



Santa Cruz County

2025 Multi-Jurisdiction Hazard Mitigation Plan Update

Volume 2, Section 5: Scotts Valley Water District (SVW)

Special District Annex

Adoption Resolution	vi
Section 5. Scotts Valley Water District	5-1
5.1 Scope & Purpose	5-1
5.2 Jurisdictional Setting.....	5-1
5.2.1 Geography & Climate	5-2
5.2.2 Historic Overview	5-6
5.2.3 Demographics & Vulnerable Populations.....	5-7
5.2.4 Economy.....	5-20
5.2.5 Growth Trends & Future Development.....	5-20
5.3 Planning Process	5-21
5.3.1 Public Input & Draft Review	5-23
5.4 What's New	5-24
5.4.1 Mitigation Activities	5-24
5.4.2 Mitigation Successes.....	5-25
5.5 Risk Assessment.....	5-30
5.5.1 Hazard Screening & Prioritization	5-30
5.5.2 Vulnerability to Specific Hazards.....	5-33
5.5.3 Planning for Hazards & Growth.....	5-50
5.5.4 Hazard Problem Statements.....	5-51
5.6 Mitigation Strategy	5-54
5.6.1 Aligning the Action Plan.....	5-55
5.6.2 Scotts Valley Water District Mitigation Action Plan	5-61



List of Figures

Figure 5-1: SVWD Sphere of Influence.....	5-4
Figure 5-2: SVWD Average Annual Precipitation Map	5-5
Figure 5-3: SVWD Median Household Income Map	5-9
Figure 5-4: SVWD Poverty Status Map	5-10
Figure 5-5: SVWD Owner-Occupied Housing Units Map	5-11
Figure 5-6: SVWD Economically Dependent Age Groups Map	5-13
Figure 5-7: SVWD Disabled Elderly Map	5-14
Figure 5-8: SVWD Race and Ethnicity Predominance Map	5-16
Figure 5-9: SVWD Spanish-Speaking Population Map	5-17
Figure 5-10: SVWD Social Vulnerability Index Map	5-19
Figure 5-11: Recycled Water Program	5-25
Figure 5-12: SVWD Water Treatment Plant Upgrade	5-26
Figure 5-13: Bethany Tank Rehabilitation Project	5-27
Figure 5-14: I-Meter Installation	5-28
Figure 5-15: Scotts Valley Art, Wine & Beer Festival-2025.....	5-29
Figure 5-16: SVWD Risk Assessment Matrix	5-32
Figure 5-17: Exposure Summary - SVWD Wildfire Risk	5-36
Figure 5-18: SVWD Mean Fire Return Interval Map	5-37
Figure 5-19: Exposure Summary - SVWD Flood Risk (FEMA Zones)	5-39
Figure 5-20: Exposure Summary - SVWD Flood Risk (DWR Awareness Zones)	5-40
Figure 5-21: Exposure Summary - SVWD Earthquake Risk (M7.1 San Andreas Shaking)	5-42
Figure 5-22: Exposure Summary - SVWD Liquefaction Risk	5-43
Figure 5-23: Exposure Summary - SVWD Earthquake Risk (Fault Zones).....	5-44
Figure 5-25: Exposure Summary - SVWD Slope Failure Risk	5-46
Figure 5-26: Drought Severity Timeline 2000-2024	5-49
Figure 5-33: Mitigation Action Number Key	5-61



List of Tables

Table 5-1: SVWD Participants.....	5-21
Table 5-2: Jurisdictional Breakout Meeting Records	5-23
Table 5-3: SVWD Document Review Crosswalk	5-31
Table 5-4: Drought Classifications and Impacts	5-47
Table 5-5: SVWD Problem Statements	5-51
Table 5-7: SVWD Capabilities Assessment.....	5-58
Table 5-8: SVWD Mitigation Action Plan.....	5-63



Adoption Resolution

To comply with the Federal Disaster Mitigation Act of 2000 (DMA 2000), the Scotts Valley Water District has officially adopted this 2025 Santa Cruz County Multi-Jurisdictional Hazard Mitigation Plan, including Volume 1 in its entirety as well as this Volume 2 Special District annex. The adoption of the MJHMP recognizes the district's commitment to reducing the impacts of natural hazards within its jurisdiction and across Santa Cruz County.

A copy of the district's adoption record is provided on the following pages. Adoption records for all jurisdictions are summarized in Volume 1, Table ES-1.

RESOLUTION NO. 06-26

RESOLUTION OF THE BOARD OF DIRECTORS OF THE
SCOTTS VALLEY WATER DISTRICT
ADOPTING THE SANTA CRUZ COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN 2025
FOR SCOTTS VALLEY WATER DISTRICT

WHEREAS, Santa Cruz County Multi-Jurisdictional Hazard Mitigation Plan 2025 Update (“the Plan”) recognizes the threat that natural hazards pose to people, property infrastructure and natural resources within the Scotts Valley Water District; and

WHEREAS, the implementation of hazard mitigation actions can significantly reduce the risk of injury, loss of life, property damage, and disruption caused by future natural hazard events; and

WHEREAS, the federal Disaster Mitigation Act of 2000 (DMA 2000) requires all cities, counties, and special districts to have adopted a Hazard Mitigation Plan to receive pre-and post-disaster mitigation funding from the Federal Emergency Management Agency (FEMA); and

WHEREAS, Scotts Valley Water District fully participated in the FEMA-prescribed mitigation planning process to prepare the Plan; and

WHEREAS, a coalition of Santa Cruz County local governments and special districts embarked on a planning process to prepare for and lessen the impacts of specified hazards by updating the Plan; and

WHEREAS, each participating jurisdiction, including Scotts Valley Water District, has been responsible for reviewing and approving its respective Jurisdictional Annex within the Plan, and the Plan compiles individual annexes into a unified framework to ensure a comprehensive and coordinated hazard mitigation strategy for the entire Santa Cruz County planning area, aligned with the goals, objectives, and priorities of the Plan; and

WHEREAS, the Santa Cruz County Multi-Jurisdictional Hazard Mitigation Plan 2025 Update is comprised of two volumes, including Volume 1: Base Plan, which contains the countywide hazard mitigation framework and risk assessment, and Volume 2: Jurisdictional Annexes, which document the hazard profiles, vulnerabilities, and mitigation actions of participating jurisdictions; and

WHEREAS, a public involvement process consistent with the requirements of DMA 2000 was conducted to develop the Plan; and

WHEREAS, the California Governor’s Office of Emergency Services (Cal OES) has reviewed and approved the Plan and has forwarded the plan to FEMA Region IX for final review and approval; and

THEREFORE, BE IT RESOLVED, that the Scotts Valley Water District hereby adopts the Santa Cruz County Multi-Jurisdictional Hazard Mitigation Plan 2025 Update as an official plan of the Scotts Valley Water District. Scotts Valley water District adopts Volume 1 of the Plan in its entirety and acknowledges that the Scotts Valley Water District Jurisdictional Annex contained in Volume 2 represents the Scotts

Valley Water Districts specific hazard mitigation strategies and responsibilities.

BE IT FURTHER RESOLVED, the Scotts Valley Water District authorizes staff to make minor technical edits or administrative corrections to the Plan, as necessary to address FEMA review comments, prior to final adoption; and

BE IT FURTHER RESOLVED, Scotts Valley Water District further encourages the respective departments identified in the implementation strategy of the plan to carry out the recommended mitigation actions assigned to them; and

BE IT FURTHER RESOLVED, the proposed project is categorically exempt from the provisions of the CEQA Guidelines pursuant to the Provisions of Title 14 of the California Administrative Code, Section 15061(b)(3) (common sense exemption), and Section 15262 (Feasibility and Planning Studies).

BE IT FURTHER RESOLVED, this Adoption Resolution will be submitted to Cal OES on behalf of the Scotts Valley Water District by Santa Cruz County Staff to enable the Plan's final approval by Cal OES and FEMA.

PASSED AND ADOPTED this 11th day of June 2026, by the following vote:

AYES: Ekwall, Leishman, Perri, Reber, Stiles.

NOES: None.

ABSENT: None.

DocuSigned by:



80A044B5E1C1401...

Ruth Stiles, President

Board of Directors

DocuSigned by:



466E6F70FDE740B...

Attest:

David McNair, General Manager

Section 5. Scotts Valley Water District

5.1 Scope & Purpose

This annex details the elements specific to the Scotts Valley Water District (SVWD) in the 2025 Santa Cruz County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). This



**SCOTTS VALLEY
WATER DISTRICT**

annex is not intended to be a standalone document but appends to and supplements the information contained in the umbrella plan document (Volume 1). As such, all sections of the umbrella plan, including the planning process and other procedural requirements, apply to and were met by SVWD. This annex provides additional information specific to SVWD, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this jurisdiction.

Scotts Valley Water District Points of Contact

Primary

Nate Gillespie, Operations Manager
Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, CA 95066
Telephone: (831) 438-2363
Email: ngillespie@svwd.org

Alternate

David McNair, General Manager
Scotts Valley Water District
2 Civic Center Drive
Scotts Valley, CA 95066
Telephone: (831) 438-2363
Email: dmcnair@svwd.org

5.2 Jurisdictional Setting

The Scotts Valley Water District (SVWD) is a special district located in Santa Cruz County that provides water service to most of the City of Scotts Valley and to some adjacent unincorporated areas. Its service boundary is formally established and reviewed by the Santa Cruz County Local Agency Formation Commission (LAFCO), which also oversees the district's sphere of influence and annexations. Since the district was formed by a vote of the people in 1961, its jurisdiction has evolved to reflect growth pressures and community needs. In May 2023, LAFCO approved the annexation of 183 parcels covering approximately 1,481 acres into SVWD's service area, expanding the potential for future water connections and long-term system integration (SVWD, 2025)

Within this jurisdiction, SVWD operates approximately 4,300 service connections, supplying potable and recycled water to residential, commercial, and institutional users. Unlike many nearby agencies, SVWD relies exclusively on groundwater for its potable supply. All its water is drawn from the Santa Margarita Groundwater Basin, a geologic system composed of the Santa Margarita Sandstone, Monterey Shale, Lompico, and Butano formations. This basin is recharged primarily through rainfall and local creek systems, including Carbonera Creek and Bean Creek, both of which are tributaries of the San Lorenzo River. As a



result, SVWD is deeply tied to the hydrology of the region and is highly dependent on sustainable groundwater management for long-term service reliability.

SVWD shares the Santa Margarita Groundwater Basin with the San Lorenzo Valley Water District, the Mount Hermon Association, and more than one thousand private well users. Together, these entities formed the Santa Margarita Groundwater Agency (SMGWA), a Joint Powers Authority created under California's Sustainable Groundwater Management Act of 2014. Through the SMGWA, SVWD participates in basin-wide planning, monitoring, and implementation of the Groundwater Sustainability Plan, which was adopted to ensure the long-term viability of local water supplies. This collaborative governance structure reflects the interconnected nature of the basin and the importance of regional coordination in addressing overdraft, drought resilience, and climate variability.

The district's jurisdictional setting is also shaped by its relationship to local and regional governance frameworks. LAFCO regulates annexations, boundaries, and service expansions, while the City of Scotts Valley coordinates land use planning with the district's infrastructure capacity. The district itself owns and maintains wells, tanks, pipelines, and recycled water facilities, while the City of Scotts Valley manages sewer services and produces recycled water that SVWD distributes primarily for irrigation. This integration of municipal and district responsibilities underscores the cooperative framework in which SVWD operates and highlights its role as a critical service provider within Santa Cruz County's broader water management landscape.

- **Year of Incorporation:** 1961
- **2023 Population Served:** 11,678 (CAS 5-Year, 2018-2023)
- **Coverage Area:** 183 parcels covering approximately 1,481 acres and 5.5 square mile area

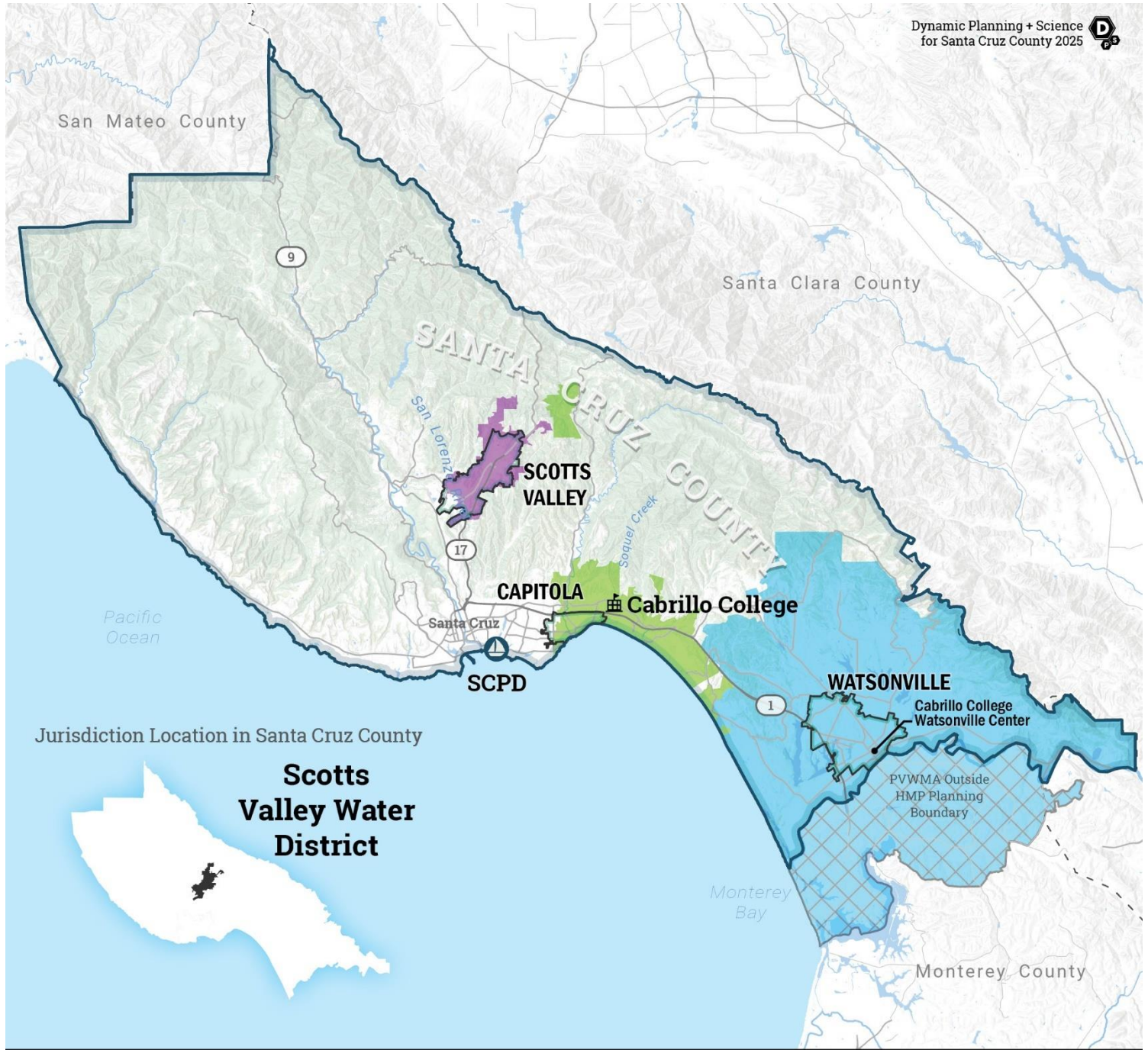
5.2.1 Geography & Climate

SVWD is located in the central portion of Santa Cruz County, north of the City of Santa Cruz covering an area of roughly 5.5 square miles that includes most of the incorporated City of Scotts Valley and some unincorporated parcels to the north. The district is situated in the Santa Margarita Groundwater Basin, a geologic and hydrologic system that provides the sole source of potable water for its customers. Figure 5-1 identifies the district boundary within Santa Cruz County. The terrain is characterized by a mix of valley lowlands, rolling hills, and forested slopes. Two major creeks within the district are Bean Creek and Carbonera Creek, which flow through the service area and are tributaries of the San Lorenzo River, which ultimately drains into the Monterey Bay. These waterways contribute to local aquifer recharge.

The district's setting in the lower Santa Cruz Mountains places it within a Mediterranean climate zone, with cool, wet winters and warm, dry summers. Average annual precipitation in Scotts Valley is approximately 40 inches, Figure 5-2, with most rainfall occurring between November and March. The region is highly variable in terms of precipitation, influenced by both Pacific storm systems and orographic effects from the Santa Cruz Mountains. Droughts have become more frequent and prolonged, stressing groundwater recharge and prompting conservation and drought contingency planning. Conversely, intense rainfall

events associated with atmospheric rivers can create short-term flooding and slope failure risks. (SVWD, 2020)

Temperature patterns in the district reflect a transitional climate zone between the cooler coastal areas of Santa Cruz and the warmer inland valleys. Average summer highs range in the mid-80s°F, while winter lows can dip into the upper 30s°F. This variability contributes to seasonal water demand cycles, with higher demand in summer due to landscape irrigation and lower demand in winter. Climate change projections suggest that the Scotts Valley area will experience longer dry spells, more intense winter storms, and greater wildfire risk in the surrounding wildland-urban interface.



Geographic Overview - Santa Cruz County HMP Participants

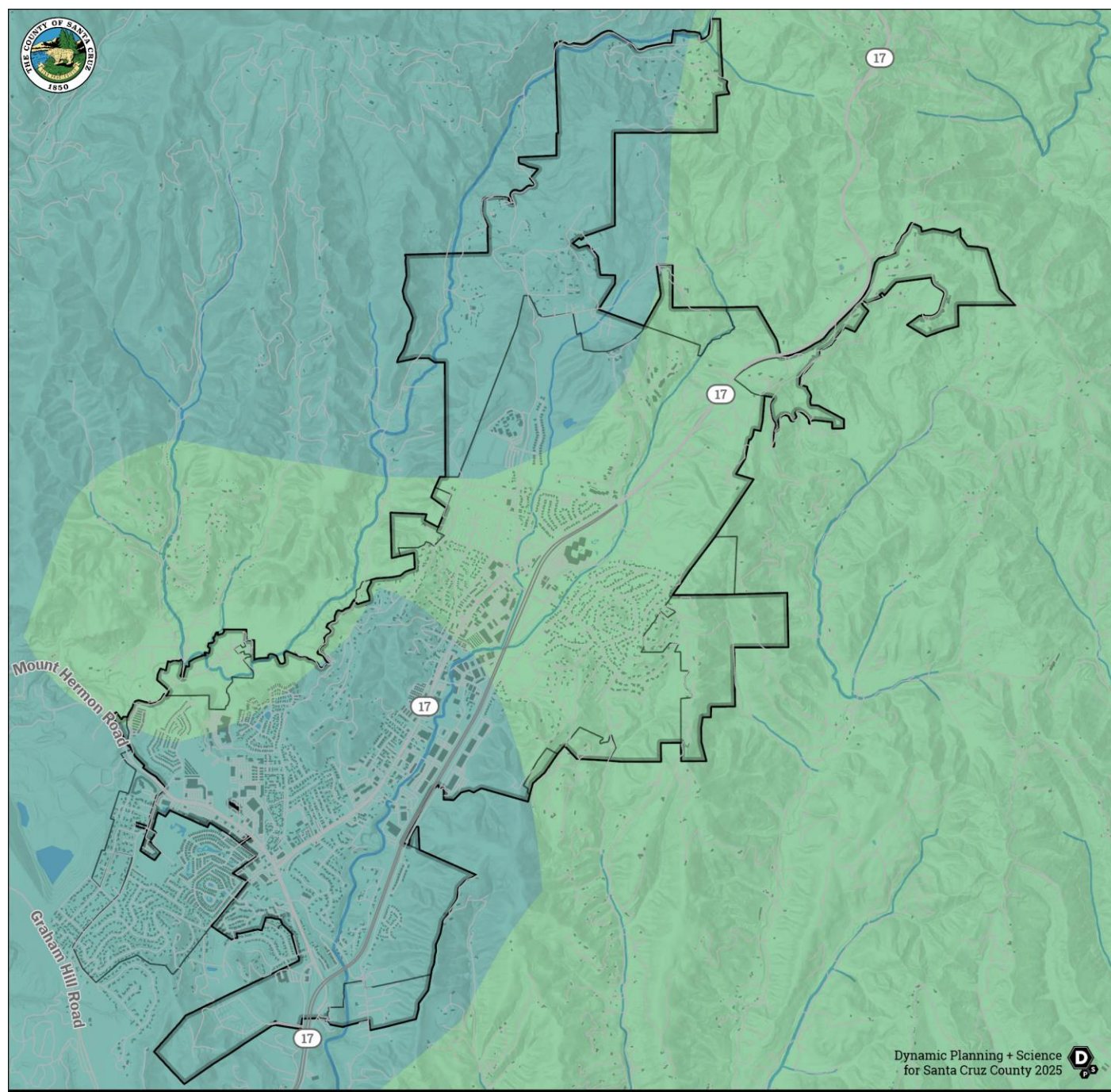
- Cabrillo College
- Santa Cruz Port District
- Participating Jurisdiction
- Scotts Valley Water District
- Pajaro Valley Water Management Agency
- Soquel Creek Water District

Santa Cruz County Resource Conservation District

Geographic extent is generally coterminous with the unincorporated county, with various incorporated areas excluded from the District's jurisdiction.



Figure 5-1: SVWD Sphere of Influence



Average Annual Precipitation (1991-2020, Inches)

Scotts Valley Water District

*Data sources: PRISM 30-Year Normals 1991-2020.



Figure 5-2: SVWD Average Annual Precipitation Map



5.2.2 Historic Overview

SVWD was established in 1961 under the California County Water District Act to provide a reliable local water supply to the growing community of Scotts Valley. At the time, Scotts Valley was transitioning from a rural, agricultural setting into a residential community with suburban development, creating the need for an organized water service provider. The district was formed as a special district with its own elected board of directors, independent finances, and authority to operate water infrastructure within its service area.

From its inception, SVWD has relied on groundwater as its sole source of potable water supply, drawing from the Santa Margarita Groundwater Basin (SMGB). In the early years, the district constructed its first production wells and storage facilities to serve a relatively small customer base. As Scotts Valley grew in population through the 1970s and 1980s, demand on the basin increased significantly. By the 1990s, evidence of groundwater overdraft and declining aquifer levels prompted the district to adopt more formal groundwater management practices. In 1994, SVWD adopted its first Groundwater Management Plan under Assembly Bill 3030, establishing long-term goals for basin monitoring, recharge, and protection.

Over the next two decades, SVWD became a regional leader in water efficiency and sustainable management. In partnership with the City of Scotts Valley, the district developed a recycled water program, using treated effluent from the City's wastewater treatment plant for non-potable irrigation of parks, schools, and landscaping. SVWD also invested in Low Impact Development (LID) projects, such as recharge basins, to enhance local aquifer replenishment. These programs became essential components of the district's drought resilience strategy, especially during California's multi-year droughts in the early 2000s and the severe 2012–2016 drought.

In 2014, the passage of California's Sustainable Groundwater Management Act (SGMA) brought new requirements for basin-wide planning. SVWD became a founding member of the SMGWA in 2017, joining with the San Lorenzo Valley Water District, the City of Scotts Valley, and Santa Cruz County to collaboratively manage the SMGB and prepare a Groundwater Sustainability Plan. This shift marked a significant evolution in the district's governance, emphasizing regional collaboration and long-term sustainability.

In recent years, SVWD has modernized its infrastructure and planning framework. The 2020 Urban Water Management Plan, developed jointly with San Lorenzo Valley Water District, integrated demand projections, drought risk assessment, and a Water Shortage Contingency Plan. The district also completed updates to its Administrative Code in 2022, codifying policies on service connections, annexations, and recycled water operations. Meanwhile, SVWD has continued to expand its capital improvement program, drilling new wells, constructing new storage tanks, and pursuing an intertie with the City of Santa Cruz to bolster long-term supply reliability.

5.2.3 Demographics & Vulnerable Populations

This section describes the demographic characteristics of SVWD to guide hazard mitigation planning efforts. Natural disasters affect communities both physically and socially, with demographic composition playing a central role in determining how impacts are distributed, particularly among vulnerable groups facing greater challenges in preparedness, response, and recovery. Understanding the area's social and economic landscape also helps assess potential social costs from infrastructure damage, including housing, industry, public facilities, essential services, and transportation.

Exploring local demographic data may help to identify groups and geographic areas with specific vulnerability to hazard events. In the context of all-hazards preparedness and response planning, at-risk individuals (often used interchangeably with “vulnerable populations”) are defined federally as “children, pregnant women, senior citizens, and other individuals who have access or functional needs in the event of a public health emergency.” (42 U.S.C. § 2802(b)(4)(B) (2019)) These populations may include, but are not limited to, individuals who are economically disadvantaged, living with disabilities, dependent on caregivers, from historically marginalized communities, have limited English proficiency or are non-English speaking, lack access to transportation, are experiencing homelessness, or have chronic medical conditions.

Certain populations face greater risk following a natural hazard event due to age, economic mobility, physical disability, geographic location, or a combination of factors. Vulnerability in the face of a hazard event is not a fixed characteristic; the same individual may be at risk for some hazards but not at risk for others. Planning for vulnerable populations in the context of hazard mitigation can help communities to prioritize limited resources where they will be the most effective. Refer to Volume 1, Section 1.4.3 for a more in-depth discussion of planning for vulnerable populations, at-risk individuals with access and functional needs, and environmental justice.

5.2.3.1 Income & Housing

Income and housing conditions within the SVWD reflect both the relative affluence of the community and the socioeconomic diversity that exists within its boundaries. According to the U.S. Census Bureau's American Community Survey, median household incomes in much of the SVWD service area exceed \$119,000 annually, placing Scotts Valley among the higher-income communities in Santa Cruz County. However, the Figure 5-3 reveals that not all households enjoy this level of prosperity. Pockets of lower income are present, particularly in areas adjacent to the Highway 17 corridor and portions of northern Scotts Valley, where median incomes are closer to the countywide average.

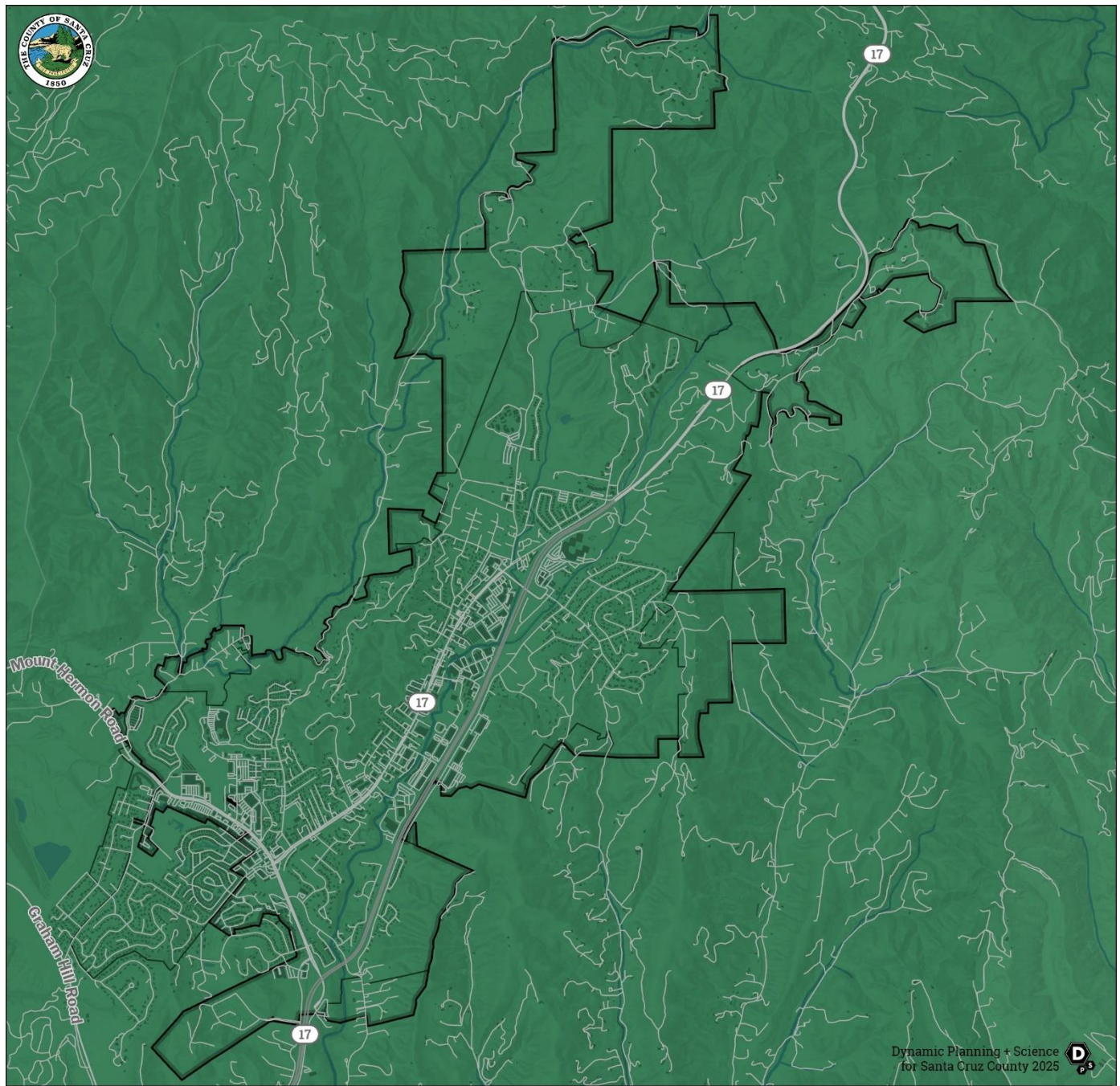
Figure 5-4 shows that while much of Scotts Valley has relatively low poverty rates (less than 10 percent of residents), there are neighborhoods within the SVWD service boundary where over 24 percent of the population lives below the federal poverty line. These pockets of concentrated poverty are important to note for hazard mitigation planning, as economically disadvantaged households may face greater barriers to disaster preparedness, response, and recovery. Limited access to financial resources can make it more



difficult for residents to retrofit homes, purchase insurance, or relocate temporarily after a disaster, increasing vulnerability across the district.

Housing occupancy patterns further illustrate the community's socioeconomic structure as shown in Figure 5-5. Owner-occupancy rates are generally high across SVWD's service area, with many neighborhoods showing ownership rates above 88 percent. This reflects a relatively stable, long-term residential community, which can be a strength for hazard mitigation, as homeowners are often more likely to invest in property protection measures. However, the central corridor of Scotts Valley, particularly around downtown and multifamily housing zones, displays lower ownership rates, with some areas having less than 41 percent owner-occupied housing. These rental-heavy neighborhoods are likely to contain more vulnerable populations, such as lower-income households, younger families, and seniors in multifamily housing, who may be less able to invest in structural mitigation improvements.

Taken together, these income and housing patterns show a community with generally high levels of wealth and homeownership, but with localized areas of economic vulnerability and renter concentration that warrant careful attention in hazard mitigation planning.



ACS Median Household Income Scotts Valley Water District

*Data sources: ESRI Demographics Service, ACS.

Median Household Income

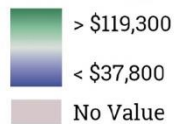
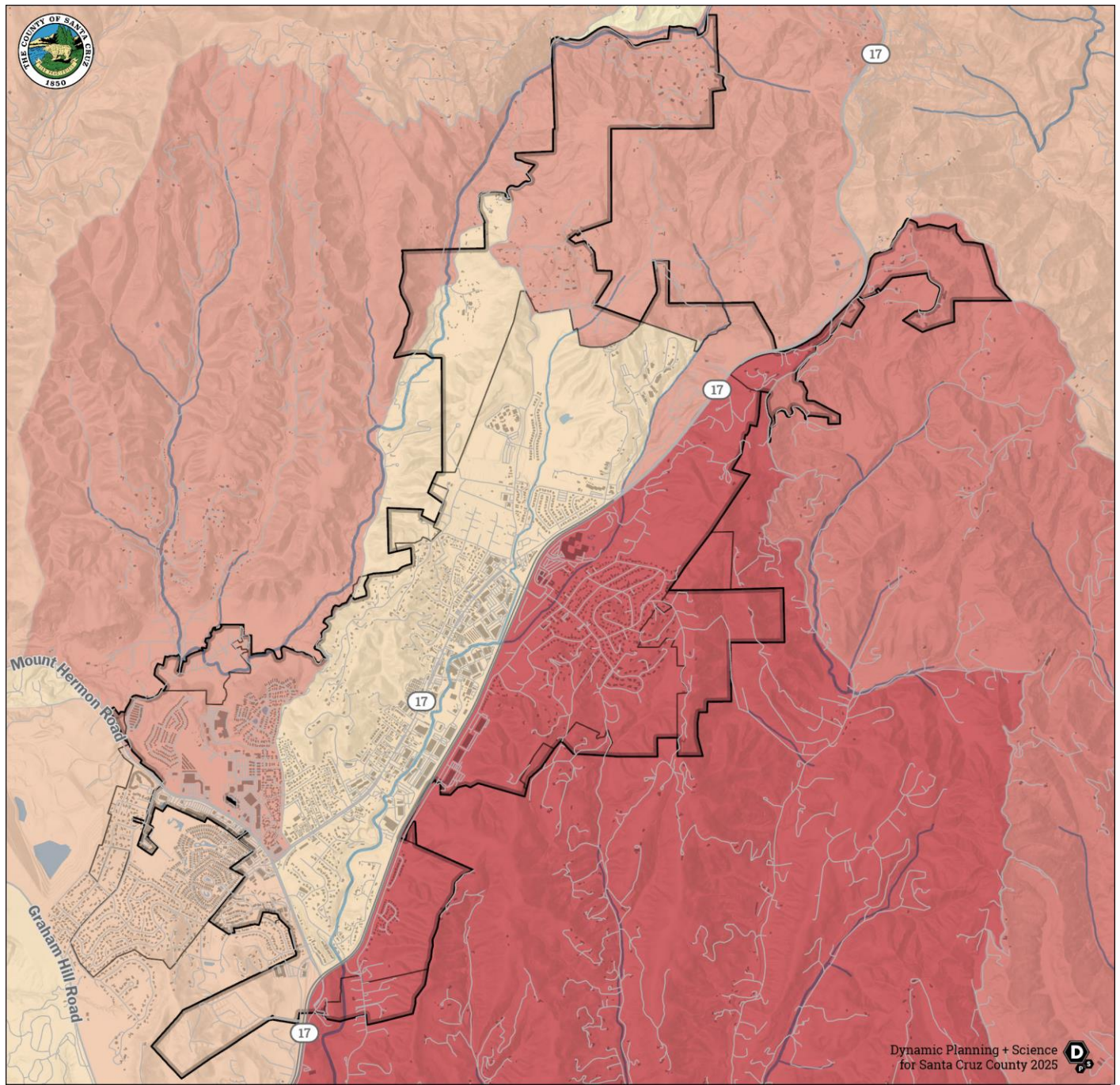


Figure 5-3: SVWD Median Household Income Map



ACS Poverty Status

Scotts Valley Water District

*Data sources: ESRI Demographics Service, ACS.

Percent of Population Whose Annual Income is Below Poverty

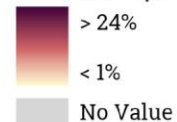
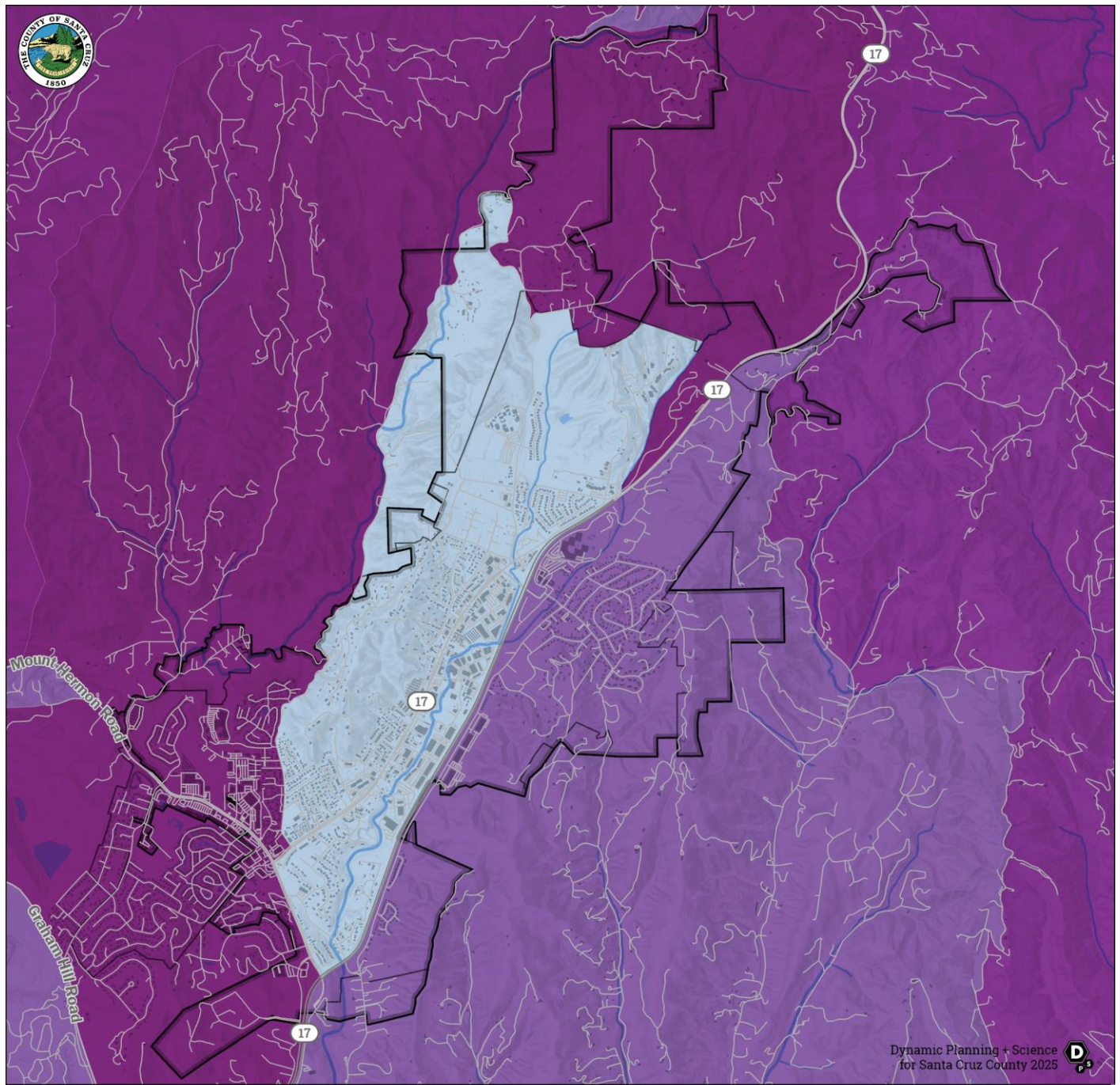


Figure 5-4: SVWD Poverty Status Map



ACS Housing Occupancy Scotts Valley Water District

*Data sources: ESRI Demographics Service, ACS.

Percent of Housing Units that are Owner-Occupied

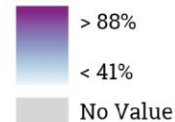


Figure 5-5: SVWD Owner-Occupied Housing Units Map

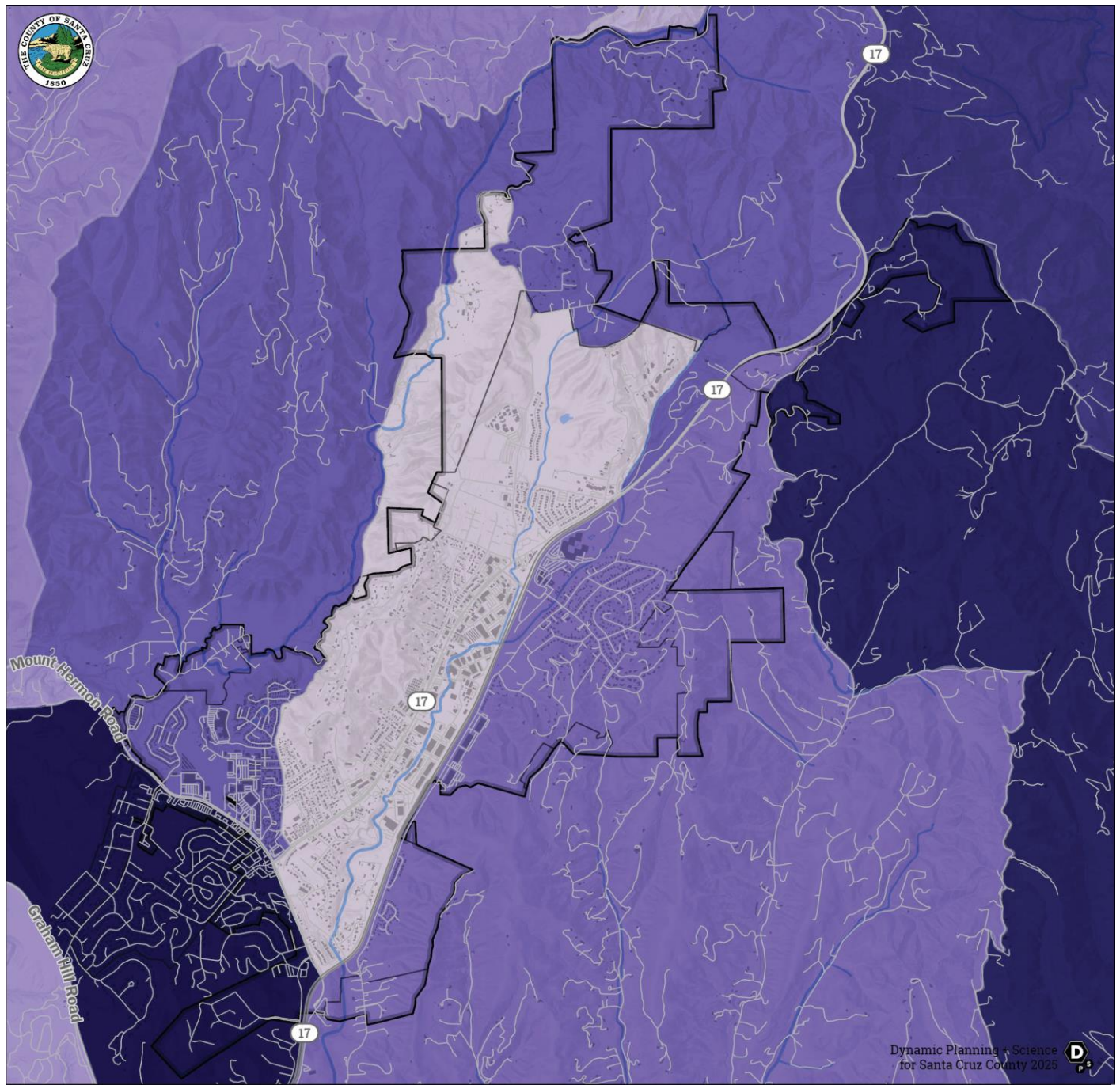


5.2.3.2 Dependent & Disabled Populations

Age and disability status play significant roles in vulnerability to natural hazards, as seniors, children, and many who experience disabilities are dependent populations who rely on caregiver networks for support and protection. Seniors and disabled persons may have mobility challenges and increased health concerns, necessitating additional assistance during evacuations and recovery. Similarly, children have limited ability to protect themselves and depend on caregivers to ensure their safety and well-being during emergencies. When combined with factors such as poverty, these vulnerabilities can be further compounded, highlighting the importance of targeted interventions to address the unique needs of dependent and disabled populations.

According to the ACS and Figure 5-6, large areas within the SVWD service boundary have more than 30 percent of the population in dependent age categories defined as children under 18 and seniors over 65. In particular, portions of the eastern and southern sections of the district show concentrations above 48 percent, indicating that nearly half of the residents in these areas may require additional support during hazard events. This demographic pattern underscores the importance of ensuring emergency communication, evacuation planning, and continuity of essential services are accessible and responsive to families with children and seniors.

The ACS Disabled Elderly, Figure 5-7 further highlights the vulnerability of older residents within SVWD. Areas in the northeastern and western edges of the district show rates exceeding 19 percent of the elderly population (65+) living with a disability, with some census tracts nearing or surpassing 47 percent. This means a significant portion of elderly residents may have mobility, sensory, or health limitations that complicate disaster preparedness, evacuation, and recovery. These populations are disproportionately impacted by service interruptions, power outages, and water supply disruptions, and they may require targeted outreach and resources such as medical support, accessible evacuation centers, and backup water distribution options.



ACS Dependent Age Groups Scotts Valley Water District

*Data sources: ESRI Demographics Service, ACS.

Percent of Population in Dependent Age Groups

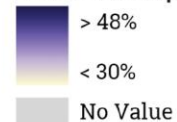
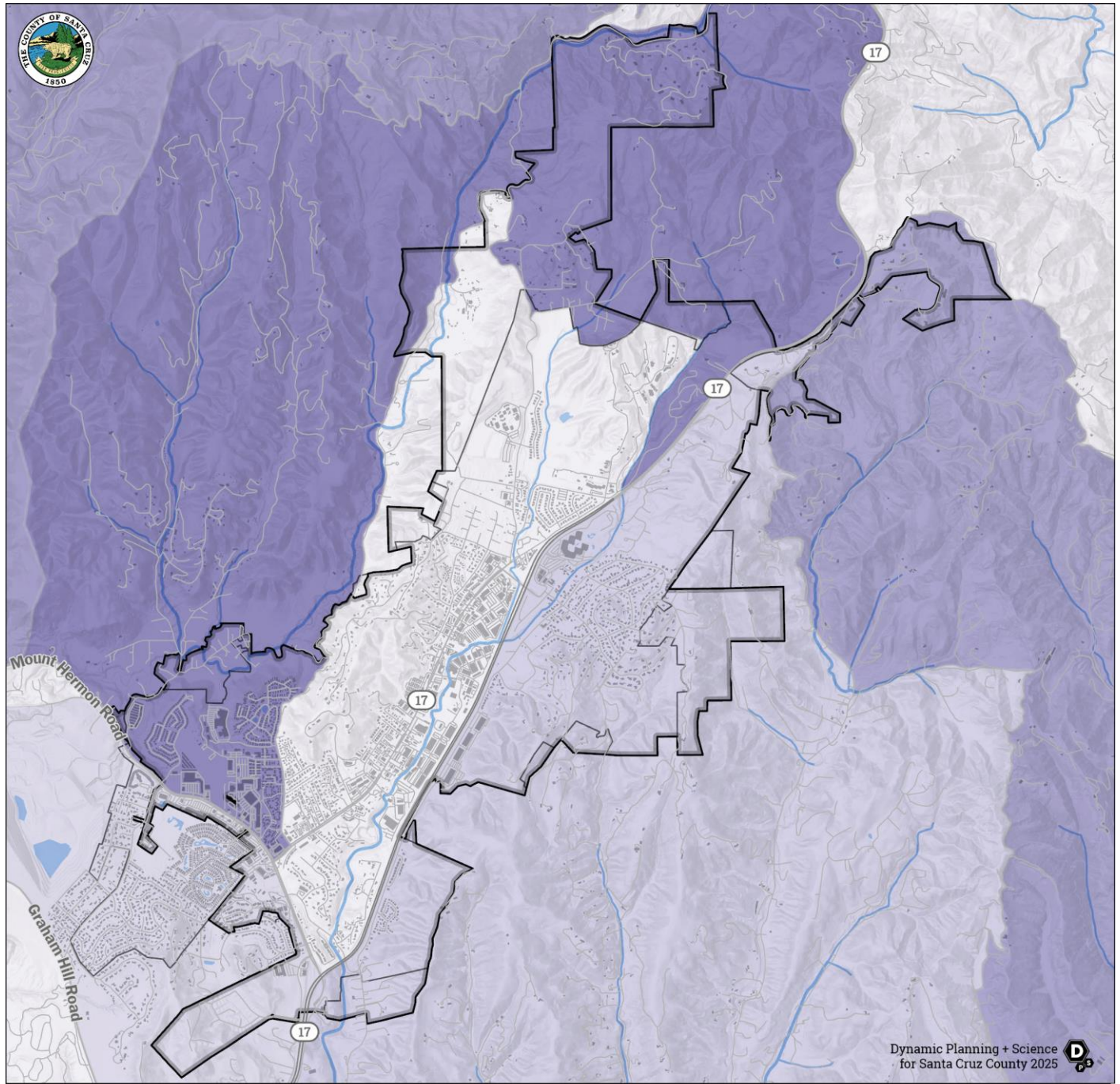


Figure 5-6: SVWD Economically Dependent Age Groups Map



ACS Disabled Elderly Scotts Valley Water District

*Data sources: ESRI Demographics Service, ACS.

Percent of Elderly Population (65+) with a Disability

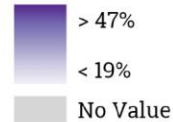


Figure 5-7: SVWD Disabled Elderly Map

5.2.3.3 Race, Ethnicity & Language

Natural disasters compound racial disparities; non-white individuals and communities receive less recovery aid from FEMA than their white counterparts, even where the amount of damage is the same. (Howell & Elliott, 2019) (National Advisory Council, 2020) The recent COVID-19 pandemic was a testament to racial disparities in disaster outcomes, with non-white persons facing morbidity rates from COVID-19 infections anywhere from 70% to 350% higher than white, non-Hispanic persons. (CDC, 2020)

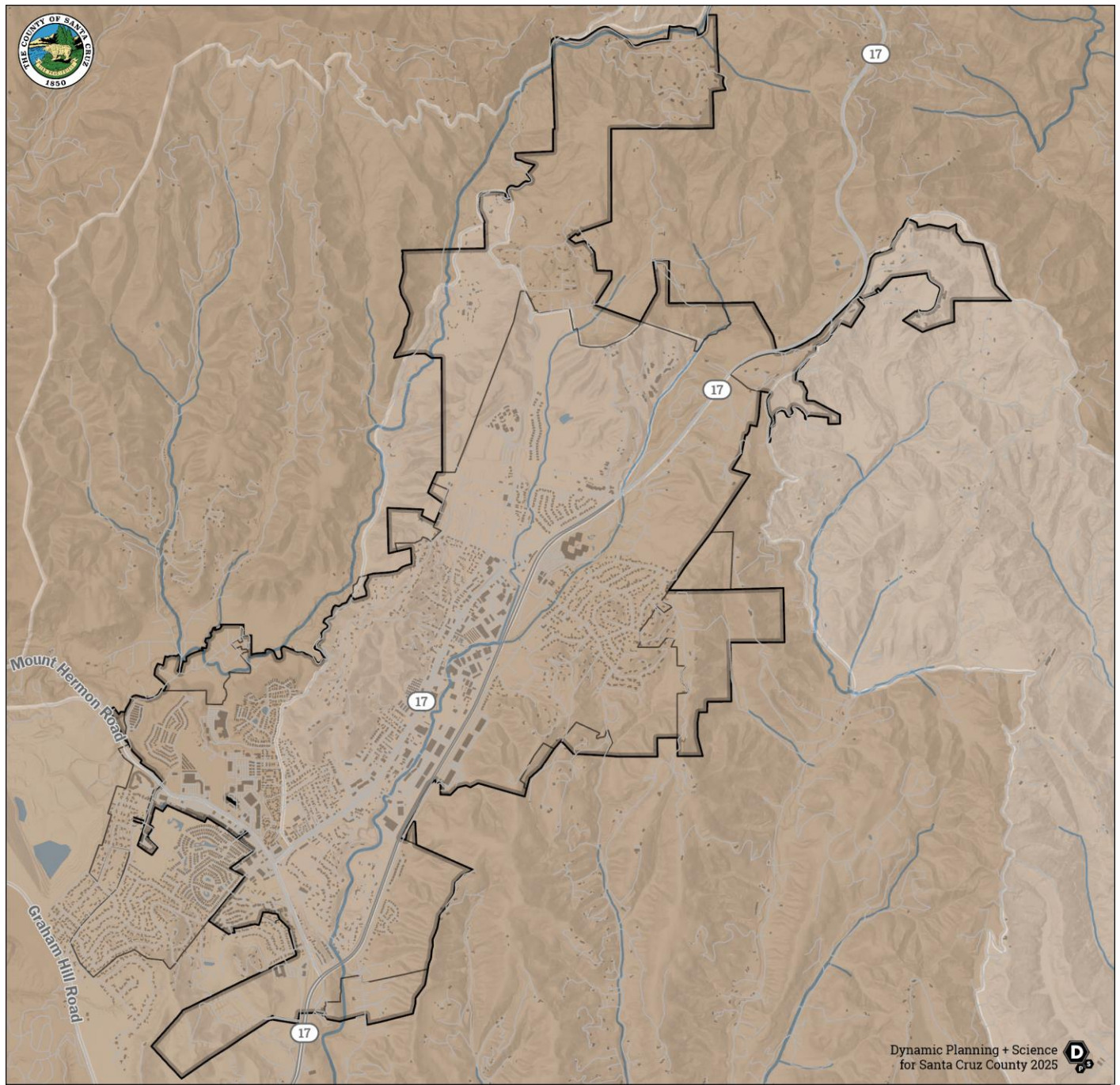
These disparities are evidence of the complicated relationship between disaster recovery and overlapping social vulnerabilities including race, income, language, and health. Black and Latinx residents are more likely to be low income and renters, conditions which create barriers to navigating FEMA's Individual Assistance programs. Communities with more non-white residents may have lower tax revenue and property values, which means less investment in mitigation and rebuilding efforts before and after an emergency.

It should be noted that rural ACS estimates are often less accurate than those for urban areas because the geographic representation, broken down by smaller Census Block Groups or Tracts, becomes insignificant and the margin of error increases within these smaller sample pools. This is particularly true when referencing minority demographic groups. As such, race and ethnicity are discussed as part of a more comprehensive approach using the Center for Disease Control's (CDC) Social Vulnerability Index (SVI) in the following section. In addition, some minority households may avoid participating in Census surveys due to mistrust of government agencies or concerns about immigration status. This can lead to underreporting, further obscuring the true extent of racial, ethnic, language-related vulnerabilities.

The racial, ethnic, and linguistic composition of the SVWD provides important context for understanding community vulnerabilities and resilience. As shown in Figure 5-8, the district is predominantly White, non-Hispanic, but also includes Hispanic or Latino populations as the largest minority group.

Language diversity is another factor that shapes community needs. Figure 5-9 indicates that while most of the district has relatively low proportions of households where Spanish is spoken at home, certain census tracts along the eastern boundary and near the Highway 17 corridor show higher concentrations of Spanish-speaking households, where more than 33% of the population aged five and older speaks Spanish at home. This suggests that while English is the dominant language within SVWD, there are meaningful clusters of residents who may rely on Spanish for emergency communications and public outreach.

This linguistic pattern indicates a need for multilingual hazard communication, particularly in Spanish. It also reinforces the importance of tailoring emergency alerts, preparedness materials, and community engagement to reach Limited English Proficiency (LEP) populations, many of whom may be renters or frontline service workers in high-risk areas.



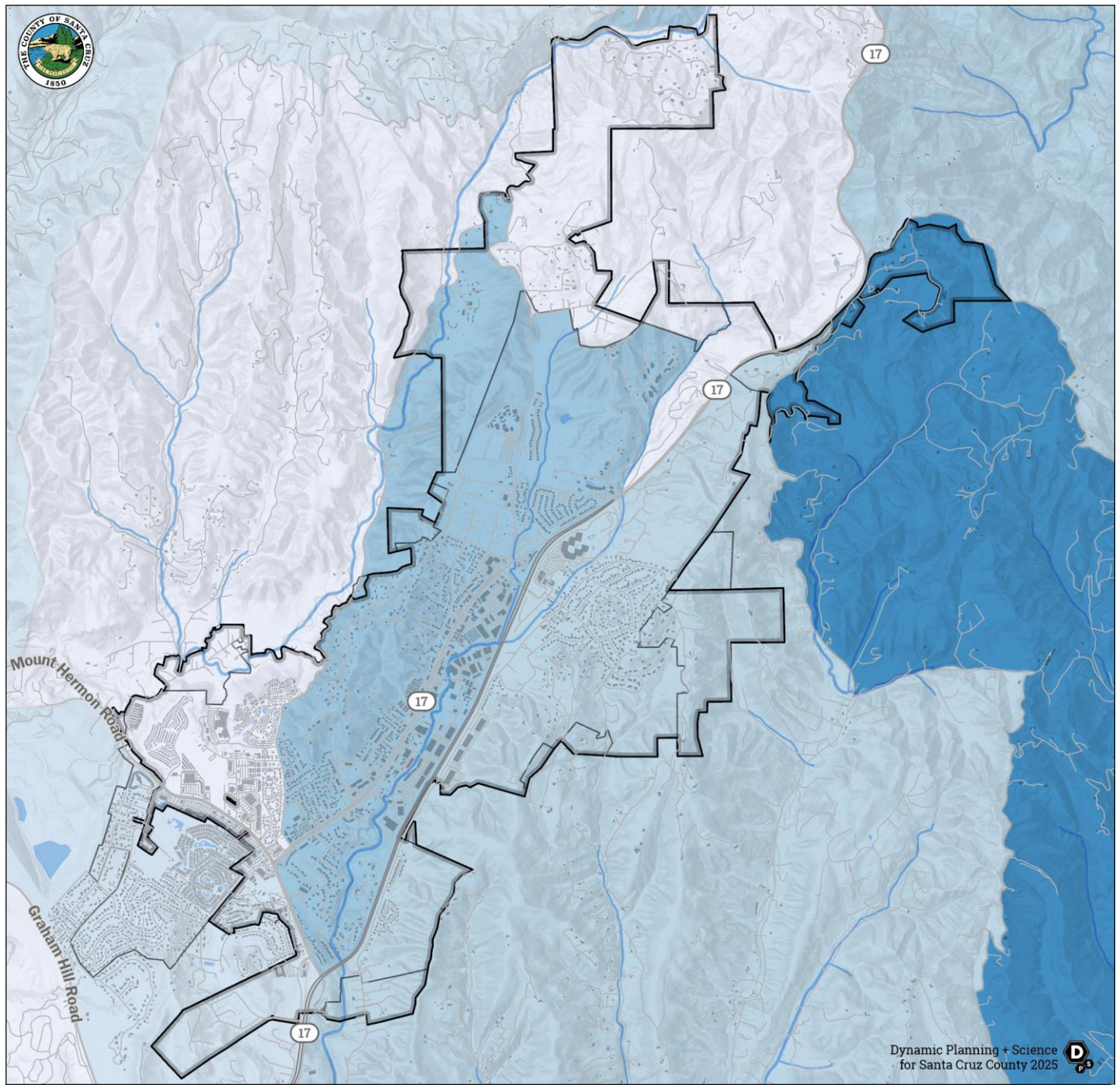
ACS Race and Ethnicity Scotts Valley Water District

*Data sources: ESRI Demographics Service, ACS.

ACS Race and Ethnicity Predominance

- | | | |
|---|---|--|
| White alone, not Hispanic or Latino | Asian alone, not Hispanic or Latino | Native Hawaiian and other Pacific Islander alone, not Hispanic or Latino |
| Hispanic or Latino | American Indian and Alaska Native alone, not Hispanic or Latino | Some other race alone, not Hispanic or Latino |
| Black or African American alone, not Hispanic or Latino | Two or more races, not Hispanic or Latino | |

Figure 5-8: SVWD Race and Ethnicity Predominance Map



ACS Language Spoken

Scotts Valley Water District

*Data sources: ESRI Demographics Service, ACS.

Percent of Population (5+) Who Speak Spanish at Home



Figure 5-9: SVWD Spanish-Speaking Population Map

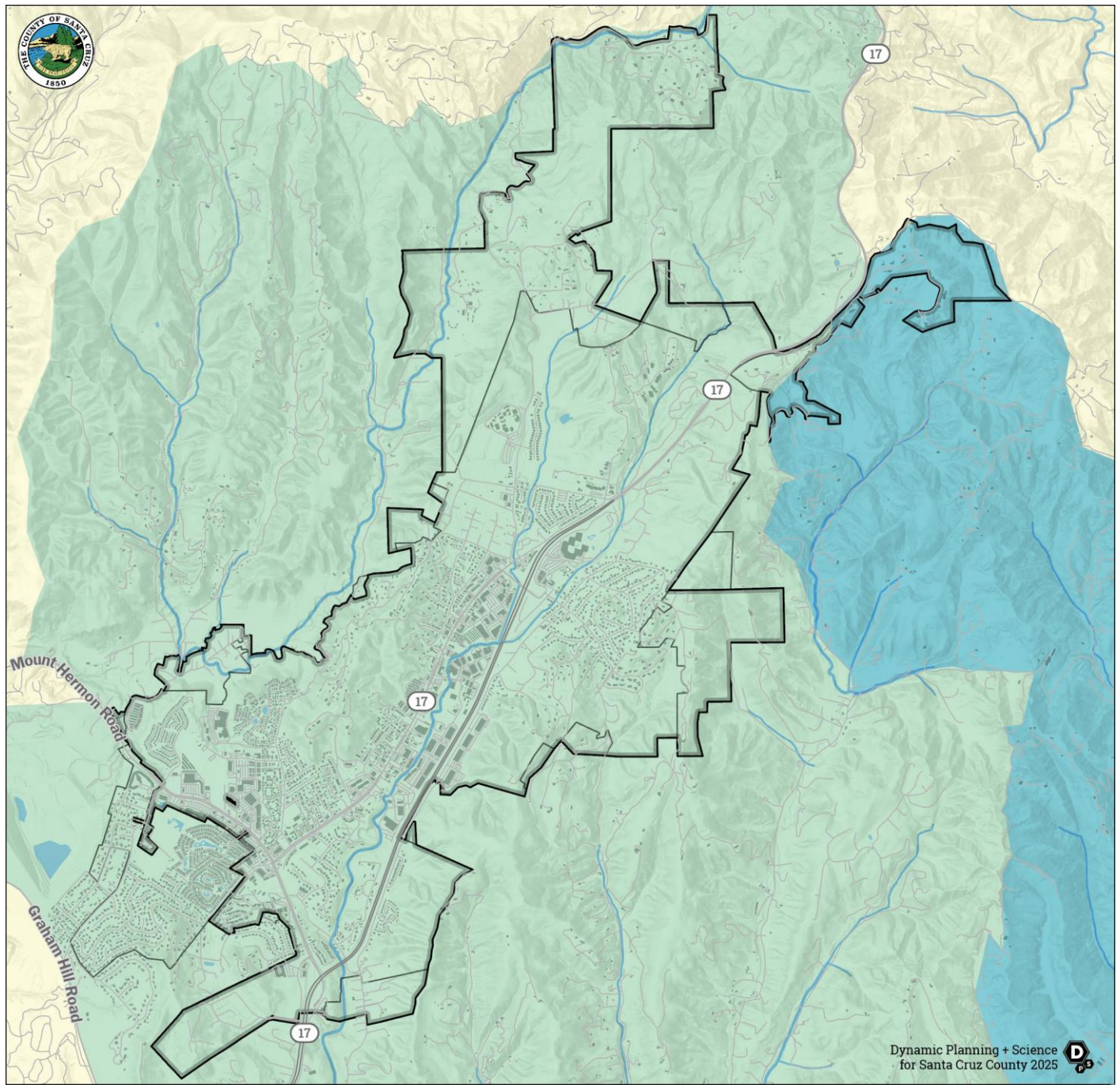


5.2.3.4 Social Vulnerability Index (SVI)

The Centers for Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) for SVWD reveals important spatial and demographic patterns that have direct implications for equitable hazard mitigation planning. As discussed in detail in Volume 1, Section 1.4.3.6 the SVI is a composite measure developed by the CDC to identify communities that are more likely to require support before, during, and after a disaster. It incorporates a range of factors across four key dimensions: socioeconomic status, household composition and disability, minority status and language, and housing type and transportation access. The resulting index score ranges from 0 (lowest vulnerability) to 1 (highest vulnerability).

Within SVWD, most of the service area is characterized by low to moderate vulnerability, with SVI scores generally falling between 0.0–0.25 and 0.25–0.50, as shown in Figure 5-10. These lower scores align with the district's higher-than-average educational attainment, stable homeownership rates, and relatively high household incomes compared to other parts of Santa Cruz County. However, there are pockets in the northeastern edge of the District along the Highway 17 corridor where SVI scores increase into the 0.50–0.75 range. These areas reflect a concentration of factors such as older housing stock, more limited transportation access, or greater proportions of residents with lower income or limited English proficiency.

The presence of even moderately vulnerable areas is significant for hazard mitigation planning. Communities with higher social vulnerability often face challenges such as reduced emergency preparedness, longer recovery times after disasters, and limited ability to access resources such as insurance, disaster relief funds, or evacuation transportation. For SVWD, this means that while the majority of its population may be relatively well-positioned to withstand hazard impacts, targeted outreach and resources will be necessary to ensure that households in higher-vulnerability pockets are not left behind. Ensuring equitable access to hazard information, water reliability programs, and emergency response resources will be essential for reducing disproportionate impacts across the district.



CDC Social Vulnerability Index 2022

Scotts Valley Water District

*Data sources: ESRI Demographics Service, ACS.

CDC Social Vulnerability Index

0.0000 - 0.2500	0.7501 - 1.0000
0.2501 - 0.5000	No data
0.5001 - 0.7500	

Figure 5-10: SVWD Social Vulnerability Index Map



5.2.4 Economy

SVWD does not have an economy in the conventional sense, as it functions as a special-purpose public agency rather than a commercial or industrial entity. Its primary mission is to provide safe and reliable potable water to residents, businesses, and municipal services within the City of Scotts Valley and parts of unincorporated Santa Cruz County. The district's financial structure is supported by revenues from residential and commercial water usage, connection fees, and tiered water rates.

SVWD employs a fiscally conservative approach, implementing a five-year rate schedule to ensure long-term sustainability, fund infrastructure improvements, and maintain adequate reserves. Its FY 2025 budget emphasizes capital investments, infrastructure resilience, and stable service delivery while managing rising operational costs. Although SVWD does not directly generate economic activity, its reliable water services are essential to local development, fire protection, and public health.

Within the SVWD jurisdiction itself, the economy is primarily residential, but with meaningful commercial and institutional components. SVWD supplies more water to commercial, industrial, and institutional customers than neighboring districts, indicating a somewhat more mixed-use service base.

5.2.5 Growth Trends & Future Development

Future growth in Santa Cruz County is expected to occur primarily within the cities of Santa Cruz, Watsonville, Scotts Valley, and Capitola, as identified in local General Plans and the County's housing allocations. The unincorporated areas will continue to see gradual change in rural communities, particularly in the San Lorenzo Valley, Bonny Doon, and coastal zones. While the RCD does not regulate land use or approve development, population and housing growth across the county will shape the demand for its programs and the types of hazard mitigation projects needed.

The Association of Monterey Bay Area Governments (AMBAG) projects the county's population to increase modestly over the next two decades. Watsonville and South County are expected to absorb much of this growth through new housing, including allocations for affordable units required under the Regional Housing Needs Allocation. These areas already have high concentrations of socially vulnerable populations and face risks from flooding, sea level rise, and drought. Growth in these areas will increase the need for RCD programs that improve floodplain management, groundwater recharge, and agricultural water efficiency.

In the north and mid-county, development will remain limited by geography, wildfire risk, and environmental constraints. Growth in the San Lorenzo Valley and the Santa Cruz Mountains will continue to place homes in the wildland urban interface. This will expand the need for defensible space, fuel reduction, and forest health projects that the RCD currently manages in collaboration with the Fire Safe Council and local partners. Coastal growth pressures, including redevelopment of existing sites in Capitola and Live Oak, will increase demand for shoreline and bluff protection projects that reduce erosion and maintain ecosystem function.

Future development patterns will also be influenced by groundwater sustainability planning and climate adaptation goals. The RCD partners with the Pajaro Valley Water Management Agency, the Santa Margarita Groundwater Agency, and local jurisdictions to integrate conservation projects with basin management plans. As state and federal funding becomes more closely tied to climate resilience, the RCD's grant-based structure positions it to bring significant outside resources into the county to address growth-related hazard challenges.

In summary, the RCD anticipates that countywide growth will be steady but modest, with most new development concentrated in existing urban areas. Growth in socially vulnerable communities in the south, in wildfire-prone mountain areas, and along the coast will require targeted mitigation and conservation projects. The RCD is well positioned to support these needs through its grant funding capabilities, its technical assistance programs, and its ability to coordinate across jurisdictions.

5.3 Planning Process

SVWD followed the planning process detailed in Volume 1, Section 2, including participating in the county-wide Hazard Mitigation Planning Team (HMPT) and formulating their own internal planning group to support the broader planning process.

The district's representatives in the Steering Group led stakeholder and public engagement efforts alongside the Consultant Team, with assistance from the HMPT and their internal planning team. This engagement process is described in Volume 1. Specifically, for Scotts Valley Water District, this included postings to the district website and social media as well as outreach events, as documented in Appendix B. Examples of Key Stakeholders engaged by Santa Cruz County on behalf of the district with relevance to the development of SVWD's mitigation strategy include the USDA and other federal agencies; CAL FIRE and other state agencies; City of Scotts Valley and other neighboring jurisdictions; local Fire Safe Councils; community-based groups like Watsonville Wetlands Watch; utility providers like AT&T; UC Santa Cruz and other academia; and local businesses.

All Key Stakeholders that were invited to participate in the planning process are listed in Volume 1, Section 2, and the input received from stakeholders was integrated into the district's annex, as described in Volume 1 Table 2-9. The district's internal planning participants, their positions, and how they participated in the planning process are shown in Table 5-1.

Table 5-1: SVWD Participants

Planning Group Members	Title	Description of Involvement
Nate Gillespie	Operations Manager	Lead Point of Contact; attended Kickoff Meeting, HMPT Meetings #1, #2, and #3 and Breakouts #1 and #2
David McNair	General Manager	Alternate Point of Contact; HMPT Meetings #1, #2, and #3 and Breakouts #1 and #2



Planning Group Members	Title	Description of Involvement
Brody Knutson*	Engineering Technician	Participating Stakeholder; HMPT Meetings #3

*Note: * Participants are no longer with the district but assisted in the process*

SVWD participated in a comprehensive hazard mitigation planning process as part of the 2025 Santa Cruz County MJHMP update. This included a series of breakout meetings, listed in Table 5-2 that engaged the district's planning team, which included key district personnel and stakeholders in evaluating hazards, identifying local vulnerabilities, and prioritizing mitigation strategies

The kickoff meeting held on January 27, 2025, launched the planning process by introducing the project scope and clarifying the roles of the Steering Group and participating jurisdictional teams. In the months that followed, a series of structured meetings addressed foundational elements of the plan, including a review of key changes since the 2021 Local Hazard Mitigation Plan, an overview of hazard mitigation principles, and exercises to prioritize local hazards. On July 30, 2025, participants engaged in a hexagon mapping activity designed to visually identify mitigation actions that could benefit from or require inter-jurisdictional coordination. These collaborative efforts helped shape a refined set of mitigation alternatives, establish shared planning goals, and align local strategies with FEMA's Hazard Mitigation Assistance (HMA) funding framework.

Throughout the series of breakout meetings, SVWD engaged in a structured and collaborative planning process focused on assessing hazard risks, identifying vulnerabilities, and developing targeted mitigation strategies. The meetings began with recaps of the county-wide HMPT meetings to ensure alignment of goals and progress.

During the April 3, 2025, breakout out meeting, discussions concentrated on community engagement outcomes, initial risk assessments, and the integration of demographic data to better understand vulnerable populations. Jurisdictional teams reviewed their specific hazard exposures using the Risk Assessment Mapping Platform (RAMP) and participated in prioritization exercises to identify their top hazards.

The July 15, 2025, breakout meeting shifted toward reviewing local capabilities and defining specific areas of concern, which informed the drafting of problem statements. Teams worked collaboratively to refine mitigation alternatives, align actions with FEMA guidelines, and develop a shortlist of priority mitigation actions and inter-jurisdictional collaboration opportunities.

The meetings also included consensus-building activities around hazard rankings, capabilities, and planned actions, while providing regular updates on the overall project schedule.

Table 5-2: Jurisdictional Breakout Meeting Records

Meeting & Date	Agenda / Topics	Goals / Key Inputs
County-Wide Steering Group and HMPT Meetings #1 & #2 January – March 2025		
SVWD Planning Team Breakout Meeting #1 April 3, 2025	- County-wide HMPT meetings #1 and #2 recaps - Community engagement progress and results - Risk assessment and community vulnerability - Demographics and vulnerable populations - Overview of jurisdiction-specific hazard risks and exposure - Introduction to Risk Assessment Mapping Platform (RAMP) - Jurisdiction-specific hazard risk ranking exercise - Project schedule updates and next steps	- Consensus on jurisdiction-specific priority hazards - Identify capabilities and potential mitigation actions - Community engagement volunteers
County-Wide HMPT Meeting #3 June 2025		
SVWD Planning Team Breakout Meeting #2 July 15, 2025	- Breakout Meeting #1 and HMPT #3 recaps - Review capabilities assessment - Review areas of concern and define problem statements - Principles of effective mitigation strategies and actions, and mitigation alternatives - Refine and align jurisdiction-specific mitigation actions exercise - Project schedule updates and next steps	- Consensus on jurisdiction-specific capabilities - Consensus on jurisdiction-specific areas of concern - Consensus on priority mitigation actions and collaboration opportunities - Community engagement volunteers
County-Wide HMPT Meeting #4 August 2025		

5.3.1 Public Input & Draft Review

As detailed in Volume 1, Section 2, the draft plan was available for public review and comment from September 29 to October 20, 2025. Public comments received during that time were similar to those gathered throughout the public engagement process, including the need for more equity in the distribution of mitigation activities and funding and the need for enhanced cooperation among jurisdictions, utility providers, and state agencies. These comments were incorporated into the city's mitigation strategy, as appropriate; although, most were already addressed by the Mitigation Action Plan which was based on previous public input.

Public and stakeholder input was gathered and incorporated throughout the plan development process, before the public review period, such as from the online public survey (see Volume 1, Section 2.1.2 and Appendix B, for details). During the review period, jurisdictional staff and stakeholders that participated in



the plan development also reviewed the public draft and provided comments on minor corrections and revisions, which were addressed in the final plan.

5.4 What's New

This section offers an overview of the hazard mitigation planning efforts for the planning area and highlights the updates made in this 2025 MJHMP. This is the first time SVWD has participated in the MJHMP process. While not included in the 2021 plan, the district has since strengthened its focus on resilience through key efforts. Through this MJHMP process, SVWD has identified its highest-priority hazards, developed hazard-specific problem statements, and proposed actionable mitigation strategies.

5.4.1 Mitigation Activities

Although SVWD has not previously adopted formal mitigation actions within a Hazard Mitigation Plan, the district has implemented a series of projects, programs, and policies that clearly function as hazard mitigation. These efforts reflect SVWD's long-standing commitment to ensuring water supply reliability, protecting infrastructure from hazard impacts, and building resilience to drought and wildfire.

Over the past decade, SVWD has undertaken extensive infrastructure hardening and replacement. Capital projects such as the rehabilitation of the Bethany and Sequoia storage tanks, slope stabilization at Glenwood Tank, and installation of the Grace Way production well and replacement of Well 3B with Sucinto well, have reduced vulnerability to earthquake damage, landslides, and long-term supply interruptions.

The district has also advanced major drought and water conservation initiatives. Permanent water-use efficiency standards were codified through SVWD's Administrative Code, which includes demand curtailment stages during drought emergencies. The 2020 UWMP highlights the effectiveness of tiered rate structures, permanent leak detection, and deployment of Advanced Metering Infrastructure (AMI) in reducing per-capita demand. These programs directly support hazard mitigation by extending water availability during droughts and reducing stress on the groundwater basin.

Another significant achievement has been the development of a recycled water system. SVWD operates facilities that provide non-potable water for landscape irrigation, thereby reducing reliance on potable groundwater and preserving aquifer storage for emergency and drought conditions.

Regionally, SVWD has played a leadership role in the SMGWA. By co-developing and implementing the Santa Margarita Groundwater Sustainability Plan, the district has taken proactive steps to mitigate risks of overdraft and protect long-term aquifer resilience.

In terms of emergency preparedness and wildfire mitigation, SVWD has formally adopted an Emergency Management Policy that outlines continuity of operations, interagency coordination, and disaster response measures. The district has also invested in SCADA upgrades for remote system monitoring and partnered with local fire agencies to ensure hydrant reliability and fire flow capacity.

As a first-time participant in a hazard mitigation plan, SVWD had no formally adopted mitigation actions from a previous plan. However, the district continues to advance a range of ongoing and planned efforts that support hazard mitigation, climate resilience, and long-term water security. These are highlighted in this section, reflecting SVWD's continued dedication to long-term risk reduction. These actions, ranging from mitigation to community outreach initiatives, represent the city's proactive approach to addressing hazards as resources become available.

5.4.2 Mitigation Successes

Although SVWD is participating in a formal hazard mitigation plan for the first time, multiple important mitigation actions and other efforts to increase the district's resilience to hazards have been completed. Some of these endeavors in which the district collaborated with Santa Cruz County are described in Volume 1, Section 2. This section describes additional district-specific success stories, which highlight SVWD's commitment to reducing risks and building a more resilient community in the face of natural hazards.

Recycled Water System Development

SVWD's Recycled Water Treatment Facility, located near Scotts Valley High School, produces non-potable water distributed through a dedicated purple-pipe system to customers such as schools, parks, and commercial landscapes. The program offsets approximately 120 acre-feet of potable groundwater demand annually, about 10% of system supply, preserving aquifer storage for drought and emergencies. Recycled water also supports wildfire mitigation by maintaining irrigated buffer zones at schools and public facilities.



Figure 5-11: Recycled Water Program



SVWD Water Treatment Plant Upgrade

SVWD has undertaken the demolition and reconstruction of its largest water treatment facility, the Orchard Run plant. The old 38-year-old structure was dismantled in December 2020. The newly rebuilt facility now processes 1 million gallons per day and significantly enhances the taste and odor quality of the local water supply. The improvement is a response to longstanding aesthetic issues, groundwater drawn from deep wells (nearly 1,000 feet) in the Butano aquifer contains high levels of sediments, iron, and manganese, contributing to a mineral-heavy flavor and unpleasant odor. To address this, the new facility incorporates two granular activated carbon (GAC) filters, a flow-paced chlorine analyzer, a 40,000-gallon welded steel storage tank, and an odor scrubber. These upgrades substantially improved water palatability and clarity. The project also includes a connection to the sewer system. A new feature that eliminates costly septic effluent hauling, saving the district around \$3,500 per month in off-hauling fees.



Figure 5-12: SVWD Water Treatment Plant Upgrade

Infrastructure Hardening & Tank Rehabilitation

The district has invested in major capital improvement projects to rehabilitate and replace aging storage tanks, including Bethany, Sequoia, and Glenwood facilities. These projects address seismic vulnerability, slope stability, and long-term reliability of water storage critical for firefighting and emergency supply.



Figure 5-13: Bethany Tank Rehabilitation Project

Groundwater Sustainability Planning

As a founding member of the SMGWA, SVWD has taken a leadership role in preparing and implementing the GSP. This regional framework addresses overdraft, groundwater quality, and long-term supply security. By reducing the risk of seawater intrusion and ensuring sustainable pumping, the GSP serves as a foundational mitigation success



Advanced Metering Infrastructure (AMI) & Leak Detection

SVWD has fully deployed AMI across its service area, giving customers near real-time water use information and enabling rapid detection of leaks. Coupled with ongoing system leak-reduction programs, this initiative has significantly lowered water loss and reduced per-capita demand, bolstering drought resilience and resource efficiency.



Figure 5-14: I-Meter Installation

Conservation & Drought Management Policies

The district has adopted permanent ordinances and rate structures that encourage conservation, establish drought response stages, and enforce efficiency standards. These policies institutionalize water-saving practices, aligning with California's "Making Conservation a California Way of Life" framework.

Emergency Management & SCADA Upgrades

Through its Emergency Management Policy, SVWD has formalized procedures for preparedness, response, and recovery. Recent Supervisory Control and Data Acquisition (SCADA) upgrades allow remote monitoring and control of the water system, enhancing operational resilience during wildfires, earthquakes, and power outages.

Public Outreach & Education Programs

These programs include multilingual conservation campaigns, school partnerships, and emergency alerts, which have increased community awareness of water-related hazards and built support for long-term mitigation efforts.



Figure 5-15: Scotts Valley Art, Wine & Beer Festival-2025

Grants & Funding

SVWD has secured substantial federal and state funding to advance its resilience and water sustainability initiatives. These projects include a \$9.45 million grant from the State of California to construct the Grace Way Well—a new production well serving the Butano and Lompico aquifers and a \$6.5 million grant from the California Department of Water Resources funded the Intertie Pipeline with City of Santa Cruz.

SVWD implemented a stormwater low-impact development (LID) groundwater recharge system at the Cavallaro Transit Center. This project captures and treats parking lot stormwater to enhance local recharge and was funded by the State's Urban Community Drought Relief Grant Program. (SVWD, 2025)



5.5 Risk Assessment

This section focuses on profiling hazards specific to SVWD and assessing their vulnerability independent of the broader county-wide planning area, which has been evaluated in Section 3 of Volume 1. The hazard profiles in Volume 1 discuss overall impacts to the planning area and describe relevant plans, policies, and regulations; past events; location; frequency and probability of future occurrences; severity and extent; warning time; secondary hazards; and climate change impacts. For more information on risk assessment methodologies, see Volume 1, Appendix A.

This section includes a tailored vulnerability assessment, analyzing assets at risk such as population, property, and critical facilities and infrastructure unique to the district, and information on district-specific differences in hazard vulnerability across the planning area. It also identifies total district assets at risk, including people, property, and critical facilities and infrastructure within the district. In addition, this section presents growth and development trends for the communities served, offering insights into vulnerabilities and risks that represent the broader context of assets at risk.

5.5.1 Hazard Screening & Prioritization

Members of the planning team from each participating jurisdiction came together to collaboratively decide which county-wide hazards would be included in the MJHMP and which would be excluded. The hazard screening and prioritization took place early in the process and integrated historic data, local knowledge, and consensus opinions to create a risk assessment matrix for the county as well as for each participating jurisdiction. These matrices indicate the priority of hazards prior to further refinement. Details about this process, the results of the discussion, and in-depth profiles for county-wide hazards can be found in Volume 1, Sections 2 and 3.

The final results of the hazard screening and prioritization exercises are summarized in Table 5-4, including which specific subhazards were selected by SVWD's planning team.

The SVWD's internal planning group used the same hazard identification and prioritization process as the county-wide Planning Team. They reviewed previously prepared relevant documents and past events to determine the realm of natural hazards that have the potential to affect the district. Table 5-3 provides a crosswalk of hazards identified in select planning documents, including the district's 2020 UWMP, the 2021 Santa Cruz County LHMP, and the 2023 State of California HMP. The crosswalk was used to develop a preliminary hazards list, providing a framework for the group to evaluate which hazards were truly relevant to the district and which ones were not.

The internal planning group then ranked hazards based on their probability of affecting SVWD and potential impacts on the communities it serves. Figure 5-16 displays the results of the hazard risk ranking exercise that was performed before further refinement. All hazards have been profiled in Volume 1 of this document. The purpose of this annex is to specifically address SVWD's vulnerability to specifically identified hazards.



Table 5-3: SVWD Document Review Crosswalk

Hazard	SVWD Urban Water Management Plan 2020	Santa Cruz County LHMP 2021	2023 California SHMP
Agricultural Pests			■
Avalanche			■
Climate Change	■	■	■
Coastal		■	■
Dam Failure		■	■
Drought	■	■	■
Earthquake / Liquefaction	■	■	■
Extreme Cold		■	■
Extreme Heat		■	■
Extreme Weather / Storms		■	■
Flood		■	■
Geologic / Mass Movement		■	■
Human-Caused			■
Insects			■
Levee Failure			■
Pandemic Disease			■
Sea Level Rise			■
Soil			■
Subsidence			■
Tornado			■
Tsunami / Seiche Wave			■
Volcano			■
Wildfire		■	■

Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY	Highly Likely	Highly likely - 100% annual probability. Or Likely to occur every year in your lifetime.
	Likely	Likely - between 10 & 100% annual probability. Or will occur several times in your lifetime.
	Possible	Possible - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
	Unlikely	Unlikely - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

To concentrate resources, the jurisdictional planning team will focus on "High" and "Extreme" risk hazards. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in **Vol. 1** of this plan. Some hazards are discussed as subset hazards— e.g., "Dam Failure" within the "Flood" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:



Climate Change impacts will be addressed at the end of each hazard section and as a stand alone section for each jurisdiction.

For County and Municipal governments you will be required to address climate change impacts in the Safety Element of your General Plan. Climate change may change the frequency, duration and intensity of hazards listed above.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT			
Minor	Limited	Critical	Catastrophic
Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities. Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day. Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week. Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.			

Scotts Valley Water District Risk Matrix

		IMPACT			
		Minor	Limited	Critical	Catastrophic
PROBABILITY	Highly Likely	 High	High	  Extreme	
	Likely	Medium	High	High  Extreme	
	Possible	Low  High	High	High	
	Unlikely	Low	Low	Medium	Medium

Figure 5-16: SVWD Risk Assessment Matrix

Table 5-4: SVWD Hazards Prioritization Summary

Hazard	Priority	Explanation
Wildfire	Extreme	Profiled in Volume 1, Section 3.2.1, and Section 5.5.2.1 in this annex
Flood	High	Profiled in Volume 1, Section 3.2.2, and Section 5.5.2.2 in this annex (not including Levee Failure due to no exposure)
Earthquake	Extreme	Profiled in Volume 1, Section 3.2.3, and Section 5.5.2.3 in this annex, including Liquefaction
Severe Weather	-	Not a priority due to being outside jurisdictional mission and authority, but discussed as a contributing factor for other hazards
Coastal Hazards	-	Not a priority due to no exposure
Slope Failure	Extreme	Profiled in Volume 1, Section 3.2.6, and Section 5.5.2.4 in this annex
Dam Failure	-	Not a priority due to no exposure
Drought	High	Profiled in Volume 1, Section 3.2.8, and Section 5.5.2.5 in this annex
Extreme Heat	-	Not a priority due to being outside jurisdictional mission and authority
Climate Change	High	Profiled in Volume 1, Section 3.2.10, and Section 5.5.2.6 in this annex (not including Sea-Level Rise due to no exposure)

5.5.2 Vulnerability to Specific Hazards

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within SVWD are vulnerable to specific hazard events. The vulnerability assessment considered unique local knowledge of hazards and impacts and a GIS overlaying method for examining such vulnerabilities in more depth. Using these methods, the district's planning group estimated vulnerable populations, properties, and assets, and potential losses, primarily to earthquake and wildfire. In addition, the exposure of district assets to drought, geological, and flood hazards were also considered.

Many of the hazard profiles include a snapshot map and damage estimation tables that illustrate the district's vulnerabilities to those specific hazards. These maps assisted the planning group in understanding the hazard exposure of populations, parcels, and critical facilities and infrastructure. Each snapshot map contains an exposure summary that displays the percentage of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed. For hazards without geospatial extents, such as drought and extreme weather, narratives are provided instead of exposure maps and tables.

Based on the hazard prioritization exercise, this vulnerability assessment focuses on six hazards for SVWD, some of which encompass subhazards such as Liquefaction.



Wildfire
SECTION 5.5.2.1



Flood
SECTION 5.5.2.2



Earthquake
SECTION 5.5.2.3



Slope Failure
SECTION 5.5.2.4



Drought
SECTION 5.5.2.5



Climate Change
SECTION 5.5.2.6



5.5.2.1 Wildfire Hazard

Wildfire poses a significant hazard to the SVWD due to its location in the WUI of the Santa Cruz Mountains, where steep terrain, dense vegetation, and dry summer conditions combine to elevate fire risk. According to Cal Fire designations (Figure 5-17), much of the SVWD service area is classified within moderate to high wildfire hazard severity zones. The maps show that nearly the entire district lies within a moderate or high hazard zone within the Local Responsibility Area (LRA), along Highway 17 and the developed corridors of Scotts Valley.

While exposure summaries indicate that no critical infrastructure or essential facilities within the district are currently identified in the “very high” hazard zones, this does not diminish the systemic vulnerability. SVWD relies on a distributed groundwater supply system, treatment facilities, and pumping infrastructure that could be disrupted by wildfire damage or secondary effects such as power outages, transportation closures, or water quality degradation from post-fire runoff and erosion.

The district’s location adjacent to extensive wildland areas also means that wildfire impacts extend beyond direct damage to facilities. Fire risk in Scotts Valley includes smoke and air quality degradation, the threat of mandatory evacuations, and strain on water supply needed simultaneously for firefighting and community consumption. Importantly, SVWD’s recycled water program contributes to wildfire resilience by supplying irrigation water that maintains defensible space and buffer zones around public facilities such as schools and parks. Beyond supply continuity, fires also threaten water quality through heat damage to infrastructure and the introduction of ash and firefighting chemicals, potentially forcing “Do Not Drink/Boil Water” notices and extended recovery work.

Regional wildfire history, including the 2009 Lockheed Fire and 2020 CZU Lightning Complex Fire, underscores the scale of potential impacts. Though the CZU Fire did not burn directly within Scotts Valley, its proximity disrupted regional water and power systems and demonstrated the risk of embers and fire spread into suburban communities. As climate change drives hotter and drier conditions, the frequency and intensity of wildfires in the Santa Cruz Mountains are expected to increase, heightening the urgency of SVWD’s ongoing hazard mitigation efforts.

The Mean Fire Return Interval (MFRI) map, Figure 5-18, for SVWD shows that most of the district falls within areas with fire return intervals between 16 and 64 years. These zones, marked in orange and red hues, indicate moderately frequent fire activity, especially in the wildland-urban interface and foothill areas. More intense pink and purple patches, primarily in the forested slopes and canyon areas along the district’s western and southern edges, suggest even shorter intervals of 6–15 years, indicating higher wildfire recurrence.

However, SVWD includes areas designated as “High” wildfire hazard within both Local Responsibility Areas (LRA) and State Responsibility Areas (SRA). Approximately 7,000 residents live within these high-risk zones, primarily concentrated along the district’s central and northern boundary. Within this same hazard area, roughly 2,800 parcels are exposed, representing an estimated \$5 billion in combined structure and content value. In addition, critical infrastructure is at risk, including around 1,700 key assets such as storage tanks, treatment wells, pump stations, and emergency interties, as well as approximately 115 miles of essential infrastructure lines located within the “High” wildfire hazard zones.



WILDFIRE RISK EXPOSURE

SCOTTS VALLEY WATER DISTRICT

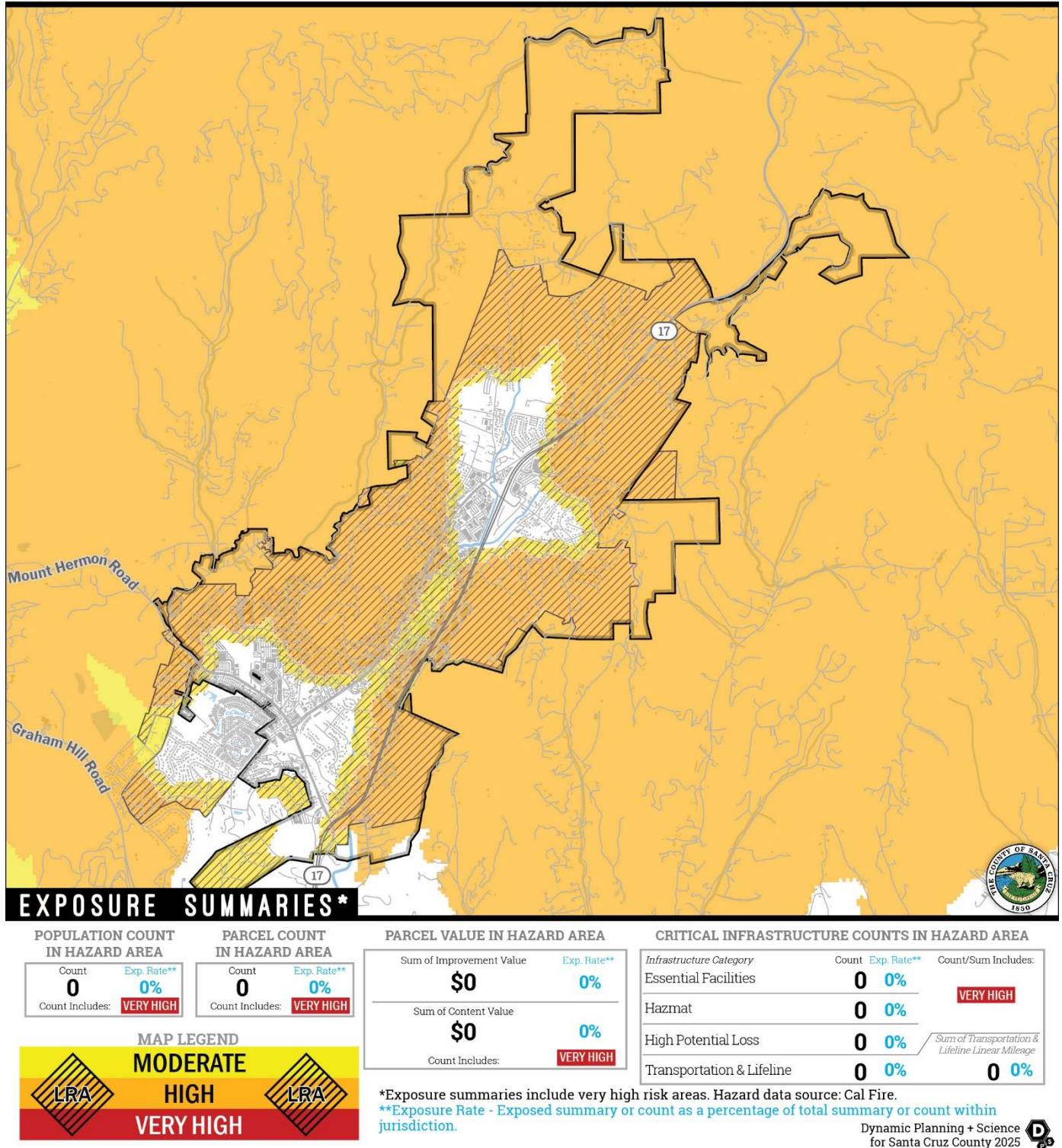
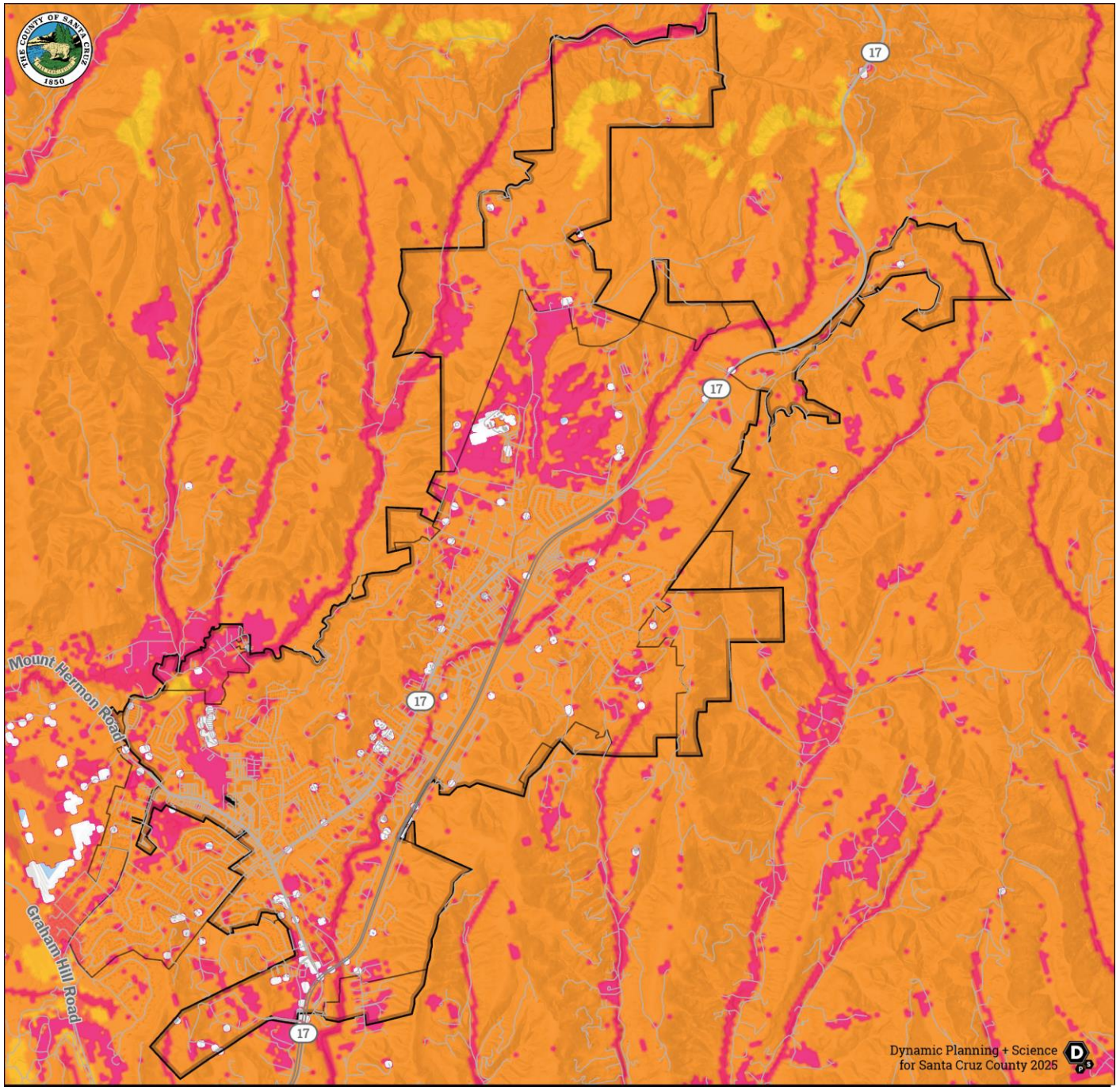


Figure 5-17: Exposure Summary - SVWD Wildfire Risk



Mean Fire Return Interval Scotts Valley Water District

*Data sources: USGS LANDFIRE.

average period between fires (Years)



Figure 5-18: SVWD Mean Fire Return Interval Map



5.5.2.2 Flood Hazard

SVWD faces measurable but localized exposure to flood hazards (Figure 5-19), primarily associated with FEMA-designated floodplains and DWR flood awareness zones. FEMA data shown in Figure 5-19, indicates that approximately 400 residents and 70 parcels lie within the 100- and 500-year flood hazard areas, representing around 3–4% of total parcel value within the district. These areas of risk are concentrated along stream corridors that traverse Scotts Valley and flow into the San Lorenzo River watershed. The estimated parcel improvement value at risk is roughly \$110 million, with a content value of about \$102 million. While critical facilities such as hospitals, schools, and emergency services do not fall within mapped FEMA flood zones, 41 of the district's critical facilities and several miles of infrastructure do intersect these hazard areas, underscoring potential vulnerabilities to access and mobility during flood events.

More specifically, approximately three miles of water mains and lateral pipes are located within areas of mapped FEMA flood hazards, including 1% and 0.2% annual chance areas. There are also 20 hydrants, one tank, and numerous pressure and backflow components of the district's water system exposed to flood risks. Further, many miles of roadways used by the district to access, maintain, and repair its assets are exposed to flood hazards, potentially limiting SVWD's ability to address damages and service disruptions following a significant flood event.

Beyond FEMA mapping, the DWR flood awareness zones in Figure 5-20, highlight additional areas where localized flooding is possible during major storm events, even outside the 100- and 500-year FEMA floodplains. Within these awareness zones, approximately 120 residents, 15 parcels, and six transportation and lifeline assets could be affected, with an almost \$12 million in structural improvement value and \$6 million in content value at risk. While these exposure levels are comparatively modest relative to other hazards facing SVWD, they illustrate that localized flooding remains a concern, particularly where stormwater infrastructure intersects with natural drainage corridors and unstable slopes.

For SVWD, flood hazards present both direct and indirect risks. Direct risks include potential inundation of district infrastructure such as pipelines, pump stations, and access roads located within or adjacent to mapped floodplains, as well as triggering slope failures that can damage or cut off access to these critical facilities. Indirect risks stem from system dependencies, as regional flooding may damage transportation routes, power supply infrastructure, or customer properties, thereby disrupting service continuity and emergency response.

As a special district and not a municipality, SVWD does not participate in the National Flood Insurance Program (NFIP); however, the SVWD complies with all minimum floodplain development standards and environmental review requirements established by the county and municipalities where its projects are located.

FEMA FLOOD RISK EXPOSURE

SCOTTS VALLEY WATER DISTRICT

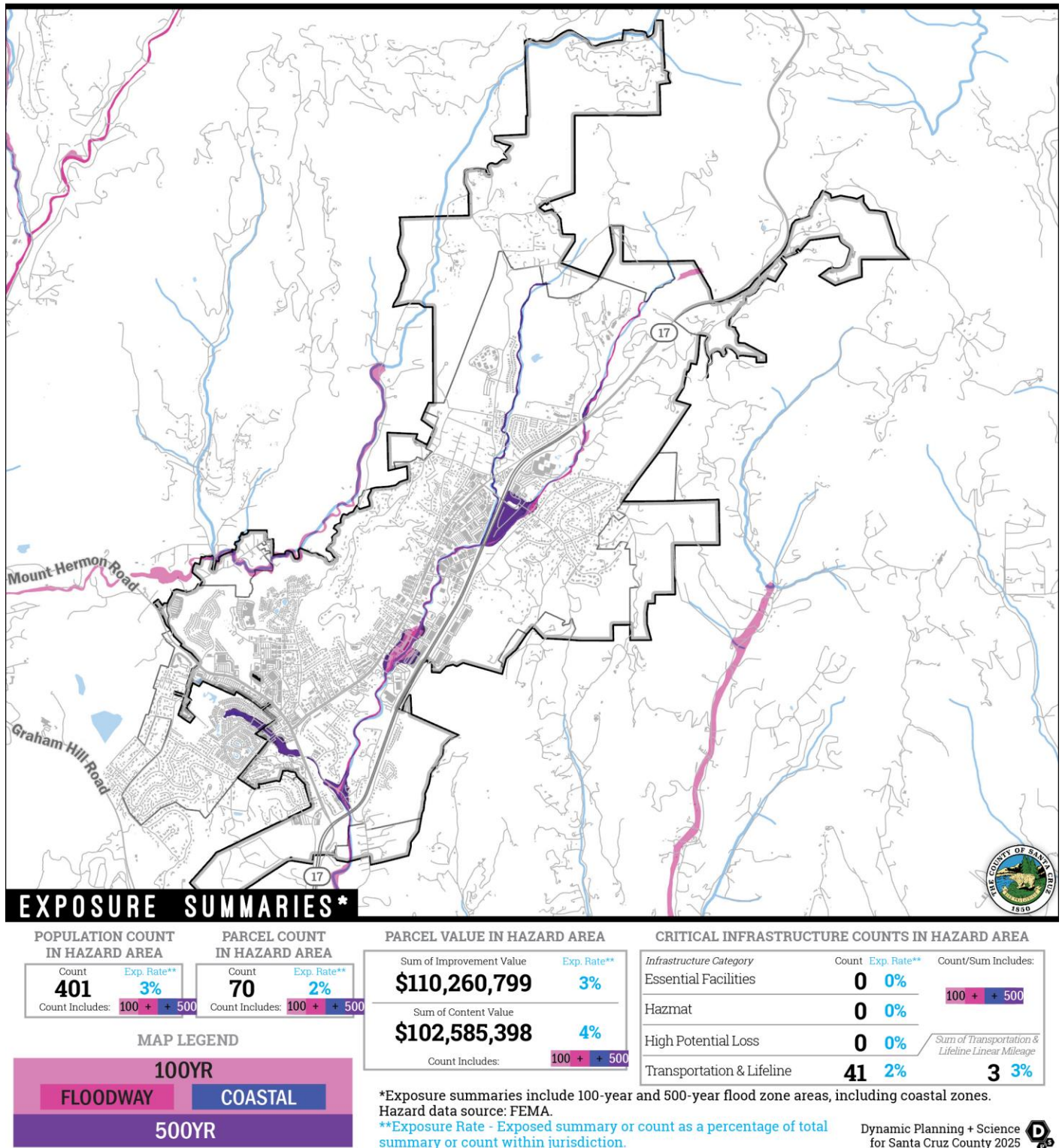


Figure 5-19: Exposure Summary - SVWD Flood Risk (FEMA Zones)



FLOOD AWARENESS ZONES - BAM

SCOTTS VALLEY WATER DISTRICT

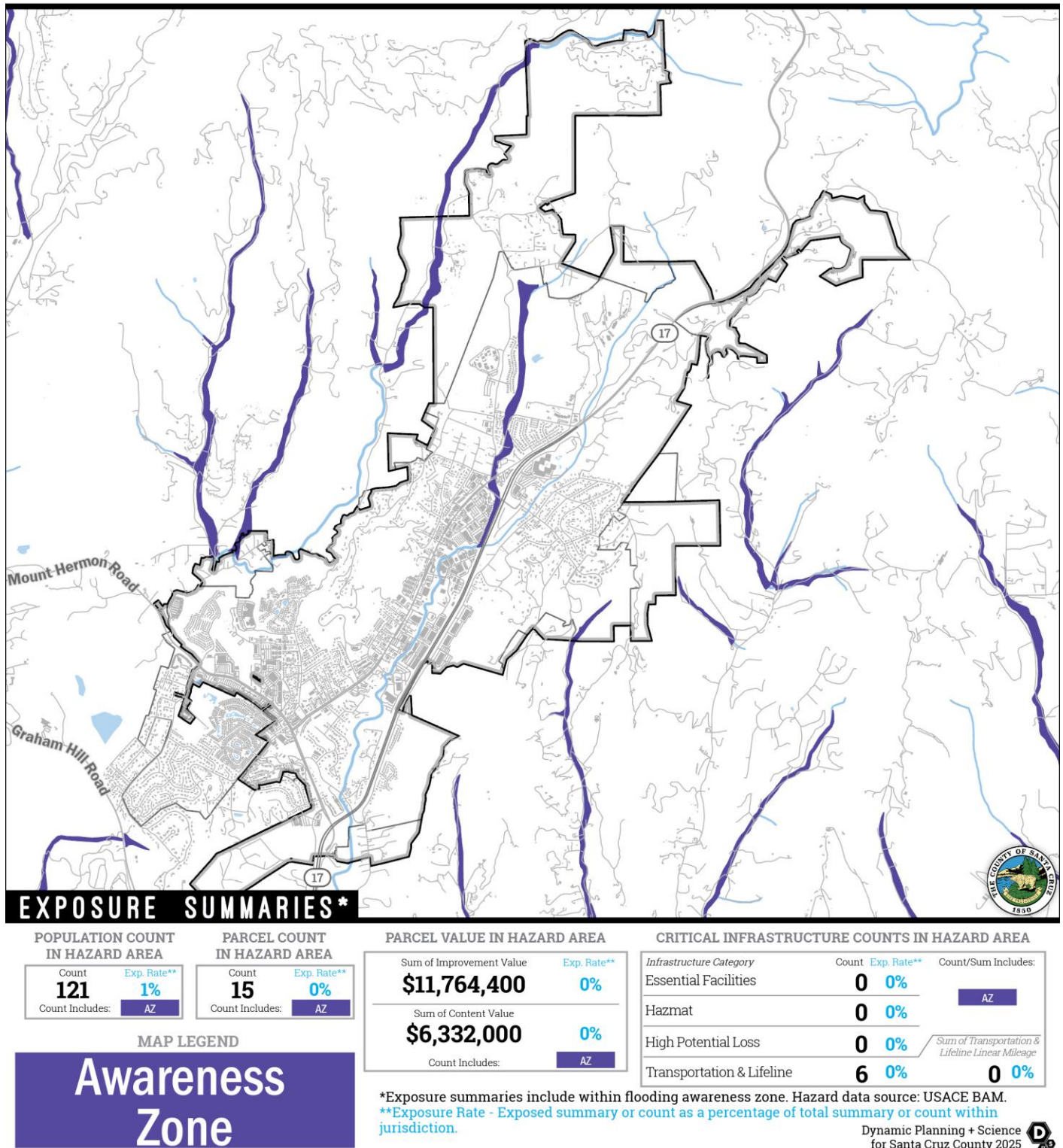


Figure 5-20: Exposure Summary - SVWD Flood Risk (DWR Awareness Zones)

5.5.2.3 Earthquake Hazard

Earthquake hazards present a notable risk to the SVWD, which is situated in the seismically active Santa Cruz Mountains region. The district lies near significant fault systems, including the San Andreas Fault, which is capable of generating major earthquakes. The hazard maps provided illustrate several key dimensions of this risk.

Perhaps most critical are the modeled earthquake scenarios shown in Figure 5-21. The U.S. Geological Survey's scenario for a magnitude 7.1 earthquake on the northern San Andreas Fault demonstrates the scale of potential impacts to Scotts Valley. The maps indicate that 100% of the SVWD service area population—approximately 11,000 people would experience “very strong” to “severe” shaking (Modified Mercalli Intensity VII–VIII). All parcels within the district, with a combined improvement value of more than \$4 billion, are located within very strong modeled shake zone. Furthermore, five high-potential-loss facilities and more than 1,700 lifeline and transportation assets are at risk, suggesting widespread disruption to water delivery, emergency response, and community functioning following a major seismic event.

Figure 5-22 shows areas of potential liquefaction that are concentrated along valley floors and stream channels within the district. Liquefaction occurs when saturated soils temporarily lose strength during intense shaking, threatening the stability of underground infrastructure such as water pipelines and storage facilities. Approximately 3,700 residents (approximately 32% of the district population) and 1,300 parcels (nearly 35% of parcels) are located in areas identified as having liquefaction potential, with a combined parcel improvement value exceeding \$1.5 billion (Figure 5-22). Critical infrastructure at risk includes transportation and lifeline facilities, with over 40% of those assets exposed to liquefaction hazards. These vulnerabilities highlight the importance of continued investment in seismic resilience for SVWD's wellfields, pipelines, and treatment plants.

In addition, Figure 5-23 shows fault zone areas of required investigation have been identified within SVWD's service area. These zones are designated under state and county regulations where active or potentially active fault traces are present, requiring geotechnical evaluation before new development occurs. Figure 5-23 indicates approx. 17 parcels and 13 residents within these zones, representing smaller but highly significant areas of direct fault rupture risk. Such exposure underscores the necessity for careful siting of new water infrastructure and for retrofitting existing facilities to meet seismic standards.



N SAN ANDREAS - SANTA CRUZ MTN EARTHQUAKE SCENARIO M7.1

SCOTTS VALLEY WATER DISTRICT

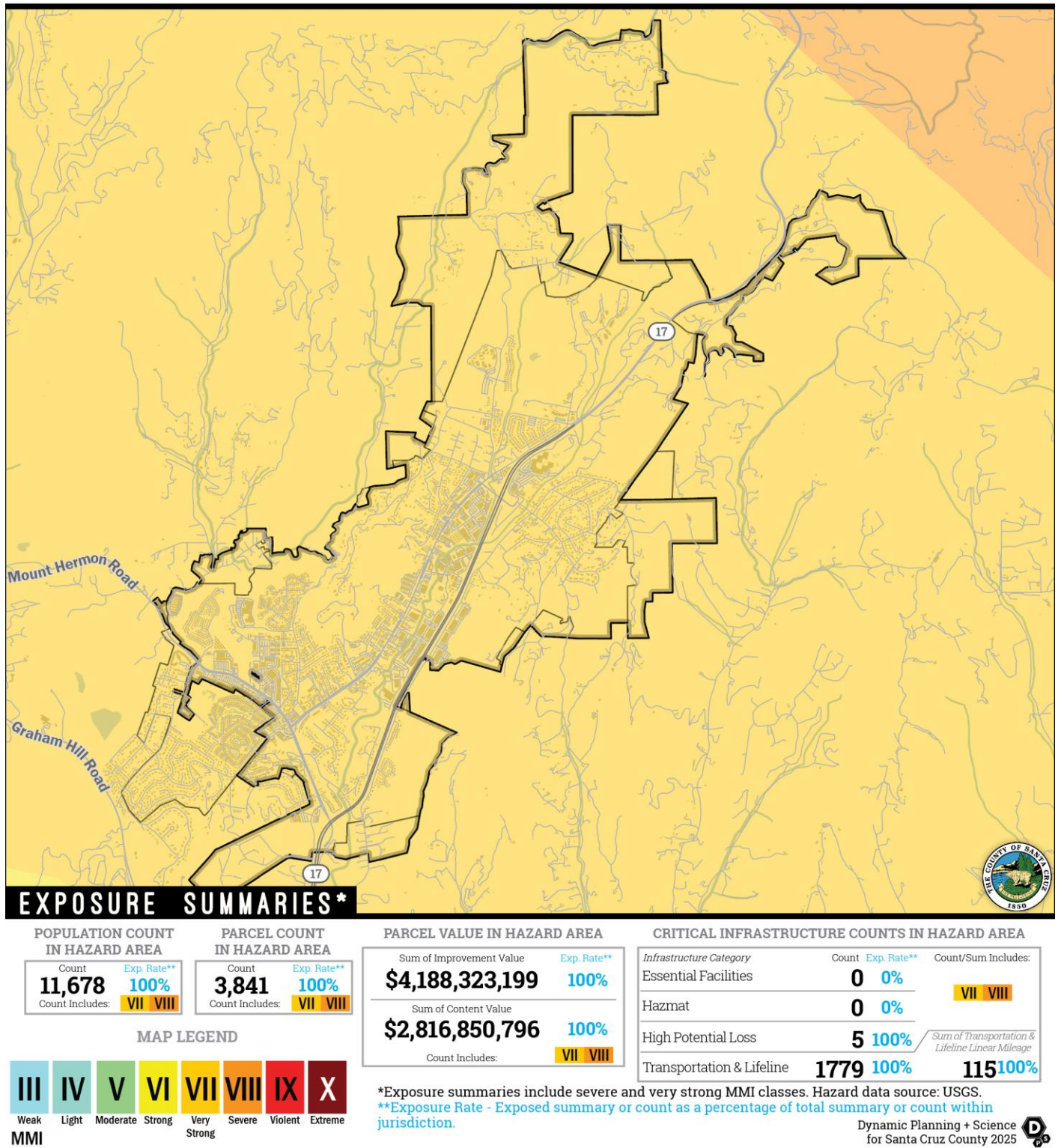
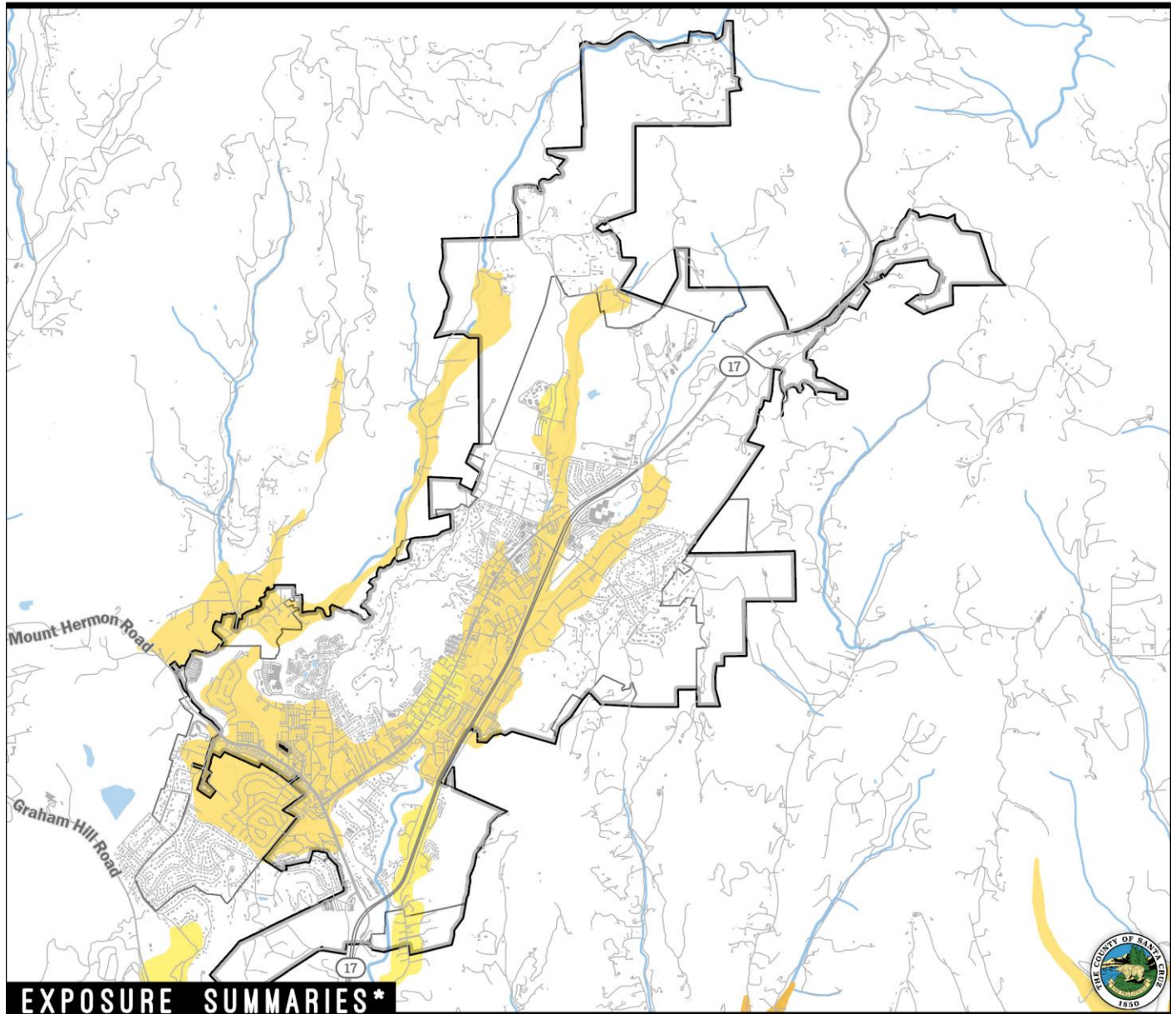


Figure 5-21: Exposure Summary - SVWD Earthquake Risk (M7.1 San Andreas Shaking)

AREAS WITH POTENTIAL FOR LIQUEFACTION

SCOTTS VALLEY WATER DISTRICT



EXPOSURE SUMMARIES*

POPULATION COUNT IN HAZARD AREA

Count	Exp. Rate**
3,766	32%
Count Includes: M+V	

PARCEL COUNT IN HAZARD AREA

Count	Exp. Rate**
1,342	35%
Count Includes: M+V	

PARCEL VALUE IN HAZARD AREA

Sum of Improvement Value	Exp. Rate**
\$1,556,966,800	37%
Sum of Content Value	
\$1,265,173,799	45%
Count Includes: M+V	

CRITICAL INFRASTRUCTURE COUNTS IN HAZARD AREA

Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	0	0%	M+V
Hazmat	0	0%	
High Potential Loss	3	60%	
Transportation & Lifeline	730	41%	
			Sum of Transportation & Lifeline Linear Mileage
			41 36%

MAP LEGEND

L	M	H	VH
Low	Moderate	High	Very High

*Exposure summaries include very high, high, and moderate. Hazard data source: County, W.R. Dupre 1975.

**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.

Dynamic Planning + Science
for Santa Cruz County 2025

Figure 5-22: Exposure Summary - SVWD Liquefaction Risk



FAULT ZONE AREAS OF REQUIRED INVESTIGATION

SCOTTS VALLEY WATER DISTRICT

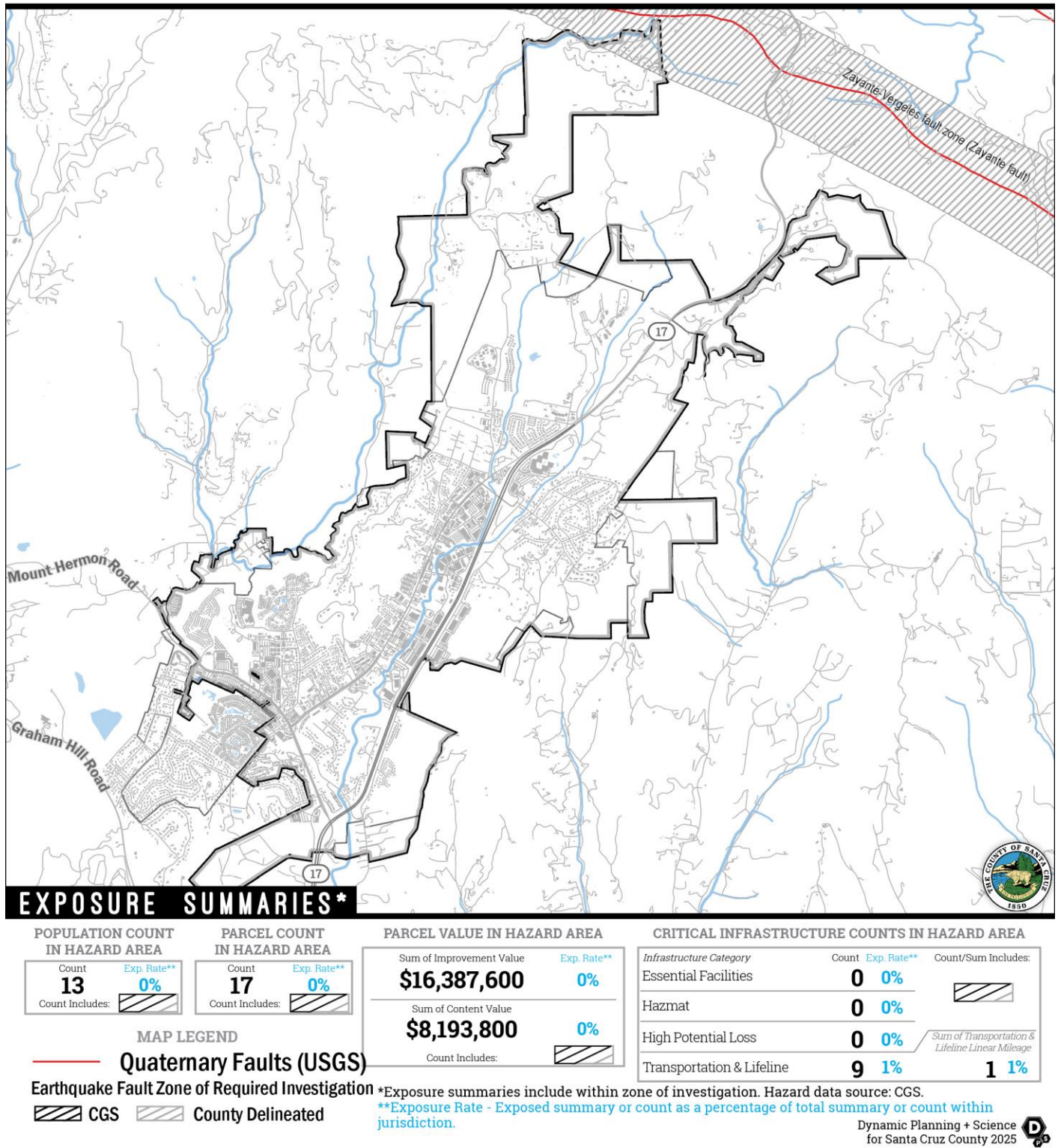


Figure 5-23: Exposure Summary - SVWD Earthquake Risk (Fault Zones)

5.5.2.4 Slope Failure Hazard

SVWD lies within the steep terrain of the Santa Cruz Mountains, where landslides and slope failures pose a significant hazard to water system infrastructure, transportation corridors, and residential development. Much of the district is located within moderate to high landslide susceptibility zones, reflecting the combination of steep slopes, fractured geologic formations, and the influence of intense winter storms. These risks are further compounded by the potential for seismic activity along the nearby San Andreas Fault and post-wildfire soil instability.

Hazard exposure data indicates that approximately 4,300 residents, or 37 percent of SVWD's population, live within high landslide hazard zones. About 900 parcels, representing roughly 24 percent of the district's land parcels, are exposed to landslide risk. The economic exposure is substantial, with over \$800 million in improvement value (about 19 percent of the district's total) and nearly \$414 million in content value (approximately 15 percent) located in high-hazard areas. In addition, more than 325 transportation and lifeline assets (18 percent of the system) fall within high-risk zones Figure 5-24. While no essential facilities or hazardous material sites are directly mapped within these areas, slope failures threaten the reliability of critical access routes such as Highway 17, which is essential for water district operations, repair crews, and regional emergency response.

Slope failures in this region are commonly triggered by heavy rainfall events, such as atmospheric river storms that saturate soils and destabilize slopes, as well as earthquakes that dislodge already fragile hillsides. Post-fire conditions also increase vulnerability, as the loss of vegetation can accelerate erosion and debris flows. The consequences for SVWD include potential damage to pipelines, pump stations, and reservoirs located on or near unstable slopes, as well as increased sedimentation in recharge areas and stormwater systems. Service interruptions may also result if access roads are blocked or lifeline utilities are severed.

The Santa Cruz Mountains have a well-documented history of damaging landslides, most notably during the 1982 El Niño storms and the 2017 winter storms, which forced extended closures of Highway 17 and disrupted local services. Although SVWD has not yet experienced catastrophic infrastructure loss due to slope failures, the district's high exposure values and reliance on vulnerable lifeline routes highlight an ongoing vulnerability.



LANDSLIDE RISK EXPOSURE

SCOTTS VALLEY WATER DISTRICT

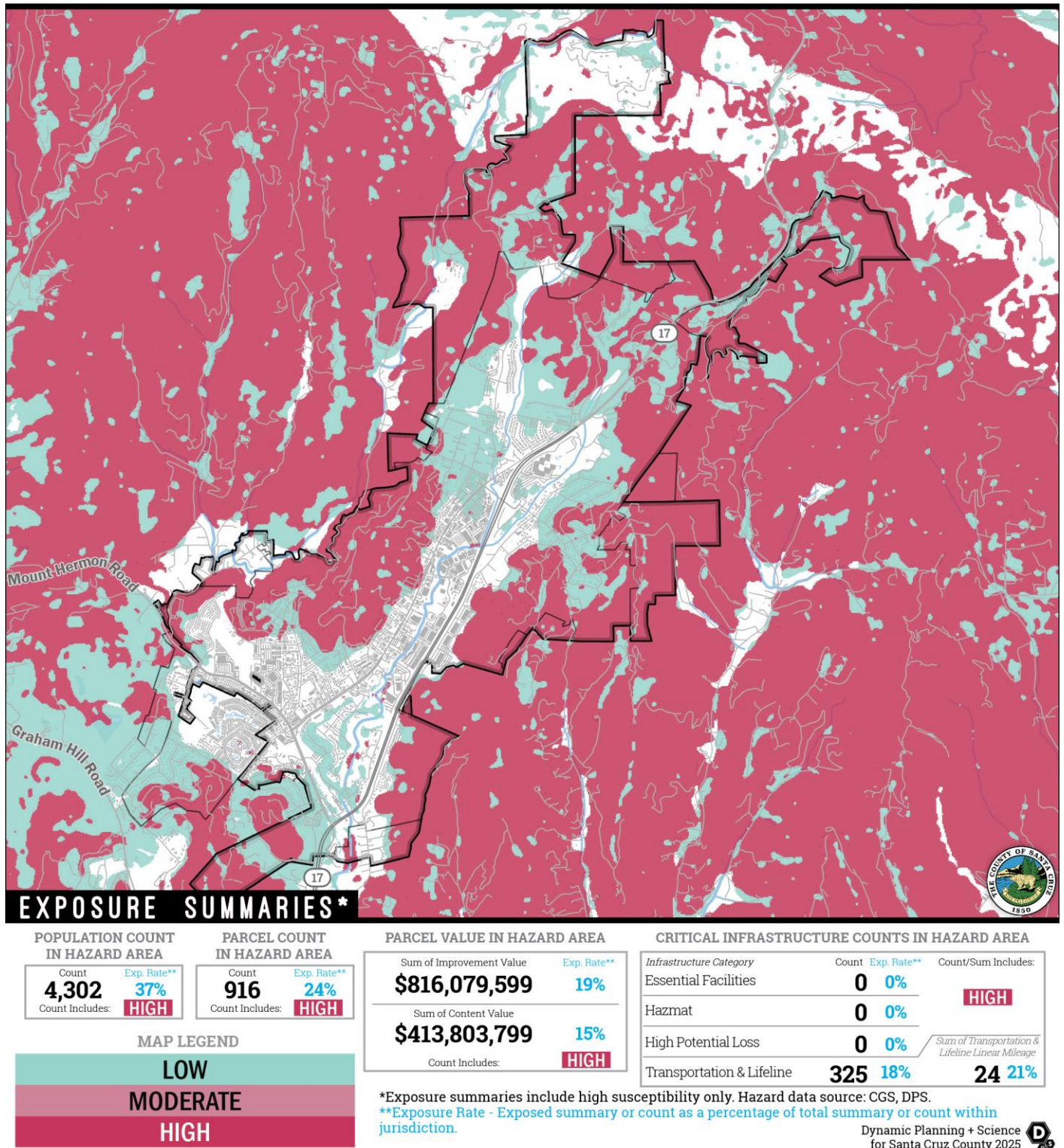


Figure 5-24: Exposure Summary - SVWD Slope Failure Risk



5.5.2.5 Drought Hazard

The National Drought Monitor provides drought data and maps nationally and on a localized, watershed scale. The National Drought Monitor is the product of 11 agencies, including the NDMC, NOAA and USDA, and is available at <http://droughtmonitor.unl.edu/>. The National Drought Monitor categorizes the level of drought from D0 through D4, with D4 being the highest “exceptional drought.” Table 5-5 depicts drought classifications and impacts from the level of drought occurrence in California, while Figure 5-25 shows a time series of the level of drought in Santa Cruz County from 2000 to 2024 according to the National Drought Monitor.

Drought is a chronic hazard facing SVWD given its reliance on the overdrafted Santa Margarita Groundwater Basin as the primary source of supply. The district does not have access to imported surface water and is therefore uniquely vulnerable to extended dry periods that reduce recharge and elevate water demand. Climate change projections indicate hotter, drier conditions with more variable precipitation, which will likely intensify groundwater stress, increase evapotranspiration, and lengthen recovery periods between droughts.

Drought conditions reduce recharge rates and can increase the concentration of contaminants such as nitrates, naturally occurring minerals, and volatile organic compounds (VOCs). This may place additional stress on water treatment systems and create higher costs for water quality compliance. Moreover, as aquifers are drawn down further, infrastructure such as wells and pumps are subjected to greater operational demands, increasing the risk of mechanical failures or emergency outages during high-demand periods.

Drought increases the risk of reduced water supply reliability, higher costs for pumping and treatment, and potential service interruptions if storage and recharge cannot keep pace with demand. Secondary effects include elevated wildfire risk due to dry vegetation, stress on vulnerable populations with limited adaptive capacity, and economic impacts on commercial and institutional water users.

The hazard is compounded by the hydrogeologic constraints of the Santa Margarita Basin, which has a long history of overdraft and seawater intrusion risk in its coastal subareas. Although SVWD is inland, basin-wide sustainability challenges affect long-term supply reliability.

Table 5-5: Drought Classifications and Impacts

Category	Description	Possible Impacts
D0	Abnormally Dry	- Soil is dry; irrigation delivery begins early - Dryland crop germination is stunted - Active fire season begins
D1	Moderate Drought	- Dryland pasture growth is stunted; producers give supplemental feed to cattle - Landscaping and gardens need irrigation earlier; wildlife patterns begin to change - Stock ponds and creeks are lower than usual



Category	Description	Possible Impacts
D2	Severe Drought	- Producers increase water efficiency methods and drought-resistant crops - Grazing land inadequate - Fire season is longer, with high burn intensity, dry fuels, and large fire spatial extent; more fire crews on staff - Lake- and river-based tourism declines; boat ramps close - Trees are stressed; plants increase reproductive mechanisms; wildlife diseases increase - Water temperatures increase; programs to divert water to protect fish begin - River flows decrease; reservoir levels are low and banks are exposed
D3	Extreme Drought	- Federal water not adequate to meet irrigation contracts; extracting supplemental groundwater is expensive - Fire season lasts year-round; fires occur in typically wet parts of the state; burn bans are implemented - Ski and rafting business is low; mountain communities suffer - Low water levels impede fish migration and cause lower survival rates - Wildlife encroach on developed areas; little native food and water is available for bears, which hibernate less - Water sanitation is a concern; reservoir levels drop significantly; surface water is nearly dry, flows are very low; water theft occurs - Livestock need supplemental feed, cattle and horses are sold; little pasture remains - Well and aquifer levels decrease; homeowners drill new wells
D4	Exceptional Drought	- Fire season is very costly; number of fires and areas burned are extensive - Many recreational activities are affected - Fields are left fallow; orchards are removed; vegetable yields are low; honey harvest is small; agricultural unemployment is high, food aid is needed - Fish rescue and relocation begins; pine beetle infestation occurs; forest mortality is high; wetlands dry up; wildlife death is widespread; algae blooms appear - Poor air quality affects health; greenhouse gas emissions increase as hydropower production decreases; West Nile outbreaks rise - Water shortages are widespread; surface water is depleted; federal irrigation water deliveries are curtailed; water prices are extremely high; wells are dry, more and deeper wells are drilled; water quality is poor

Source: Adapted from U.S. Drought Monitor Drought Classifications and Impacts

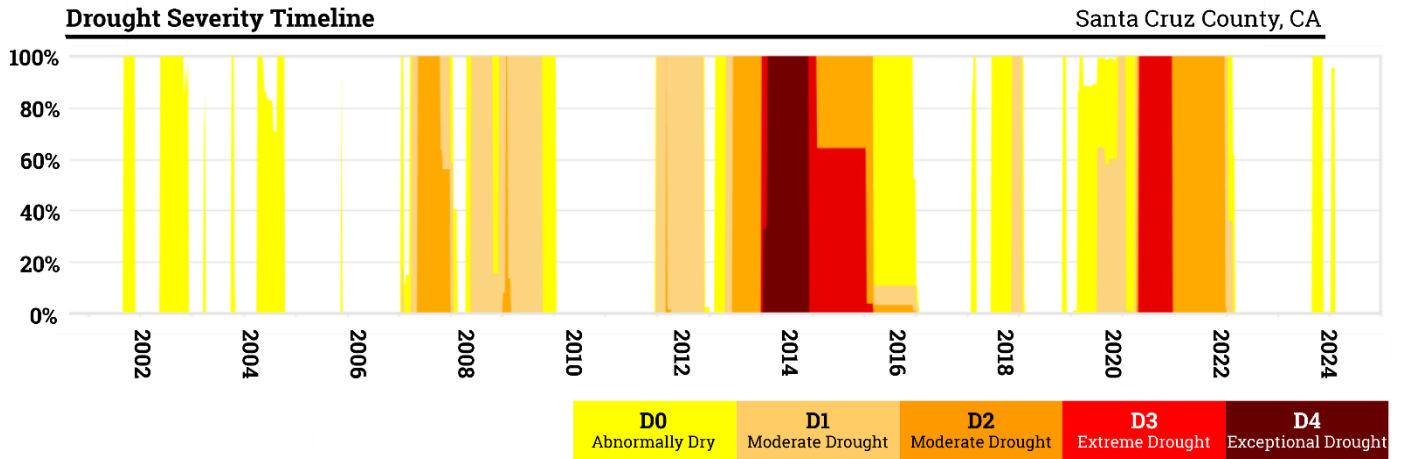


Figure 5-25: Drought Severity Timeline 2000-2024

5.5.2.6 Climate Change Impacts

Average annual temperatures across most of California have already increased by more than 1°F, with some areas experiencing rises of over 2°F when comparing the 1901–1960 average to that of 1986–2016. Daily maximum temperatures—a key indicator of extreme heat—are projected to increase by 4.4°F to 5.8°F by 2050 and by 5.6°F to 8.8°F by 2100. Heat waves that impact public health, known as heat-health events, are also expected to intensify across the state. By 2050, these events are projected to last up to two weeks longer in the Central Valley and occur four to ten times more often in the Northern Sierra region (California Natural Resources Agency, 2022).

California is already experiencing significant impacts from climate change, including prolonged drought, a lengthened wildfire season, increased coastal flooding and erosion, and widespread tree mortality. The state has observed rising average temperatures, more extreme heat days, fewer cold nights, a longer growing season, and shifts in the water cycle, with less winter precipitation falling as snow. In addition, summertime fog has declined by approximately 33%, and both snowmelt and rainwater runoff are occurring earlier in the year (Cal OES, 2018).

Long-term trends indicate a 12% to 20% decline in fog across California from 1900 through projections to 2070. Climate experts suggest that warming temperatures reduce the ability of air masses to cool enough to produce fog, which plays a critical role in supporting California’s ecosystems (Grantham, Theodore; University of California, Berkeley, 2018).

Climate change is already shaping water supply and operations in SVWD, whose sole potable source is the SMGB. Because SVWD relies entirely on local groundwater, shifts in temperature and precipitation translate directly into changes in recharge, pumping stress, and drought exposure. District monitoring shows that Water Year (WY) 2020 produced only 20.3 inches of rain, about 49% of average, and that nine of the previous fourteen years were below average, indicating a drier-than-historical period since the late-2000s drought sequence. These hydrologic deficits matter because precipitation is the primary driver of basin recharge;



reduced rainfall and longer dry spells constrain aquifer recovery and tighten the margin for meeting demands in extended droughts. (UWMP, 2020)

SVWD's 2020 UWMP incorporates statewide climate guidance that anticipates "further intensification of wet and dry extremes," along with higher temperatures that increase outdoor water use while decreasing the fraction of precipitation available for groundwater recharge. In practical terms, hotter summers elevate landscape irrigation demand just as soils dry more quickly and storm-to-storm variability rises, stressing both the demand and supply sides of the ledger.

As such, this MJHMP addresses climate change as a secondary impact for each identified hazard of concern. Each chapter includes a section with a qualitative discussion on the probable impacts of climate change for that specific hazard.

5.5.3 Planning for Hazards & Growth

SVWD integrates hazard considerations into its long-term planning and infrastructure development to ensure a resilient and sustainable water system. The district's UWMP and Water Shortage Contingency Plan provides the foundation for drought preparedness, climate adaptation, and sustainable groundwater management. These plans set demand reduction measures, recycled water targets, and system reliability projections, aligning future development with the district's limited water resources.

In terms of hazard resilience, SVWD has conducted seismic risk assessments, which guide retrofits and upgrades for critical assets such as wells, tanks, and treatment facilities. These risk assessments are supported by ongoing capital improvement projects that replace aging infrastructure, enhance SCADA systems for real-time monitoring, and expand recycled water distribution. Such projects not only strengthen day-to-day operations but also improve system reliability during emergencies such as earthquakes, droughts, and wildfire.

Future development within the district will continue to be shaped by these hazard-informed planning frameworks. Growth in Scotts Valley is constrained by groundwater availability and environmental limits, which reinforces the importance of conservation, aquifer recharge, and recycled water expansion.

5.5.3.1 Development & Hazard Considerations

Future development within SVWD service area is expected to follow a modest but steady trajectory. While the overall growth rate is low compared to other urbanizing areas in California, even incremental expansion presents implications for hazard exposure and mitigation planning, particularly given SVWD's sole reliance on the Santa Margarita Groundwater Basin.

New development adds demand to a constrained groundwater resource and introduces infrastructure to hazard-prone areas, including wildfire zones, steep slopes, and zones of high seismic intensity. SVWD has long acknowledged that the most at-risk portions of its system, which include storage tanks, booster

stations, and pipelines, are often located at the wildland-urban interface (WUI) or in geologically unstable areas like the Glenwood and Bethany sites. As future housing is added in the higher elevations and outer edges of the district, these risks may be exacerbated unless new projects are conditioned on adequate fire flow, slope stability, and seismic design standards.

In wildfire-prone areas, infill and hillside construction can increase ignition risk, stress firefighting infrastructure, and hinder emergency access. SVWD's problem statements identify critical water pressure zones, particularly Northridge and Via Fontenay, as areas where growth must be balanced against fireflow constraints and booster station limitations. Expansion into these zones without simultaneous upgrades could reduce the district's ability to maintain pressure during fire events or evacuations.

Similarly, although seismic hazard is pervasive across SVWD's entire service area, development in older neighborhoods with legacy infrastructure (e.g., asbestos cement pipes) increases the vulnerability of both new and existing residents. Densifying these areas without accelerated replacement of vulnerable mains and nodes may increase the risk of water service interruption during or after an earthquake.

Importantly, SVWD's growth is constrained not only by physical hazards but also by groundwater availability. Anticipated housing growth in the region will require careful coordination of groundwater allocations, recharge projects, and use of interties (e.g., with the City of Santa Cruz) to buffer supply limitations during dry years.

5.5.4 Hazard Problem Statements

As part of the mitigation action identification process, the internal planning group for each jurisdiction identified areas of concern (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis. Problem statements focused on the impact, victim, and the threat that the hazard could create in the jurisdiction, as described in Table 5-6. Identifying common issues and weaknesses through these problem statements assisted the planning group in understanding the realm of resources needed for mitigation.

The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 5-8 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 5-6 and Table 5-8.

Table 5-6: SVWD Problem Statements

Hazard	Area of Concern	Problem IS	Description	Related Mitigation Actions
Drought	Threat	ps-DR-SVW-01	Limited redundancy in the water supply system constrains the district's ability to reliably deliver service during prolonged drought periods or multi-year dry cycles.	ma-DR-CBC-03



Hazard	Area of Concern	Problem IS	Description	Related Mitigation Actions
Drought	Threat	ps-DR-SVW-02	Existing groundwater sources are susceptible to over-extraction and have slow recharge rates during drought, increasing the district's exposure to critical water shortages.	ma-DR-SCW-01, ma-DR-SVW-01
Drought	Victim	ps-DR-SVW-03	Water restrictions and proposed drought surcharges may disproportionately impact low-income or vulnerable residents.	ma-DR-SVW-02
Earthquake	Threat	ps-EQ-SVW-01	The entire Scotts Valley Water District lies within a "very strong" seismic shaking zone (M7.1 scenario), placing all above- and below-ground water infrastructure at systemic risk of failure.	ma-EQ-SVL-01, ma-EQ-SVW-03, ma-EQ-SVL-02
Earthquake	Threat	ps-EQ-SVW-02	Approximately 60% of the district's water transmission and distribution network consists of aging asbestos cement (AC) pipe, which is highly prone to cracking and rupture during ground shaking.	ma-EQ-SVW-02, ma-EQ-SVW-03
Earthquake	Victim	ps-EQ-SVW-03	Earthquake-induced damage to water mains, vaults, and critical system nodes could interrupt water service and pressure, undermining emergency response operations and community access to potable water.	ma-EQ-SVW-03
Earthquake	Impact	ps-EQ-SVW-04	Multiple key tanks including MacDorsa, Bethany, Sequoia, Mt. Roberta, and Villa Fontenay (redwood tanks) may lack modern seismic restraints and require engineering evaluation and potential retrofitting.	ma-EQ-SVW-01
Earthquake	Impact	ps-EQ-SVW-05	District wells are susceptible to casing damage, pump displacement, and power loss during seismic events, which may compromise groundwater supply availability and delay service restoration.	ma-EQ-SCW-02
Flood	Impact	ps-FL-SVW-01	Flooding can damage or cut off access to critical facilities like pump stations and pipelines, particularly where stormwater infrastructure intersects with natural drainage corridors and steep or unstable slopes, triggering slope failure.	ma-FL-PVW-03
Slope Failure	Threat	ps-SF-SVW-01	Multiple SVWD facilities including Glenwood Tank, Bethany Tank, and others are situated in slope-prone terrain, making them susceptible to landslides that could cause structural damage or access restrictions.	ma-SF-SVW-01
Slope Failure	Impact	ps-SF-SVW-02	A recent slope failure damaged the Glenwood Tank site, prompting potential emergency repairs and exposing the broader vulnerability of hillside assets. Engineering design for slope stabilization is underway.	ma-SF-SVL-02, ma-SF-SVW-01



Hazard	Area of Concern	Problem IS	Description	Related Mitigation Actions
Slope Failure	Victim	ps-SF-SVW-03	Landslides or gradual slope movement could sever buried water transmission mains, particularly in Glenwood and Bethany zones?disrupting service and compounding impacts during concurrent hazard events	ma-SF-SVW-01
Drought	Impact	ps-SF-SVW-04	The district's SGMA-aligned Groundwater Sustainability Plan (GSP) allocates 1,100 AF/year from a 1,300 AF supply, while regional housing growth (2,200 units) threatens sustainability goals. Use of City of Santa Cruz interties during wet years is being explored to enhance recharge flexibility.	ma-DR-SVW-01
Drought	Victim	ps-SF-SVW-05	Inconsistent public understanding of drought stages and conservation expectations undermines effective demand management and limits compliance with water-use restrictions.	ma-DR-SCW-02, ma-DR-CPT-01
Wildfire	Threat	ps-WF-SVW-01	Scotts Valley Water District infrastructure is located in and adjacent to Wildland-Urban Interface (WUI) zones, increasing wildfire exposure for key assets such as tanks and booster stations. SVWD maintains defensible space, but vegetation on adjacent private lands continues to pose a threat.	ma-WF-SVL-02, ma-WF-SCW-01, ma-WF-SCW-02, ma-WF-SVW-03
Wildfire	Victim	ps-WF-SVW-02	Critical zones such as Northridge (50,000-gallon redwood tank) and Villa Fontenay (30,000-gallon redwood tank) have limited water storage capacity, which could impair firefighting efforts and endanger public safety during wildfire events.	ma-WF-SVW-02

5.5.4.1 Climate Change Impacts & Vulnerable Populations

The SVWD serves a community that is increasingly vulnerable to the intersecting impacts of climate change and natural hazards. Rising temperatures, prolonged droughts, more intense storm events, and wildfire risk all threaten water supply reliability and infrastructure integrity. These risks affect all residents, but the consequences fall most heavily on vulnerable populations, including low-income households, renters, and those with limited resources to adapt to water restrictions, higher costs, or service interruptions.

Drought: Climate change is driving hotter summers and longer, more severe drought cycles that reduce natural groundwater recharge and increase reliance on limited supplies. SVWD's groundwater sources are susceptible to over-extraction, with recharge rates too slow to keep pace with growing demand. Water restrictions and proposed drought surcharges can disproportionately impact low-income households, renters, and vulnerable residents who may already struggle to pay utility bills. At the same time, inconsistent public understanding of drought stages undermines conservation compliance, leaving the



system more stressed during multi-year dry cycles. Housing growth further increases water demand, straining the district's Groundwater Sustainability Plan and amplifying inequities in water access.

Earthquake: All of SVWD lies within a very strong seismic shaking zone, and much of the district's water network consists of aging asbestos cement pipes that are prone to rupture during earthquakes. Seismic damage to tanks, wells, and mains could disrupt potable water service and fire flow, undermining emergency response. Vulnerable residents—including renters, mobile home residents, and those with limited financial means—are at greatest risk of displacement or health impacts when water service is interrupted, especially if disruptions are prolonged. Climate change compounds this risk by creating cascading hazard scenarios, such as an earthquake followed by extreme heat, in which loss of water access magnifies public health threats.

Slope Failure: More intense rainfall events linked to climate change are increasing the risk of landslides and slope failures in the Santa Cruz Mountains. Several SVWD facilities, including the Glenwood and Bethany tanks, are located in slope-prone terrain. Landslides could damage tanks, sever transmission mains, and block facility access. Residents served by these hillside assets—particularly those with mobility or financial limitations—face heightened risk of service disruptions and delayed recovery. For vulnerable households, slope failures can mean extended loss of water access during concurrent hazard events such as storms or wildfire.

Wildfire: Hotter and drier conditions are increasing the frequency and severity of wildfires in and around the WUI. SVWD infrastructure, including redwood storage tanks in Northridge and Villa Fontenay, is directly exposed to wildfire risk. Limited storage capacity in these zones could impair firefighting operations, threatening both public safety and continuity of service. Vulnerable populations—such as seniors, households with health conditions, or residents without private transportation—face greater evacuation challenges and depend heavily on reliable water for fire suppression and recovery. Climate change intensifies these risks by lengthening the fire season and stressing vegetation, increasing the likelihood of fast-moving fires that outpace firefighting resources.

SVWD's vulnerabilities illustrate the direct connection between climate change, water system reliability, and the resilience of its most at-risk residents. Equitable drought response strategies, seismic retrofits, slope stabilization, and wildfire-adapted infrastructure will be critical to ensuring that all residents, particularly vulnerable populations, maintain access to safe and reliable water in the face of compounding climate hazards.

5.6 Mitigation Strategy

This section provides the framework for how the SVWD will reduce hazard risk within its service area while supporting the broader goals of the Santa Cruz County MJHMP. It includes an overview of existing capabilities and opportunities for expanding resilience, and the district's prioritized mitigation actions. Together, these elements demonstrate how the district integrates hazard awareness into its conservation mission and contributes to a coordinated countywide approach.

Within the Santa Cruz County MJHMP, the mitigation strategy serves as the guidebook for future hazard mitigation efforts. For the SVWD, the strategy within this annex reflects the outcomes of the countywide planning process while also capturing the district's unique priorities and program areas. The strategy is designed to reduce the vulnerabilities identified in the risk assessment, including the problem statements developed for wildfire, flood, earthquake, slope failure, drought, and climate change.

Mitigation actions identified in this annex are both policy and project oriented, advancing conservation-based approaches that directly support hazard reduction. Actions are structured to align with FEMA's requirements and to integrate with existing county and regional planning mechanisms. Each action outlines responsible parties, potential funding sources, and required resources to ensure successful implementation.

For the SVWD, this strategy serves as a roadmap for delivering mitigation through technical assistance, watershed restoration, and partnerships with landowners. By combining its project-based capacity with the broader coordination of the countywide plan, the district contributes to a unified framework that reduces hazard risk across Santa Cruz County while also advancing its mission to protect natural and working lands. The subsections that follow describe these elements in detail:

- **Section 5.6.1 Aligning the Action Plan** provides a summary of the district's capacity to address natural hazards.
- **Section 5.6.3 Mitigation Action Plan** presents the SVWD's prioritized actions that will guide implementation in coordination with countywide strategies.

5.6.1 Aligning the Action Plan

This section connects the SVWD's mitigation actions with its existing capabilities and areas for growth. Capability assessments are a required element of hazard mitigation planning under the Disaster Mitigation Act of 2000 and FEMA's 2023 guidance, ensuring that actions are realistic, achievable, and aligned with available resources.

The section begins with a summary of the SVWD's capabilities across four areas: planning and regulatory, administrative and technical, fiscal, and education and outreach. This overview highlights the tools and strengths that the district already uses to reduce hazard risk. The section then provides a detailed analysis of each capability area, identifying both current practices and opportunities to expand resilience.

5.6.1.1 Capabilities & Opportunities Assessment

To develop a realistic and actionable mitigation strategy, it must account for existing jurisdictional capabilities and what future opportunities there are to enhance those capabilities for purposes of hazard mitigation. This section provides an assessment of SVWD's existing capabilities and future opportunities, including planning and regulatory, administrative and technical, fiscal, and public outreach and education capabilities. This assessment also identifies opportunities to integrate this MJHMP into future planning,



policies, or programs to weave mitigation efforts into daily operations and address hazard problems holistically. Capabilities are categorized into four groups and include various mechanisms.

- **Planning and Regulatory Capabilities:** Existing long-range plans, emergency response plans, hazard-specific plans, land use policies, and building and development standards.
- **Administrative and Technical Capabilities:** Available expertise in emergency services, engineering, grant management, and community planning.
- **Fiscal Capabilities:** Budgetary capacity, taxing authority, grants, and other funding mechanisms that can support mitigation projects.
- **Outreach and Education Capabilities:** Existing programs for providing technical assistance, community education, public warnings, and stakeholder engagement.

A full description of the process used to develop the capabilities assessment is provided in Volume 1, Section 2.3.3.

This capabilities and opportunities assessment for the district lists the various types of capabilities along with how they have been, currently are, or will in the future be integrated into hazard mitigation planning efforts. The three “HMP Integration” columns that identify the capability’s status and usage are color-coded with green, yellow, or orange shading to communicate the following:

- **Status:** If the capability is present at all and what level of use it has generally.
- **Current Mitigation Use:** If the capability is currently being used in mitigation efforts, specifically, and at what level.
- **Future Opportunity:** If there is a future opportunity to integrate the capability into mitigation efforts and at what level.

Planning & Regulatory Capabilities

As a special district with limited authority and not a municipality, SVWD does not maintain traditional planning or regulatory tools, such as hazard-specific ordinances or development standards. That said, SVWD possesses a comprehensive set of capabilities that support hazard mitigation planning, response, and long-term resilience. From a planning and regulatory perspective, the district has implemented essential frameworks such as its Urban Water Management Plan (UWMP), Water Shortage Contingency Plan, and seismic risk assessments under the American Water Infrastructure Act.

These plans provide critical guidance for drought management, seismic safety, and sustainable water supply, while capital improvement projects address infrastructure upgrades like well replacement, SCADA enhancements, and tank siting to ensure system reliability.

Further, SVWD complies with all development standards and environmental review requirements for the State of California, including the California Environmental Quality Act (CEQA), and within the county and municipalities where its projects are located. These local regulatory environments are described in Volume 1 for Santa Cruz County and in the City of Scotts Valley’s municipal annex of Volume 2.

Future integration of the MJHMP will occur through various processes and mechanisms outlined across multiple mitigation actions (Table 5-8). A key opportunity for future hazard mitigation integration with SVWD's existing planning mechanisms is to update its UWMP and Water Shortage Contingency plans to incorporate the updated risk assessment contained in this plan, including coordination with the City of Santa Cruz to address overuse and recharge deficits during times of drought through new system interties (ma-DR-SVW-01).

Administrative & Technical Capacity

SVWD's administrative and technical capacity is another strength. The district employs skilled staff in engineering, operations, and technical services, enabling it to manage complex projects and emergency response efforts. Although it lacks a dedicated emergency manager, responsibilities are assigned through the Emergency Response Plan, ensuring coordinated action during events.

Technical staff maintain resilient operations through SCADA monitoring, treatment system oversight, and infrastructure design, while outreach and education functions, though not led by dedicated staff, are consistently integrated into management roles.

Warning Systems & Services

The SVWD does not manage formal warning systems for hazards such as floods, wildfires, or earthquakes. Emergency notification and public alerting remain the responsibility of county and state agencies. The SVWD's role is to support these systems by providing education, preparedness resources, and technical assistance to landowners.

Fiscal Capabilities

On the fiscal side, SVWD has multiple funding mechanisms to support resilience. Revenues from water rates, recycled water fees, system development charges, and multi-year capital improvement funding sustain both operations and mitigation projects.

The district has successfully pursued grants, including state drought relief funding, and has the potential to expand into broader fiscal tools such as general obligation bonds or voter-approved levies if needed for future resilience investments.

Education & Outreach Capabilities

Equally important are SVWD's public education and outreach capabilities, which enhance community awareness and preparedness. Through its website, WaterSmart portal, newsletters, social media, and bill inserts, the district provides residents with conservation updates, emergency information, and fire safety messaging.



While participation in annual public safety events and Fire Safe Councils remains limited, SVWD demonstrated effective communication during the CZU Lightning Complex Fire, coordinating with fire agencies and maintaining water supply for firefighting. Opportunities exist to deepen partnerships with Resource Conservation Districts and expand outreach through community events.

CAPABILITY ASSESSMENT LEGEND

HMP Integration

Status	Current Mitigation Use	Future Opportunity
Currently in use or present.	Used widely for mitigation.	Opportunity to expand and integrate.
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.	Limited opportunity to expand and integrate.
(No) Not present or available.	Not used in mitigation planning.	No opportunity to expand or integrate.

Table 5-7: SVWD Capabilities Assessment

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Planning and Regulatory Capabilities				
Hazard Reduction Programs (Annually Conducted)				
Capital Improvements Program (CIP) or Plan				No formal plan but active program - Includes well replacement, SCADA upgrades, tank siting, and water quality system improvements
Annual Fire Prevention Plan				No formal plan - Operational coordination during CZU Complex Fire; hydrant flow support, backup power for pumps, tank monitoring
Seismic Safety Program (Non-structural)				American Water Infrastructure Act Risk and Resilience Assessment (RRA) to address seismic risks; update due 2026
Earthquake Modernization Plan (Building Safety)				No formal structural retrofit plan, but tank sitting and fire-hardening studies incorporate seismic resilience
Stormwater Management Program (Annual Inspections)				Low Impact Development (LID) projects improve groundwater recharge and runoff management
Hazard Plans and Programs				
Floodplain Response Plan				No standalone plan; opportunity to develop response triggers and interagency protocols



Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Community Wildfire Protection Plan (CWPP)	N/A	N/A	N/A	No CWPP jurisdiction or direct wildland vegetation management responsibilities
Ground Water Management Planning / Plans				Member of Santa Margarita Groundwater Agency; implements SGMA-compliant GSP
Climate Action Plan				Environmental Sustainability Policy includes GHG reduction, clean energy, LEED standards
Drought Mgmt/ Contingency Plan				Water Shortage Contingency Plan integrated into 2020 UWMP (Chapter 13)
FireWise Communities within District				None formally designated by NFPA within SVWD; opportunity for partnerships with HOAs
Hazard-Related Public Outreach Program				Outreach during CZU fire, water conservation campaigns, drought updates via SVWD website and WaterSmart portal
Administrative and Technical				
Staff Capacity				
Emergency Manager				Emergency planning led by Executive Team; no dedicated Emergency Manager, but responsibility is assigned during emergencies per ERP
Civil Engineer				District regularly completes design and construction management in-house or via consultants for capital improvement projects
Dedicated Public Outreach Personnel				Outreach efforts are active (drought, fire), but no dedicated position; handled by management staff
GIS Specialist and Capability				GIS is used for infrastructure mapping and SMGWA participation; unclear if internal staff manage it
Grant Manager, Writer, or Specialist				Grant funding obtained (e.g., DWR Drought Relief), but managed by leadership or consultants; not a dedicated staff role
Other				Technical operations team includes SCADA techs, treatment operators, and field crew maintaining resilient water delivery
Warning Systems/Services				
General				Website and WaterSmart Portal provide alerts; system pressures monitored during events like CZU fire
Flood				SVWD does not issue flood warnings; may coordinate with city/county if needed; opportunity to integrate triggers via ERP
Wildfire				Fire-related communications active during CZU; SVWD monitors tank levels and pressurization under emergency protocols
Geological Hazards				Earthquake response tied to Emergency Plan; no standalone monitoring system, but seismic RRA planned
Fiscal Capabilities				



Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Financial Resources for Hazard Mitigation				
Levy for Specific Purposes with Voter Approval				District has not recently proposed voter-approved hazard fees; could explore options for future resilience funding
Utilities Fees				SVWD sets water and recycled water rates that support operating reserves, drought response, and resiliency upgrades
System Development Fee				District charges connection and capacity fees to fund infrastructure expansion and modernization
General Obligation Bonds to Incur Debt				No GO bonds currently in use; potential tool if broader capital or hazard mitigation needs arise
Special Tax Bonds to Incur Debt				No record of special tax bonds used or planned by the district
Withheld Spending in Hazard-Prone Areas				No policies restricting investment based on hazard zones; not applicable to SVWD structure
Stormwater Service Fees				SVWD does not manage stormwater directly; this is handled by local government
Capital Improvement Project Funding				Extensive multi-year CIP supports drought, seismic, water quality, and pressure zone improvements
Education / Outreach Capabilities				
Education/Outreach Resources				
Website Dedicated to Hazard Topics				SVWD website and WaterSmart portal provide water shortage, fire, and emergency info
Dedicated Social Media				SVWD posts updates via social media on water use restrictions, fire safety, and service alerts
Hazard Info. Avail. at Library/ Planning Desk				Not a standard practice; outreach occurs online and via direct mail, not via civic desks
Annual Public Safety Events				No regular events, but District does participate in region-wide emergency response and public messaging campaigns
Ability to Field Public Tech. Assistance Requests				Customers can request info on water usage, leaks, rebates, and emergency status via WaterSmart and SVWD staff
Public Safety Newsletters or Printed Outreach				Conservation updates, fire prep, and drought info shared through newsletters and bill inserts
Fire Safe Councils				No formal participation in Fire Safe Councils, though collaboration with fire agencies during CZU event noted
Resource Conservation Districts				No direct integration, but opportunity exists to collaborate on water conservation or fuel treatment outreach
Other				Technical operations team includes SCADA techs, treatment operators, and field crew maintaining resilient water delivery

5.6.2 Scotts Valley Water District Mitigation Action Plan

Mitigation actions were developed based upon the jurisdiction's priorities, risk assessment results, and mitigation alternatives. The mitigation action prioritization method used by all participating jurisdictions is described in Section 4 of Volume 1. Table 5-8 lists each priority mitigation action, responsible party, time frame, potential funding source, implementation steps, and resources need to implement based upon consensus among the SVWD's planning group members. All mitigation actions across jurisdictions are accessible through MAST (Mitigation Action Support Tool), providing comprehensive details including the mitigation goal, responsible party, timeline, potential funding sources, implementation steps, and required resources. As a dynamic document, hazard problem statements and mitigation activities will be regularly updated through MAST to reflect evolving needs and circumstances.

As a first-time participant in a hazard mitigation plan, SVWD did not have any existing mitigation actions from a prior plan to evaluate. Therefore, all mitigation actions identified in this planning cycle are newly developed based on the district's updated risk assessment, local capabilities, and areas of concern identified during stakeholder engagement and interagency collaboration. These new actions were crafted to address the district's highest priority hazards, align with FEMA's hazard mitigation guidance, and reflect local infrastructure vulnerabilities and water resource challenges. The development of these mitigation strategies marks an important step in integrating resilience into the district's operations and long-term planning. All mitigation actions are documented in Volume 2, Table 5-8.

SVWD developed unique mitigation actions, tailored to their own unique priorities, vulnerabilities, and capabilities. Each action contains a level of detail that meets the regulatory requirements of FEMA and DMA 2000, including identifying the responsible party, time frame, potential funding source, implementation steps, and resources needed to implement. It is important to note that SVWD is a small agency with a mostly horizontal structure. Therefore, there are no specific departments or divisions responsible for overseeing these mitigation actions; instead, responsibilities for actions will be shared across all positions in the district.

All actions are assigned a unique identification number, as illustrated in MAST and in Figure 5-26, using alphanumeric characters that denote specific attributes of the action, including the type of hazard being mitigated, facilitating easy reference and management. Table 5-8 lists each mitigation action for the district.

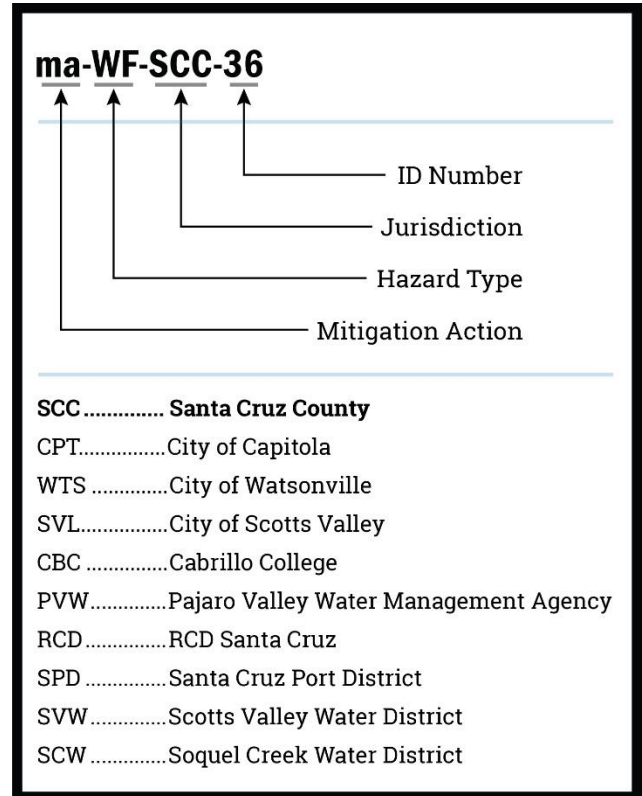


Figure 5-26: Mitigation Action Number Key



PAGE INTENTIONALLY BLANK

Table 5-8: SVWD Mitigation Action Plan

Hazard	Action ID	Action Title	Description	FEMA Mitigation Alternative	Timeline	Responsibility	Cost	Benefit	Internal Funding Source	External Funding Source	Priority (Based on Criteria)	Problems Addressed
Drought	ma-DR-SVW-01	Groundwater Resilience Enhancements	Implement managed aquifer recharge, improve groundwater monitoring, and pursue intertie coordination with the City of Santa Cruz to address overuse and recharge deficits during drought.	NRP	Medium 3-5 Years	SVWD + RCD, County, City of Santa Cruz and SMGWA	Medium	High	CIP budget for physical infrastructure not covered by DWR grant	DWR Grant for physical infrastructure	Medium	ps-DR-RCD-01, ps-DR-SCC-03, ps-DR-SCW-01, ps-DR-SVW-02, ps-SF-SVW-04, ps-DR-SVW-01, ps-SF-SVW-04, ps-SF-SVW-05
Drought	ma-DR-SVW-02	Equitable Drought Education & Rate Planning	Develop bilingual public education campaigns and a tiered drought surcharge program modeled after PG&E's CARE system to reduce burden on low-income customers.	PRV, PE&A	Short 1-3 Years	SVWD + County, PG&E and regional partners	Low	High	operating budget	DWR, Measure Q	Medium	ps-DR-SVW-03, ps-DR-WTS-01, ps-DR-SVW-01, ps-DR-SVW-02, ps-SF-SVW-04, ps-SF-SVW-05
Earthquake	ma-EQ-SVW-01	Seismic Retrofit of Critical Facilities	Retrofit structurally vulnerable tanks including MacDorsa, Bethany, Sequoia, Mt. Roberta, and Villa Fontenay to meet seismic safety standards.	PPRO, SP	Short 1-3 Years	SVWD + consultants	High	High	seeking grant opportunities, CIP budgeting.	HMGP BRIC	High	ps-EQ-SVW-04, ps-EQ-SVW-01, ps-EQ-SVW-02, ps-EQ-SVW-03, ps-EQ-SVW-05
Earthquake	ma-EQ-SVW-02	Seismic Pipe Replacement Program (Phase I)	Initiate phased replacement of high-risk asbestos cement (AC) pipes in the water distribution network using seismically resilient materials.	SP	Long 5-10 Years	SVWD	High	High	CIP budget	HMGP BRIC	High	ps-EQ-SVW-02, ps-EQ-SVW-01, ps-EQ-SVW-03
Earthquake	ma-EQ-SVW-03	Seismic Node & Vault Hardening Initiative	Reinforce system nodes (e.g., vaults, PRVs) to withstand ground shaking and prevent service disruptions during earthquakes.	SP	Medium 3-5 Years	SVWD + County OES and Fire District	High	High	CIP budget	HMGP BRIC	High	ps-EQ-SVW-01, ps-EQ-SVW-02, ps-EQ-SVW-03, ps-EQ-CPT-02, ps-EQ-SVL-02
Flood / Slope Failure	ma-SF-SVW-01	Slope Stability Risk Assessment & Retrofit Plan	Conduct geotechnical evaluations of flood and slope failure-prone infrastructure sites (e.g., Glenwood, Bethany) and develop a prioritized plan for retrofits, drainage improvements, erosion control, or relocation of at-risk assets.	PRV	Short 1-3 Years	SVWD + County, FEMA and consultants	Medium	High	CIP budget	Seeking Federal EPA grant program funding.	Medium	ps-SF-SVW-01, ps-SF-SVW-02, ps-SF-SVW-03, ps-FL-SVW-01
Wildfire	ma-WF-SVW-01	Hydrant Maintenance & Improvement Program	Formalize a hydrant program including inspection, painting, GPS location, asset management, and an encroachment permitting system to ensure consistent WUI coverage.	SP	Short 1-3 Years	SVWD + City of Scotts Valley, Fire District	Medium	High	Operating budget	HMGP BRIC CAL FIRE CalOES Prop 4 Measure Q	Medium	ps-WF-SVL-05, ps-WF-SVW-01, ps-WF-SVW-02
Wildfire	ma-WF-SVW-02	Critical Zone Storage & Pressure Improvements	Upgrade wildfire zone storage and pressure delivery systems in Northridge and Villa Fontenay to improve firefighting response capabilities and protect public safety.	SP	Medium 3-5 Years	SVWD + Fire District	High	High	CIP budget	HMGP BRIC CAL FIRE CalOES Prop 4 Measure Q	High	ps-WF-SVW-02, ps-WF-SVW-01
Wildfire	ma-WF-SVW-03	WUI Asset Hardening & Vegetation Management Program	Establish a recurring program to harden key infrastructure in the Wildland-Urban Interface (WUI) and manage vegetation on and near SVWD property. Partner with adjacent landowners to improve defensible space.	NRP, SP, PPRO	Short 1-3 Years	SVWD + Fire District	High	High	Operating budget	HMGP BRIC CAL FIRE CalOES Prop 4 Measure Q	High	ps-WF-SVW-01, ps-WF-WTS-01, ps-WF-SVW-02



PAGE INTENTIONALLY BLANK