valley agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6, and to provide timely cooperation and participation to produce a FEMA-approved LHMP with the County of Nevada.

The City of Grass Valley understands that it must engage in the following planning processes, as detailed in FEMA's Local Multi-Hazard Mitigation Planning Guidance dated April 19, 2023. Planning processes include, but are not limited to the following:

- Review of existing Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the Plan update
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the Multi-jurisdictional Local Hazard Mitigation Plan update by the Planning Partner jurisdiction's governing body
- Tracking and monthly submission of personnel hours spent on the hazard mitigation planning effort

Executed this 4tf day of December



Signature

Amy Wolfson
City Planner



City of Nevada City

December 1, 2023

Sent via Email

Paul Cummings
Nevada County Office of Emergency Services
950 Maidu Avenue
Nevada City, CA 95959

Subject: Letter of Commitment as a Participating Jurisdiction in the Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan

Dear Nevada County Office of Emergency Services-

As the Federal Emergency Management Agency's (FEMA) Local Hazard Mitigation Plan (LHMP) requirements under 44 CFR §201.6 identify criteria for multi-jurisdictional mitigation plans including the participation and collaboration of regional planning and mitigation partners, this letter of commitment is submitted to confirm the City of Nevada City participation in the Nevada County Multi-Jurisdictional LHMP update as a Planning Partner.

As a condition of participation, the City of Nevada City agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6, and to provide timely cooperation and participation to produce a FEMA-approved LHMP with the County of Nevada.

The City of Nevada City understands that it must engage in the following planning processes, as detailed in FEMA's Local Multi-Hazard Mitigation Planning Guidance dated April 19, 2023. Planning processes include, but are not limited to the following:

- Review of existing Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the Plan update
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the Multi-jurisdictional Local Hazard Mitigation Plan update by the Planning Partner jurisdiction's governing body
- Tracking and monthly submission of personnel hours spent on the hazard mitigation planning effort

Executed this first day of December 2023

A handwritten signature in blue ink, appearing to read "Sean Grayson".

Sean Grayson
City Manager

12/01/2023

Paul Cummings
Nevada County Office of Emergency Services
Nevada City, CA
Via email

Re: Letter of Commitment as a Participating Jurisdiction in the Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan

Dear Nevada County Office of Emergency Services,

As the Federal Emergency Management Agency's (FEMA) Local Hazard Mitigation Plan (LHMP) requirements under 44 CFR §201.6 identify criteria for multi-jurisdictional mitigation plans including the participation and collaboration of regional planning and mitigation partners, this letter of commitment is submitted to confirm the Town of Truckee's participation in the Nevada County Multi-Jurisdictional LHMP update as a Planning Partner.

As a condition of participation, Town of Truckee agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6, and to provide timely cooperation and participation to produce a FEMA-approved LHMP with the County of Nevada.

Town of Truckee understands that it must engage in the following planning processes, as detailed in FEMA's Local Multi-Hazard Mitigation Planning Guidance dated April 19, 2023. Planning processes include, but are not limited to the following:

- Review of existing Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the Plan update
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the Multi-jurisdictional Local Hazard Mitigation Plan update by the Planning Partner jurisdiction's governing body
- Tracking and monthly submission of personnel hours spent on the hazard mitigation planning effort

Executed this 1st day of December 2023

Robert Womack

Signature



Nevada Irrigation District

12/7/2023

Paul Cummings
Nevada County Office of Emergency Services
Nevada City, CA
Via email: Paul.Cummings@nevadacountyca.gov

Re: Letter of Commitment as a Participating Jurisdiction in the Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan

Dear Nevada County Office of Emergency Services,

As the Federal Emergency Management Agency's (FEMA) Local Hazard Mitigation Plan (LHMP) requirements under 44 CFR §201.6 identify criteria for multi-jurisdictional mitigation plans including the participation and collaboration of regional planning and mitigation partners, this letter of commitment is submitted to confirm the Nevada Irrigation District's participation in the Nevada County Multi-Jurisdictional LHMP update as a Planning Partner.

As a condition of participation, the Nevada Irrigation District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6, and to provide timely cooperation and participation to produce a FEMA-approved LHMP with the County of Nevada.

The Nevada Irrigation District understands that it must engage in the following planning processes, as detailed in FEMA's Local Multi-Hazard Mitigation Planning Guidance dated April 19, 2023. Planning processes include, but are not limited to the following:

- Review of existing Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the Plan update
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the Multi-jurisdictional Local Hazard Mitigation Plan update by the Planning Partner jurisdiction's governing body
- Tracking and monthly submission of personnel hours spent on the LHMP effort

Executed this 7th day of December

Greg Jones

Greg Jones, Assistant General Manager



December 14, 2023

Via email to Paul.Cummings@nevadacountyca.gov

General Manager
Brian C. Wright

Executive Leadership Team
Chad J. Reed
Water Utility Director

Jared Carpenter
Electric Utility Director

Shanna Kuhlemier
District Clerk

Scott Crow
IT Director/CIO

Steven Poncelet
PIO & Strategic Affairs Director

Michael Salmon
Chief Financial Officer

Jillian Steward
Director of Human Resources and Risk Management

Board of Directors
Joseph Aguera
Jeff Bender
Christa Finn
Kim Harris
Tony Laliotis

Paul Cummings
Nevada County Office of Emergency Services
Nevada City, CA

Re: Letter of Commitment as a Participating Jurisdiction in the Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan

Dear Nevada County Office of Emergency Services,

As the Federal Emergency Management Agency's (FEMA) Local Hazard Mitigation Plan (LHMP) requirements under 44 CFR §201.6 identify criteria for multi-jurisdictional mitigation plans including the participation and collaboration of regional planning and mitigation partners, this letter of commitment is submitted to confirm < insert agency name > participation in the Nevada County Multi-Jurisdictional LHMP update as a Planning Partner.

As a condition of participation, Truckee Donner Public Utility District agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6, and to provide timely cooperation and participation to produce a FEMA-approved LHMP with the County of Nevada.

Truckee Donner Public Utility District understands that it must engage in the following planning processes, as detailed in FEMA's Local Multi-Hazard Mitigation Planning Guidance dated April 19, 2023. Planning processes include, but are not limited to the following:

- Review of existing Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the Plan update
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the Multi-jurisdictional Local Hazard Mitigation Plan update by the Planning Partner jurisdiction's governing body
- Tracking and monthly submission of personnel hours spent on the hazard mitigation planning effort

Executed this 14th day of December 2023

Brian Wright
General Manager

December 1, 2023

Paul Cummings
Nevada County Office of Emergency Services
Nevada City, CA
Via email

Re: Letter of Commitment as a Participating Jurisdiction in the Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan

Dear Nevada County Office of Emergency Services,

As the Federal Emergency Management Agency's (FEMA) Local Hazard Mitigation Plan (LHMP) requirements under 44 CFR §201.6 identify criteria for multi-jurisdictional mitigation plans including the participation and collaboration of regional planning and mitigation partners, this letter of commitment is submitted to confirm Washington County Water District/Washington Fire Department participation in the Nevada County Multi-Jurisdictional LHMP update as a Planning Partner.

As a condition of participation, Washington County Water District/Washington Fire Department agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6, and to provide timely cooperation and participation to produce a FEMA-approved LHMP with the County of Nevada.

Washington County Water District/Washington Fire Department understands that it must engage in the following planning processes, as detailed in FEMA's Local Multi-Hazard Mitigation Planning Guidance dated April 19, 2023. Planning processes include, but are not limited to the following:

- Review of existing Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the Plan update
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the Multi-jurisdictional Local Hazard Mitigation Plan update by the Planning Partner jurisdiction's governing body
- Tracking and monthly submission of personnel hours spent on the hazard mitigation planning effort

Executed this first day of December 2023



Signature



Nevada County Consolidated Fire District

640 Coyote Street, Nevada City, CA 95959
(530) 265-4431 FAX (530) 265-4438
nccfire@nccfire.com • www.nccfire.com

December 4, 2023

Paul Cummings
Nevada County Office of Emergency Services
Nevada City, CA
Via email

Re: Letter of Commitment as a Participating Jurisdiction in the Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan

Dear Nevada County Office of Emergency Services,

As the Federal Emergency Management Agency's (FEMA) Local Hazard Mitigation Plan (LHMP) requirements under 44 CFR §201.6 identify criteria for multi-jurisdictional mitigation plans including the participation and collaboration of regional planning and mitigation partners, this letter of commitment is submitted to confirm Nevada County Consolidated Fire District (NCCFD) participation in the Nevada County Multi-Jurisdictional LHMP update as a Planning Partner.

As a condition of participation, NCCFD agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6, and to provide timely cooperation and participation to produce a FEMA-approved LHMP with the County of Nevada.

NCCFD understands that it must engage in the following planning processes, as detailed in FEMA's Local Multi-Hazard Mitigation Planning Guidance dated April 19, 2023. Planning processes include, but are not limited to the following:

- Review of existing Nevada County Multi-Jurisdictional Local Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the Plan update
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the Multi-jurisdictional Local Hazard Mitigation Plan update by the Planning Partner jurisdiction's governing body
- Tracking and monthly submission of personnel hours spent on the hazard mitigation planning effort

Executed this 4th day of December, 2023


Signature