



# 2021 Multijurisdictional Local Hazard Mitigation Plan

## Volume 2—Planning Partner Annexes



October | 2021





# 2021 Multijurisdictional Local Hazard Mitigation Plan

October 2021

## PREPARED FOR

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## Appendices

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- Appendix A. Planning Partner Expectations
- Appendix B. Procedures for Linking to Hazard Mitigation Plan
- Appendix C. Annex Instructions and Templates



## ACRONYMS

The following acronyms are used throughout the annexes in this volume:

- AB—Assembly Bill
- AFG—Assistance for Firefighter Grant
- ACWA—Association of California Water Agencies
- BART—Bay Area Rapid Transit
- BAWSCA—Bay Area Water Supply & Conservation Agency
- BCEGS— Building Code Effectiveness Grading Schedule
- BMP—best management practice
- BRIC—Building Resilient Infrastructure and Communities
- C/CAG— City/County Association of Governments of San Mateo County
- Cal OES—California Office of Emergency Services
- CAL FIRE—California Department of Forestry and Fire Protection
- CBC—city building code
- C&CB—Core Capacity and Capability Building funding under BRIC
- CCFD—Central County Fire Department
- CCR—California Code of Regulations
- CCWD—Coastside County Water District
- CDAA—California Disaster Assistance Act
- CDC—Center for Disease Control
- CDFA—California Department of Food and Agriculture
- CDD—Community Development Department
- CEQA— California Environmental Quality Act
- CERPP—Citizens’ Emergency Response and Preparedness Program
- CERT—Community Emergency Response Team
- CFPD—Colma Fire Protection District
- CFR—Code of Federal Regulations
- CIP—capital improvement program
- CMAP—Climate Mitigation and Adaptation Plan
- COOP/COG—continuity of operations plan and continuity of government
- CPAW—Community Partners for Wildfire Assistance
- CSM—College of San Mateo
- CWPP—community wildfire protection plan
- CWSRF—EPA Clean Water State Revolving Fund
- DEM—San Mateo County Department of Emergency Management
- DWR—Department of Water Resources
- EAP—emergency action plan
- EIR—Environmental Impact Report
- EMID—Esterro Municipal Improvement District
- EMPG—Emergency Management Performance Grant
- EOC—emergency operations center
- EOP—emergency operations plan
- EPA—Environmental Protection Agency
- FEMA—Federal Emergency Management Agency
- FMA—Flood Mitigation Assistance Grant Program
- FMAG—Fire Management Assistance Grants

- FPD—fire protection district
- FSLRRD—Flood & Sea Level Rise Resiliency District
- GHG—greenhouse gas
- GIS—geographic information system
- HMA—Hazard Mitigation Assistance
- HMB—Half Moon Bay
- HMGP—Hazard Mitigation Grant Program
- HMP—hazard mitigation plan
- HRD—Highlands Recreation District
- HSGP—Homeland Security Grant Program
- IBC—International Building Code
- ISO—Insurance Services Office (insurance underwriter)
- JPA—joint powers authority
- LCP—Local Coastal Program
- LHMP—local hazard mitigation plan
- LUP—land use plan
- MJLHMP—Multijurisdictional Local Hazard Mitigation Plan
- MPFPD—Menlo Park Fire Protection District
- MPWD—Mid-Peninsula Water District
- MRP—Municipal Regional Stormwater Permit
- MWSD—Montara Water and Sanitary District
- NCCWD—North Coast County Water District
- NEPA—National Environmental Policy Act
- NFIP—National Flood Insurance Program
- NIMS—National Incident Management System
- NOAA—National Oceanic and Atmospheric Administration
- NRCS—Natural Resources Conservation Service
- OPC—California Ocean Protection Council
- POC—point of contact
- RCD—resource conservation district
- RHNA—Regional Housing Needs Allocation
- RICAPS—Regionally Integrated Climate Action Planning Suite
- SAFER—Staffing for Adequate Fire and Emergency Response Grants
- SB—Senate Bill
- SCC—California State Coastal Conservancy
- SFHA—special flood hazard area
- SFO—San Francisco International Airport
- SFPUC—San Francisco Public Utilities Commission
- SLR—sea-level rise
- SMCCD—San Mateo Community College District
- SMCFire or SMCFD—San Mateo County Fire Department
- SMCO—San Mateo County
- SMRCD—San Mateo Resource Conservation District
- SSF—South San Francisco
- SSFFD—South San Francisco Fire Department
- SSMP—Sanitary Sewer Management Plan
- SWRCB—California State Water Resources Control Board
- TEP—Training and Exercise Program
- THIRA—Threat & Hazard Identification & Risk Assessment
- TMDL—total maximum daily load
- UASI—Urban Area Security Initiative
- USDA—U.S. Department of Agriculture

- UWMP—urban water management plan
- WFPD—Woodside Fire Protection District
- WUI—wildland urban interface
- WWD—Westborough Water District

# INTRODUCTION

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## BACKGROUND

The Federal Emergency Management Agency (FEMA) encourages multi-jurisdictional planning for hazard mitigation. All participating jurisdictions must meet the requirements of Chapter 44 of the Code of Federal Regulations (44 CFR):

“Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.” (Section 201.6(a)(4)).

For the *San Mateo County 2021 Multi-Jurisdictional Local Hazard Mitigation Plan*, a planning partnership was formed to leverage resources and to meet requirements of the federal Disaster Mitigation Act for as many eligible local governments as possible. The Disaster Mitigation Act defines a local government as follows:

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

In addition, federally recognized tribes may participate in local/tribal multi-jurisdictional plans as long as the requirements of Section 201.7 of 44 CFR are met for tribal components of the plan.

Two types of planning partners participated in this process for the *2021 Multi-Jurisdictional Local Hazard Mitigation Plan*, with distinct needs and capabilities:

- Incorporated municipalities
- Special districts

Each participating planning partner prepared a jurisdiction-specific annex to this plan. These annexes, as well as information on the process by which they were created, are contained in this volume.

## THE PLANNING PARTNERSHIP

### Initial Solicitation and Letters of Intent

A planning team made up of San Mateo County and consultant staff solicited the participation of all eligible municipalities and special districts at the outset of this project. A kickoff meeting was held on January 5, 2021, to identify potential stakeholders and planning partners for this process. The purpose of the meeting was to introduce



the planning process to jurisdictions in the County that could have a stake in the outcome of the planning effort. All eligible local governments in the planning area were invited to attend. The goals of the meeting were as follows:

- Provide an overview of the Disaster Mitigation Act.
- Review the *2016 San Mateo County Hazard Mitigation Plan* and planning partnership
- Outline the work plan for this hazard mitigation plan.
- Describe the benefits of multi-jurisdictional planning.
- Outline planning partner expectations.
- Solicit planning partners.
- Solicit volunteers/recommendations for the steering committee.

Local governments wishing to join the planning effort were asked to provide the planning team with a “letter of intent to participate” that agreed to the planning partner expectations (see Appendix A) and designated lead and alternate points of contact for their jurisdiction. In all, the planning team received formal commitment from 37 planning partners in addition to the County. A map showing the location of participating special purpose districts is provided at the end of this introduction. Maps showing risk assessment results for participating cities are provided in the individual annexes for each city. Risk assessment maps for all planning areas countywide are provided in Volume 1 of this hazard mitigation plan.

## Planning Partner Expectations

The planning team developed the following list of planning partner expectations, which were provided and discussed at the kickoff meeting (see Appendix A for details):

- Complete a “letter of intent to participate.”
- Designate lead and primary points of contact for this effort.
- Support and participate in the selection and function of the Steering Committee.
- Provide support required to implement the public involvement strategy.
- Participate in the process through opportunities such as:
  - Steering Committee meetings
  - Public meetings or open houses
  - Workshops and planning partner specific training sessions
  - Public review and comment periods prior to adoption.
- Attend the mandatory Phase 3 jurisdictional annex workshop.
- Complete the jurisdictional annex.
- Perform a “consistency review” of all technical studies, plans and ordinances specific to hazards.
- Review the risk assessment and identify hazards and vulnerabilities specific to the jurisdiction.
- Review and determine if the mitigation recommendations chosen in Volume 1 will meet the needs of the jurisdiction.

- Create an action plan that identifies each project, who will oversee the task, how it will be financed, and when it is estimated to occur.
- Formally adopt the hazard mitigation plan.

By adopting this plan, each planning partner also agrees to the plan implementation and maintenance protocol established in Volume 1. Failure to meet these criteria may result in a partner being dropped from the partnership by the Steering Committee, and thus losing eligibility under the scope of this plan.

## Final Coverage

Two jurisdictions that submitted letters of intent to participate withdrew from the planning process prior to its completion. The rest fully met the participation requirements for this update, completed an annex template, and will be covered by the updated hazard mitigation plan upon FEMA approval and adoption by their governing bodies. This final coverage will apply to the following jurisdictions:

- Cities/County
  - Town of Atherton
  - City of Belmont
  - City of Brisbane
  - City of Burlingame
  - Town of Colma
  - City of Daly City
  - City of East Palo Alto
  - City of Foster City
  - City of Half Moon Bay
  - Town of Hillsborough
  - City of Menlo Park
  - City of Millbrae
  - City of Pacifica
  - Town of Portola Valley
  - City of Redwood City
  - City of San Bruno
  - City of San Carlos
  - City of San Mateo
  - City of South San Francisco
  - Town of Woodside
  - San Mateo County
- Special Purpose Districts
  - Coastside County Water District
  - Colma Fire Protection District
  - Highlands Recreation District
  - Menlo Park Fire Protection District
  - Midpeninsula Regional Open Space District
  - Mid-Peninsula Water District
  - Montara Water & Sanitary District
  - North Coast County Water District
  - San Mateo Community College District
  - San Mateo County Flood & Sea Level Rise Resiliency District
  - San Mateo County Harbor District
  - San Mateo County Office of Education
  - San Mateo Resource Conservation District
  - Westborough Water District
  - Woodside Fire Protection District

## Linkage Procedures

Eligible local jurisdictions that did not participate in development of this multi-jurisdictional plan may comply with Disaster Mitigation Act requirements by linking to this plan following procedures outlined in Appendix B.

## **PARTNER ANNEX DEVELOPMENT**

### **Capability Assessment**

All participating jurisdictions compiled an inventory and analysis of existing authorities and capabilities called a “capability assessment.” A capability assessment creates an inventory of a jurisdiction’s mission, programs, and policies, and evaluates its capacity to carry them out. This assessment identifies potential gaps in the jurisdiction’s capabilities. If the capability assessment identified an opportunity to add a missing core capability or expand an existing one, then doing so has been selected as an action in the jurisdiction’s action plan. The sections below describe the specific capabilities evaluated under the assessment.

#### **Planning and Regulatory Capabilities**

Jurisdictions can develop policies and programs and implement rules and regulations to protect and serve residents. Local policies are typically identified in planning documents, implemented via a local ordinance, and enforced by a governmental body. Because the planning and regulatory authority of municipal partners is generally broader than that of special-purpose districts, the assessment of these capabilities is more detailed for the municipal partners.

#### **Development and Permitting Capability**

This set of capabilities is not applicable to special purpose districts and was assessed only for municipal partners (cities and the County). Municipal jurisdictions regulate land use through the adoption and enforcement of zoning, subdivision, and land development ordinances, building codes, building permit ordinances, floodplain, and stormwater management ordinances. When effectively prepared and administered, these regulations can lead to hazard mitigation.

#### **Fiscal Capabilities**

Assessing a jurisdiction’s fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant-funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees.

#### **Administrative and Technical Capabilities**

Without appropriate personnel, the mitigation strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers.

#### **Education and Outreach Capability**

Regular engagement with the public on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing this outreach and education capability illustrates the connection between the government and community members, which opens a two-way dialogue that can result in a more resilient community based on education and public engagement.

## **Compliance with National Flood Insurance Program Requirements**

The National Flood Insurance Program (NFIP) is not available to special purpose districts, so this set of capabilities was assessed only for municipal partners (cities and the County). Flooding is the costliest natural hazard in the United States and homeowners face increasingly high flood insurance premiums. Community participation in the NFIP opens up opportunity for additional grant funding associated specifically with flooding issues. Assessment of a jurisdiction’s current NFIP status and compliance provides a greater understanding of the local flood management program, opportunities for improvement, and available grant funding opportunities.

## **Participation and Classification in Other Programs**

Other programs, such as the Community Rating System, Storm/Tsunami Ready, and Firewise USA, can enhance a jurisdiction’s ability to mitigate, prepare for, and respond to natural hazards. These programs indicate a jurisdiction’s desire to go beyond minimum requirements set forth by local, state, and federal regulations in order to create a more resilient community. These programs complement each other by focusing on communication, mitigation, and community preparedness to save lives and minimize the impact of natural hazards on a community. The programs reviewed here are applicable to municipal partners only so they are not included in the capability assessments for special-purpose districts.

## **Adaptive Capacity**

An adaptive capacity assessment evaluates a jurisdiction’s ability to anticipate impacts from future conditions. By looking at public support, technical adaptive capacity, and other factors, jurisdictions identify their core capability for resilience against issues such as sea level rise. The adaptive capacity assessment provides jurisdictions with an opportunity to identify areas for improvement by ranking their capacity high, medium, or low.

## **Mitigation Action Plan Development**

### **Risk Ranking**

In the risk-ranking exercise, each planning partner was asked to review the ranked risk specifically for its jurisdiction, based on the impact on its population and/or facilities. Municipalities based this ranking on probability of occurrence and the potential impact on people, property, and the economy. Special purpose districts based this ranking on probability of occurrence and the potential impact on their constituency, their vital facilities, and the facilities’ functionality after an event. Additionally, to support the social equity lens for this plan update, a social vulnerability ranking factor and weighting was established to support planning partners wishing to apply an equity lens to their risk ranking and project identification and prioritization. The risk-ranking methodology for partner annexes was the same as that used for the countywide risk ranking, as described in Volume 1.

The objectives of this exercise were to familiarize the partnership with how to use the risk assessment as a tool to support other planning and hazard mitigation processes and to help prioritize types of mitigation actions that should be considered. Hazards that were ranked as “high” and “medium” for each jurisdiction as a result of this exercise were considered to be priorities for identifying mitigation actions, although jurisdictions also identified actions to mitigate “low” ranked hazards, as appropriate.

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## **Information Reviewed to Develop Action Plan**

The tool kits were used during the workshops and in follow-up work conducted by the planning partners. A large portion of the workshop focused on how the tool kit should be used to develop the mitigation action plan. Planning partners were specifically asked to review the following to assist in the identification of actions:

- The Jurisdiction’s Capability Assessment—Reviewed to identify capabilities that the jurisdiction does not currently have but should consider pursuing or capabilities that should be revisited and updated to include best available information; also reviewed to determine how existing capabilities can be leveraged to increase or improve hazard mitigation in the jurisdiction.
- The Jurisdiction’s National Flood Insurance Program Compliance Table—Reviewed to identify opportunities to increase floodplain management capabilities.
- The Jurisdiction’s Review of Its Adaptive Capacity for Climate Change—Reviewed to identify ways to leverage or continue to improve existing capacities and to improve understanding of other capacities.
- The Jurisdiction’s Identified Opportunities for Future Integration—Reviewed to identify specific integration actions to be included in the mitigation strategy.
- Jurisdiction-Specific Vulnerabilities—Reviewed to identify actions that will help reduce known vulnerabilities.
- The Mitigation Best Practices Catalog—Reviewed to identify actions that the jurisdiction should consider including in its action plan.
- Public Input—Reviewed to identify potential actions and community priorities.

## **Action Plan Prioritization**

The actions recommended in the action plan were prioritized based on the following factors:

- Cost and availability of funding
- Benefit, based on likely risk reduction to be achieved
- Number of plan objectives achieved
- Timeframe for project implementation
- Eligibility for grant funding programs

Two priorities were assigned for each action:

- A high, medium, or low priority for implementing the action (with and without considerations of social equity)
- A high, medium, or low priority for pursuing grant funding for the action.

The sections below describe the analysis of benefits and costs and the assignment of the two priority ratings.

## ***Benefit/Cost Review***

The action plan must be prioritized according to a benefit/cost analysis of the proposed actions (44 CFR, Section 201.6(c)(3)(iii)). For this hazard mitigation plan, a qualitative benefit-cost review was performed for each action by assigning ratings for benefit and cost as follows:

- Cost:
  - **High**—Existing funding will not cover the cost of the action; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).
  - **Medium**—The action could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the action would have to be spread over multiple years.
  - **Low**—The action could be funded under the existing budget. The action is part of or can be part of an ongoing existing program.
- Benefit:
  - **High**—Action will provide an immediate reduction of risk exposure for life and property.
  - **Medium**—Action will have a long-term impact on the reduction of risk exposure for life and property, or action will provide an immediate reduction in the risk exposure for property.
  - **Low**—Long-term benefits of the action are difficult to quantify in the short term.

To assign priorities, each action with a benefit rating equal to or higher than its cost rating (such as high benefit/medium cost, medium benefit/medium cost, medium benefit/low cost, etc.) was considered to be cost-beneficial. This is not the detailed level of benefit/cost analysis required for some FEMA hazard-related grant programs. Such analysis would be performed at the time a given action is being submitted for grant funding.

### ***Implementation Priority***

Implementation priority ratings were assigned as follows:

- **High Priority**—An action that meets multiple objectives, has benefits that exceed costs, and has a secured source of funding. Action can be completed in the short term (1 to 5 years).
- **Medium Priority**—An action that meets multiple objectives, has benefits that exceed costs, and is eligible for funding though no funding has yet been secured for it. Action can be completed in the short term (1 to 5 years), once funding is secured. Medium-priority actions become high-priority actions once funding is secured.
- **Low Priority**—An action that will mitigate the risk of a hazard, has benefits that do not exceed the costs or are difficult to quantify, has no secured source of funding, and is not eligible for any known grant funding. Action can be completed in the long term (1 to 10 years). Low-priority actions may be eligible for grant funding from programs that have not yet been identified.

### ***Social Equity Implementation Priority***

For planning partners that chose to apply an equity lens to their prioritization scheme, the following parameters were established:

- **High Priority**—The mitigation action is designed to reduce harm to multiple socially vulnerable groups in the County from one or more of the hazards identified in the hazard mitigation plan.
- **Medium Priority**— The mitigation action is designed to reduce harm to a single socially vulnerable population in the County from at least one hazard identified in the hazard mitigation plan.
- **Low Priority**— The mitigation action fails to advance social equity in any measurable way in the County

## **Grant Pursuit Priority**

Grant pursuit priority ratings were assigned as follows:

- **High Priority**—An action that meets identified grant eligibility requirements, has high benefits, and is listed as high or medium implementation priority; local funding options are unavailable or available local funds could be used instead for actions that are not eligible for grant funding.
- **Medium Priority**—An action that meets identified grant eligibility requirements, has medium or low benefits, and is listed as medium or low implementation priority; local funding options are unavailable.
- **Low Priority**—An action that has not been identified as meeting any grant eligibility requirements.

## **Classification of Actions**

Each recommended action was classified based on the hazard it addresses and the type of mitigation it involves. Mitigation types used for this classification are as follows:

- **Prevention**—Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Property Protection**—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
- **Public Education and Awareness**—Actions to inform residents and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
- **Natural Resource Protection**—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, and green infrastructure.
- **Emergency Services**—Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
- **Structural Projects**—Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.
- **Climate Resiliency**—Actions that incorporate methods to mitigate and/or adapt to the impacts of climate change. Includes aquifer storage and recovery activities, incorporating future conditions projections in project design or planning, or actions that specifically address jurisdiction-specific climate change risks, such as sea-level rise or urban heat island effect.
- **Community Capacity Building**—Actions that increase or enhance local capabilities to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. Includes staff training, memorandums of understanding, development of plans and studies, and monitoring programs.



## Annex-Preparation Process

### Templates

Templates were created to help the planning partners prepare their jurisdiction-specific annexes. Separate templates were created for the two types of jurisdictions participating in this plan. The templates were created so that all criteria of Section 201.6 of 44 CFR for local governments would be met based on the partners' capabilities and mode of operation. Separate templates were available for partners updating a previous hazard mitigation plan and those developing a first-time hazard mitigation plan. These templates were deployed in three phases during the course of this plan update process. These phases are described as follows:

- **Phase 1**—Profile, Trends, Previous Plan Status
  - Deployed: February 19, 2021
  - Due: March 19, 2021
- **Phase 2**—Capability Assessment and Information Sources
  - Deployed: April 2, 2021
  - Due: May 21, 2021
- **Phase 3**—Risk Ranking, Action Plan, and Information Sources
  - Deployed: June 11, 2021
  - Workshops: June 14 – 16, 2021
  - Due: July 23, 2021

The templates were set up to lead all partner through steps to generate Disaster Mitigation Act-required elements specific to their jurisdictions. The templates and their instructions are included in Appendix C of this volume.

### Tool Kit

Each planning partner was provided with a tool kit to assist in completing the annex template and developing an action plan. The tool kits contained the following:

- The *2016 San Mateo County Hazard Mitigation Plan* annexes
- A catalog of mitigation best practices and adaptive capacity
- The guiding principle, goals and objectives developed for the update to the plan
- A list of jurisdiction-specific issues noted during the risk assessment
- Information on the FEMA Hazard Mitigation Assistance grant program
- Information on past hazard events that have impacted the planning area
- County-wide and jurisdiction-specific maps for hazards of concern
- Special district boundary maps showing the sphere of influence for each special purpose district partner
- The risk assessment results developed for this plan
- Information on climate change and expected impacts in the planning area

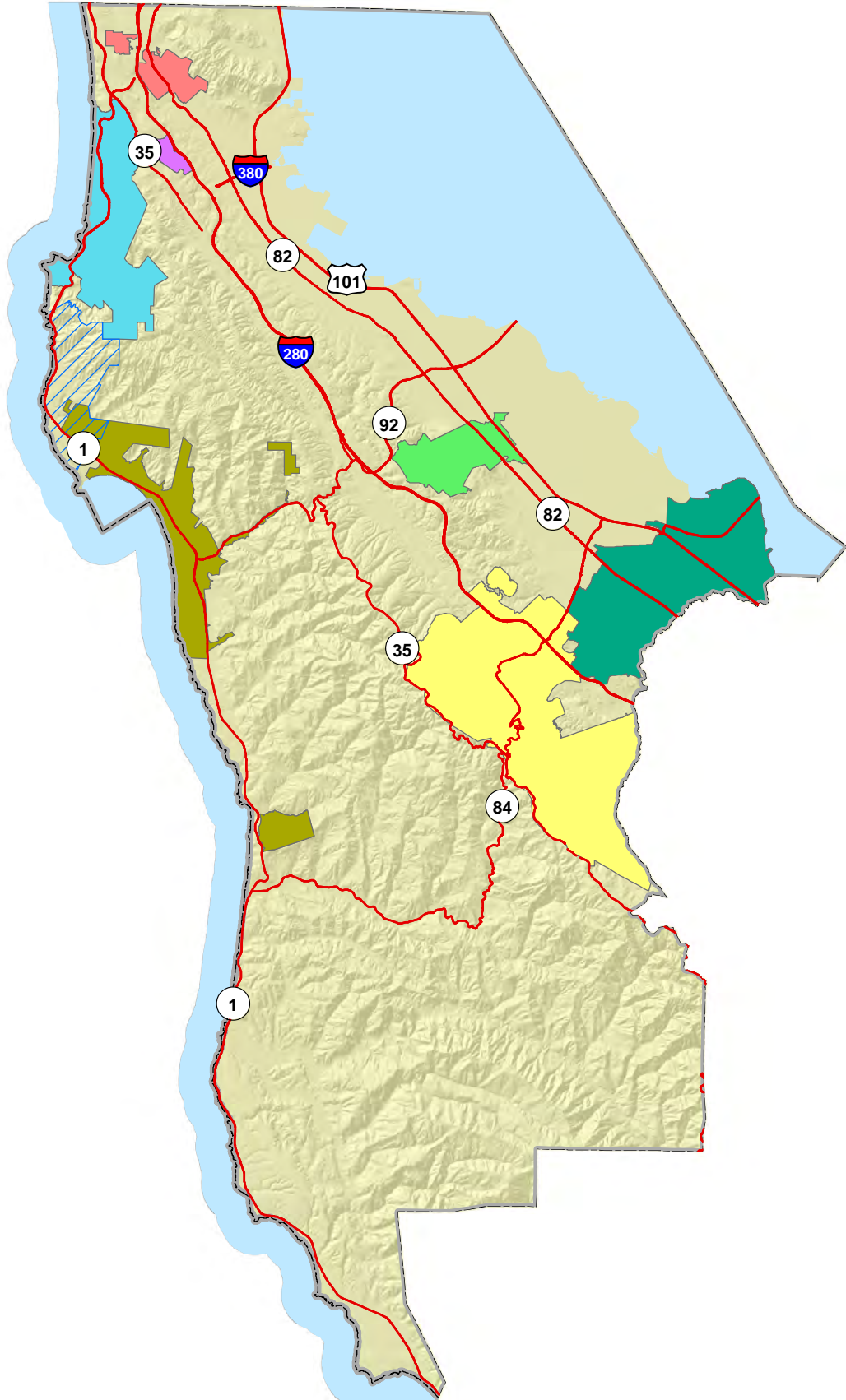


- Jurisdiction-specific annex templates, with instructions for completing them
- FEMA guidance on plan integration
- The results of a public survey conducted as part of the public involvement strategy
- A copy of the presentation that was given at the workshop sessions.




### **Workshop**

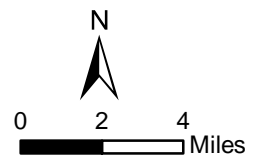
All partners were required to participate in a technical assistance workshop, where key elements of the template were discussed and the templates were subsequently completed by a designated point of contact for each partner and a member of the planning team. Multiple online workshops were held the week of June 14, 2021 and attended by at least one representative from each planning partner, addressed the following topics:

- The templates and the tool kit
- Natural events history
- Jurisdiction-specific issues
- Risk ranking
- Status of prior actions
- Developing your action plan
- Cost/benefit review
- Prioritization protocol
- Next steps.



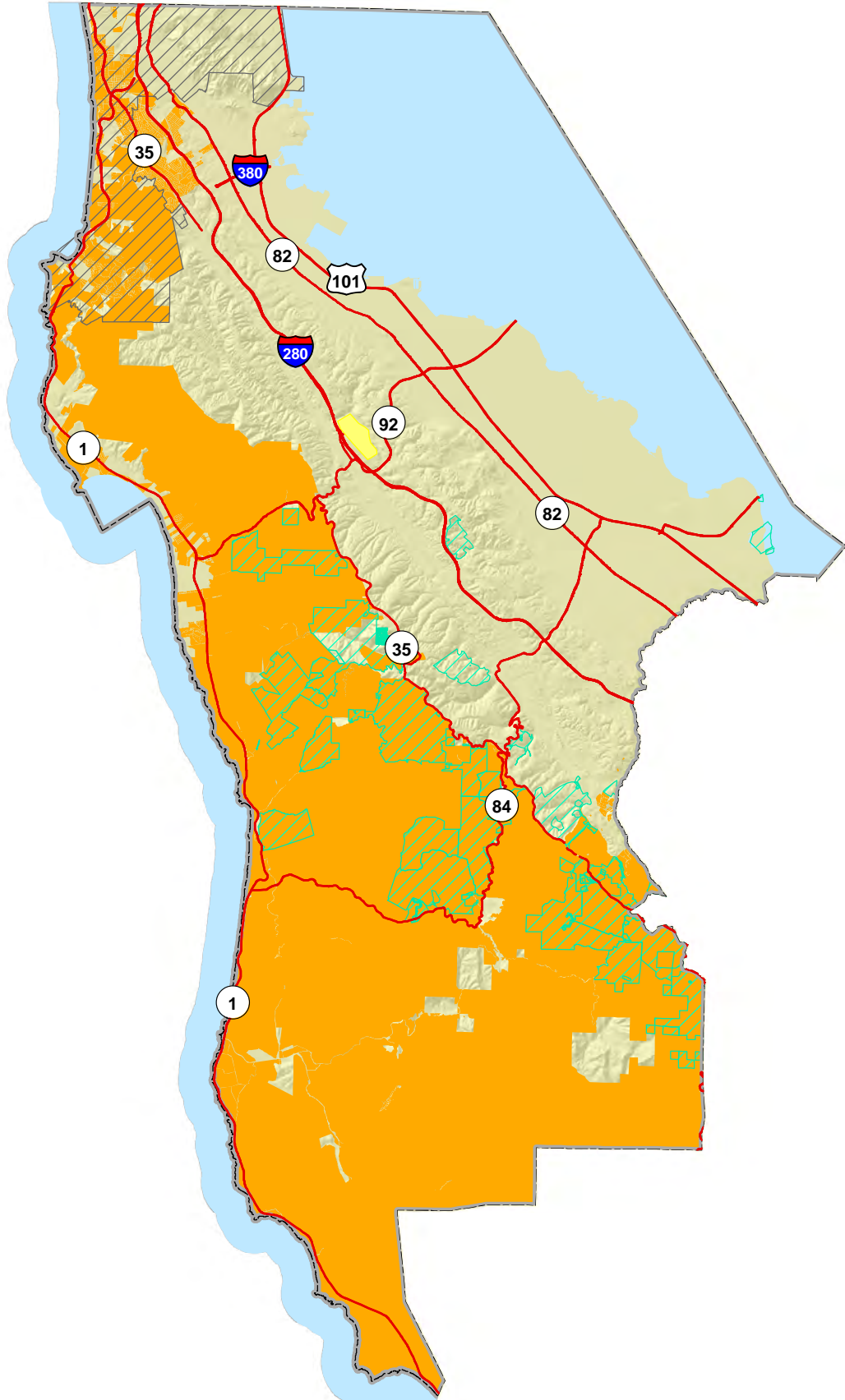
**Special Purpose District Planning Partners, 1 of 2**

- |   |  |   |
|---|--|---|
|  Highways        |  Colma FPD      |  Coastside County WD   |
|  County Boundary |  Menlo Park FPD |  Mid-Peninsula WD      |
|   |  Woodside FPD   |  North Coast County WD |
|   |  Montara WSD    |  Westborough WD        |




Data Sources: San Mateo Co.

San Mateo County Community College District, San Mateo County Flood and Sea Level Rise Resiliency District, San Mateo County Harbor District, and San Mateo County Office of Education extend countywide.



**Special Purpose District Planning Partners, 2 of 2**

- Highways
- County Boundary
- Jefferson Union High School District
- Highlands Recreation District
- Midpeninsula Regional Open Space District
- San\_Mateo Resource Conservation District

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 Data Sources: San Mateo Co.



# 1. SAN MATEO COUNTY

## 1.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

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 San Mateo County, Regional Operations Center  
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### Alternate Point of Contact

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 Redwood City, C  
 888-442-2666  
 cbloede@smcgov.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 1-1.

**Table 1-1. Local Mitigation Planning Team Members**

Name	Title
Paniz Amirnasiri	Management Analysis
Michael Barber	Senior Legislative Aide
Dan Belville	Director of Department of Emergency Management
Carolyn Bloede	Director of Office of Sustainability
Nicholas Calderon	Director of Parks and Recreation
Rumika Chaudry	GIS/IS Manager
Shruti Dhapodkar	Emergency Preparedness Project Manager
Hannah Doress	Resource Conservation Specialist
Andrew Eng	Community Program Analyst II
Katie Faulkner	Planner III
Marcus Griswold (Jan – May 2021)	Senior Resource Conservation Specialist (Through May 2021)
Chris Hunter	Chief of Staff, Board of Supervisors District 3
Emma Hunter	ABAHO Coordinator
Karishma Kumar	Community Program Supervisor
Joe LaClair	Planning Services Manager (Retired March 2021)
Scott Lombardi	Parks Superintendent
Ann Ludwig	Project Manager
Melissa Ross	Planning Services Manager (Beginning March 2021)
Jeff Norris	Emergency Services Coordinator
Hannah Ormslaw	Natural Resource Manager
Hilary Papendick	Resource Conservation Program Manager

Name	Title
Isabel Pares Ramos	Resource Conservation Specialist
Jim Porter	Director of Public Works
David Savory	ISD Data Specialist III
Belén Seara	HPP Management Analyst
Lena Silberman	Legislative Aide
Khoa Vo	Deputy Director of Public Works
Jeremy Wagner	Deputy Director of Agricultural Services Agricultural Commissioner/Sealer
Koren Widdel	Director of Agricultural Services Agricultural Commissioner/Sealer

## 1.2 JURISDICTION PROFILE

### 1.2.1 Location and Features

#### Whole County

San Mateo County, situated along the Central California coastline, encompasses the major portion of the San Francisco Peninsula. The County covers approximately 554 square miles, with land accounting for approximately 448 square miles and inland waters, and San Francisco Bay tidal areas accounting for the remainder. The County is roughly 42 miles in length and varies from seven to twenty miles in width. Approximately 55 miles of the County’s western border is Pacific shoreline, and roughly 34 miles of the eastern border is Bay shoreline. The County is bounded on the north by the City and County of San Francisco and on the south and southeast by Santa Cruz and Santa Clara Counties.

#### Unincorporated Area

The County’s unincorporated area includes urban pockets east of Route 280 and most of the rural area south and west of Route 280. The unincorporated County consists of approximately 309 square miles (68% of total County area), and there is wide variation in the size, location, and economic and social characteristics of the various unincorporated areas. General descriptions of the main unincorporated areas are provided below.

#### ***Urban Bayside Communities***

##### North Fair Oaks

The largest unincorporated community is North Fair Oaks, which is located within Redwood City’s sphere of influence. This area is fully urbanized, with moderate to high densities of development. North Fair Oaks has over 15,000 residents and more than 4,000 housing units. North Fair Oaks has a relatively high concentration of low and moderate-income households, as well as a wide variety of housing types and a variety of land uses, including significant commercial and industrial uses.

##### Colma

Unincorporated Colma is a small, urbanized pocket in the northern part of the County, adjoining incorporated Colma and Daly City. Colma has seen significant amounts of relatively high-density residential development over the past decade, with several multifamily mixed-income apartment and condominium projects, a senior housing project, and several other projects, all located around the redeveloped Colma BART station.

### Emerald Lake Hills

Emerald Lake Hills is a relatively low-density suburban area of the County, characterized primarily by single-family homes. While Emerald Lake Hills has a large amount of development, its primarily residential nature and lack of commercial and other uses distinguishes it from the more highly urbanized areas of the unincorporated County, such as North Fair Oaks.

### Other

Other unincorporated urban bayside communities include Burlingame Hills, Devonshire, Broadmoor, San Mateo Highlands, and Ladera. These communities are primarily small pockets of unincorporated jurisdiction, largely characterized by single-family residential development, although Devonshire and Broadmoor both have areas of higher development density and mixed uses.

### ***Urban Coastal Communities***

There are several unincorporated coastal communities north of Half Moon Bay, within the urban area of the County's urban/rural boundary. These communities include Montara, Moss Beach, El Granada, Princeton, and Miramar. These communities are an exception to the primarily rural nature of the coastal unincorporated areas, and have housing and development issues, including infrastructure constraints and other issues unique to the coast.

### ***Rural Areas and Communities***

The vast majority of the unincorporated County consists of the Rural Midcoast, Rural Southcoast, and rural Skyline areas. In contrast to the urbanized communities, the rural areas tend to be sparsely developed, with very low housing densities on relatively large lots. These areas include La Honda, Pescadero, San Gregorio, Kings Mountain, and the remaining large, primarily undeveloped areas of the Midcoast and Southcoast. The rural South Coast has relatively few, widely dispersed households. These areas are mainly utilized for agricultural uses or open space. The rural portion of the Midcoast area are mainly characterized by large, minimally developed areas with large lots and low housing densities, although there are a few small higher density areas.

### ***Summary***

The following is a list of the unincorporated communities in San Mateo County:

- Brisbane Quarry
- Broadmoor
- Burlingame Hills
- Burlingame Hills
- Butano Falls Tract
- California Golf Club
- Country Club Park
- Dearborn Park
- Dearborn Park
- Moss Beach
- North Fair Oaks
- North San Gregorio
- North Skyline
- Olympic Country Club
- Palomar Park
- Peninsula Golf and Country Club
- Pescadero West
- Pescadero East

- Devonshire
- Devonshire
- El Granada
- Emerald Lake Hills
- Harbor/Industrial
- Kensington Square
- La Honda
- Ladera
- Loma Mar
- Los Trancos Woods
- Menlo Oaks
- Miramar
- Mobile Home Parks
- Montara
- Pillar Point Harbor
- Princeton
- Rural Midcoast
- San Bruno Mountain Park
- San Francisco International Airport
- San Francisco Jail
- San Francisco Watershed Lands
- San Gregorio
- San Mateo Highlands
- Sequoia Tract
- South Skyline
- Stanford Lands
- Unincorporated Colma
- Weekend Acres
- West Menlo Park

Dry, mild summers and moist, cool winters characterize San Mateo County’s overall climate. Temperatures are strongly influenced by large saltwater bodies on the east and west and the Santa Cruz Mountains. This combination of features has resulted in a variety of microclimates throughout the County with hill and ridgetop areas, valley floors and coastal areas each experiencing different temperatures and precipitation patterns.

- The Coastside area experiences a marine climate, characterized by cool, foggy summers and relatively wet winters. Fog, the result of condensation over the ocean near the coast, provides moisture and cool air for the coastal terraces. These elements are largely responsible for the emergence of the Coastside region as an agricultural area, featuring a number of specialty crops. Bayside climates are generally warm and sunny, particularly in the summer months when hot air from the valleys moving to the east warms the prevailing cool ocean breezes.
- The majority of annual precipitation in San Mateo County occurs from December through March. During this wet season, precipitation levels average from 3.00 to 4.5 inches per month. One of the key influences upon precipitation is elevation. The Bayside generally receives less precipitation than the same elevation on the Coastside, because the Santa Cruz Mountain Range acts as a rain shield causing moisture-laden air moving in from the Coastside to condense and deposit much of its moisture in the form of rain or fog as it reaches the higher, colder mountains.

## 1.2.2 History

### Whole County

San Mateo County was formed in 1856, after the establishment of San Francisco County. San Mateo County later annexed part of northern Santa Cruz County in 1868. Redwood City, the county seat, incorporated in 1867. The next to incorporate was the City of San Mateo in 1894. The outbreak of World War II fueled a new wave of



growth along the Peninsula. After the war, thousands of new homes were built as the county's population swelled from 115,000 in 1940 to 235,000 in 1950. The county's population grew to 556,000 by 1970, a gain of 112,000 during the 1960s. The County continued to grow in the 1980s and 1990s due to the development of computer software, internet, gaming, and biotechnology companies. Population growth in the County slowed in the early 2000's and then picked up again in the 2010's to reach approximately 773,000 by 2020.

### **Unincorporated Area**

The vast majority of unincorporated area within the County is located in rural areas. These areas developed slowly due to limited accessibility and difficult terrain. These areas never incorporated because most rural lands are located far from city boundaries, making the provision of urban services physically difficult and economically infeasible. For the few urban unincorporated areas, cities have sometimes chosen not to annex them because the type and standard of development within that area may have been below city standards or otherwise incompatible. Because of the costs associated with bringing urban unincorporated areas up to City requirements, many cities were and have continued to remain hesitant about adding these lands. Some property owners also prefer to remain in unincorporated areas due to lower property taxes.

### **1.2.3 Governing Body Format**

San Mateo County is governed by a five-member Board of Supervisors. Each member represents a geographic district covering both incorporated and unincorporated areas in the County. Board members represent one of five districts of roughly equal population within the county and are elected only by voters in their own district. Most of the County's unincorporated areas fall under District 3, which contains the majority of the western and southern lands in the County.

The San Mateo County Board of Supervisors assumes responsibility for the adoption of this plan; the County Department of Emergency Management will oversee its implementation.

## **1.3 CURRENT TRENDS**

### **1.3.1 Population**

According to the California Department of Finance, the population of the unincorporated area of San Mateo County as of January 2020 was 66,083. Since 2016, the population has grown at an average annual rate of 0.48 percent.

### **1.3.2 Development**

Between 2016 and 2020 the majority of building permits issued for new construction in unincorporated San Mateo County were for residential uses, along with a smaller number of permits issued for commercial and governmental uses.

During this time period the County issued building permits for approximately 500 new residential units. These building permits were split between single family houses, accessory dwelling units, and multi-family homes. The majority of newly permitted units were located in the urban Bayside. About a quarter of new units were located in the urban Midcoast and only a few new units were permitted in the rural areas of the unincorporated county.

In addition to new residential units, about 175 building permits were issued to replace an existing home with a newly constructed home. These permits were mostly located in the built-out urban Bayside communities, and often involved splitting an existing parcel into two to build two new houses in the place of one existing home.

While there were few multi-family projects overall, these projects contributed a significant number of new permitted units. Multi-family projects were mostly concentrated in North Fair Oaks, in addition to projects in El Granada and Sequoia Tract.

Table 1-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 1-2. Recent and Expected Future Development Trends**

Criterion	Response																														
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No																														
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No																														
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes In 2011 the County adopted the North Fair Oaks Community Plan, a long-range policy document that establishes goals and policies for land use, housing, health and wellness, parks and recreation, circulation, and infrastructure for North Fair Oaks. The Plan provides for changes to allowed land uses and development in specifically designated areas of the community to allow for a greater diversity and intensity of uses. Rezoning to implement these revised land use regulations was completed between 2015 and 2019. North Fair Oaks is moderately susceptible to liquefaction, and in the future climate change will increase the risks of extreme heat and sea level rise.																														
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Single Family</td> <td>85</td> <td>103</td> <td>101</td> <td>114</td> <td>91</td> </tr> <tr> <td>Multi-Family</td> <td>3</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Other</td> <td>8</td> <td>2</td> <td>5</td> <td>9</td> <td>4</td> </tr> <tr> <td><b>Total</b></td> <td><b>96</b></td> <td><b>106</b></td> <td><b>107</b></td> <td><b>124</b></td> <td><b>96</b></td> </tr> </tbody> </table>		2016	2017	2018	2019	2020	Single Family	85	103	101	114	91	Multi-Family	3	1	1	1	1	Other	8	2	5	9	4	<b>Total</b>	<b>96</b>	<b>106</b>	<b>107</b>	<b>124</b>	<b>96</b>
	2016	2017	2018	2019	2020																										
Single Family	85	103	101	114	91																										
Multi-Family	3	1	1	1	1																										
Other	8	2	5	9	4																										
<b>Total</b>	<b>96</b>	<b>106</b>	<b>107</b>	<b>124</b>	<b>96</b>																										
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>● Special Flood Hazard Areas: 16</li> <li>● Landslide: 95</li> <li>● High Liquefaction Areas: 8</li> <li>● Tsunami Inundation Area: 37</li> <li>● Wildfire Risk Areas: 125</li> </ul>																														
Describe the level of buildout in the jurisdiction, based on your jurisdiction’s buildable lands inventory. If no such inventory exists, provide a qualitative description.	The 2015 San Mateo County Housing Element included an inventory of developable and redevelopable sites which estimated a capacity for an additional 1,648 residential units (p.226). This included vacant parcels and non-vacant residential parcels that are redevelopable at higher intensities without changes to existing zoning and/or land use designations. Unincorporated San Mateo County’s Regional Housing Needs Allocation (RHNA) for the period from 2014 to 2022 was 913 units, which left a potential surplus of 735 units. As of 2020, 551 of the 913 RHNA units had been issued permits.																														

## 1.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 1-3.
- Development and permitting capabilities are presented in Table 1-4.
- An assessment of fiscal capabilities is presented in Table 1-5.
- An assessment of administrative and technical capabilities is presented in Table 1-6.
- An assessment of education and outreach capabilities is presented in Table 1-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 1-8.
- Classifications under various community mitigation programs are presented in Table 1-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 1-10.

**Table 1-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	No	Yes	Yes
<i>Comment: San Mateo County provides uniform administration and enforcement of the International Building Code, Uniform Housing Code, Uniform Dwelling Construction Code, Uniform Code for Abatement of Dangerous Buildings, Uniform Building Security Code, Uniform Sign Code, Uniform Plumbing Code, Uniform Swimming Pool-Spa and Hot Tub Code, National Electrical Code, and supplements and appendices thereto. The San Mateo County Building Regulations were last updated in January 2020.</i>				
<b>Zoning Code</b>	Yes	No	No	Yes
<i>Comment: San Mateo County Zoning Regulations were last amended in May 2021.</i>				
<b>Subdivisions</b>	Yes	No	No	Yes
<i>Comment: San Mateo County Subdivision Regulations were last updated in July 2020.</i>				
<b>Stormwater Management</b>	Yes	Yes	Yes	Yes
<i>Comment: <a href="#">Stormwater Management and Discharge Regulations</a> were last updated in September 2008, Chapter 4.100. <a href="#">Municipal Regional Stormwater Permit (MRP)</a> was last updated November 19, 2015.</i>				
<b>Post-Disaster Recovery</b>	Yes	No	No	No
<i>Comment: The County has authorities outlined in the County Emergency Operations Plan which allows for emergency actions and ordinances for proclaimed incidents.</i>				
<b>Real Estate Disclosure</b>	No	Yes	Yes	No
<i>Comment: CA. State Civil Code 1102 requires full disclosure on natural hazard exposure of the sale/re-sale of any and all real property.</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Growth Management</b> <i>Comment: Chapters 7 through 9 (on General Land Use, Urban Land Use, and Rural Land Use) of the San Mateo County General Plan contain information regarding growth management in San Mateo County. The current edition of the General Plan was originally adopted in November 1986 and has been periodically updated since that time. The entire Housing Element was updated in 2015, and the latest update was in May 2021 for a Land Use Map Amendment.</i>	Yes	No	Yes	Yes
<b>Site Plan Review</b> <i>Comment: The County's site plan review criteria are part of the zoning regulations, which were last amended in May 2021.</i>	Yes	No	No	Yes
<b>Environmental Protection</b> <i>Comment: County Planning Department reviews projects regarding their impact on the environment through the regulations of the California Environmental Quality Act. County Health System's Environmental Health Division handles a wide variety of services, including hazardous materials plans, toxic waste, well water quality, and septic systems.</i>	Yes	No	Yes	Yes
<b>Flood Damage Prevention</b> <i>Comment: The County's Flood Hazard Areas Code is part of the Zoning Regulations (Chapter 35.5) which were last updated on August 30, 1988. The Zoning Regulations were last amended in May 2021.</i>	Yes	No	No	Yes
<b>Emergency Management</b> <i>Comment: The San Mateo Operational Area Emergency Services Council is the Accredited Disaster Council for the county as defined in California Emergency Services Act. It comprises all local governments in the geographic area of the County. A joint powers agreement adopted on October 17, 2014 and revised in 2021 reflects the transition from operation under the Sheriff to the County Manager's Office.</i>	Yes	Yes	Yes	Yes
<b>Climate Change</b> <i>Comment: The County passed a Climate Emergency Declaration in 2019. SB 97 requires that California Environmental Quality Act (CEQA) Guidelines address greenhouse gas emissions. Other state policies include AB 32 and SB 375 and regulations of the Climate Action Plan. SB379 requires local governments to address climate change in the Safety Element.</i>	Yes	No	Yes	Yes
<b>Other</b> <i>Comment: The County references the Water Efficient Landscape Ordinance revisions in the California Code of Regulations.</i>	Yes	No	Yes (Partial)	Yes
<b>Planning Documents</b>				
<b>General Plan</b> <i>Is the plan compliant with Assembly Bill 2140?</i> <i>Comment: The General Plan was first adopted in November 1986 and has been periodically updated since that time. The entire Housing Element was updated in 2015, and the latest update was in May 2021 for a Land Use Map Amendment.</i>	Yes	No	Yes	Yes
<b>Capital Improvement Plan</b> <i>How often is the plan updated?</i> <i>Comment:</i>	Yes	No	No	Yes
<b>Disaster Debris Management Plan</b> <i>Comment: The county and its jurisdictional subdivisions are in the process of creating a disaster debris management plan. This plan will be compatible with State and Federal plans for debris management and will likely have connection with other plans for disaster recovery. Unincorporated county plan was written in 2019.</i>	Yes	Yes	No	Yes
<b>Floodplain or Watershed Plan</b> <i>Comment: The <a href="#">San Mateo County Water Pollution Prevention Program</a> maintains multiple watershed studies on their website. The <a href="#">San Mateo County Stormwater Resource Plan</a> is a multi-faceted and comprehensive approach to watershed resource planning and stormwater runoff management. The studies are published by different entities, including the County, and all plans listed have been published within the past 15 years. The County manages TMDLs for San Pedro Creek, San Vicente Creek, Pillar Point Harbor and Pescadero-Butano Creek. San Gregorio Watershed Management Plan, June 2010; Solutions to Flooding on Pescadero Creek Road, October 2014; Midcoast Groundwater Study Phase III, June 2010; and other environmental plans are maintained on the San Mateo County Resource Conservation District Website.</i>	Yes	Yes	No	Yes

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Stormwater Plan</b> <i>Comment: The Stormwater Enforcement Response Plan for the Municipal Stormwater Program was last updated by the Planning and Building Department and Department of Public Works in September 2019. The County's Green Infrastructure Plan was adopted in 2019.</i>	Yes	Yes	Yes	Yes
<b>Urban Water Management Plan</b> <i>Comment: San Mateo County's urban water suppliers are responsible for preparing Urban Water Management Plans every five years.</i>	No	Yes	Yes	No
<b>Habitat Conservation Plan</b> <i>Comment: The San Bruno Mountain Habitat Conservation Plan was last updated by the Parks Department in 2021.</i>	Yes	No	No	Yes
<b>Economic Development Plan</b> <i>Comment: The San Mateo County Economic Development Association promotes business issues that enhance and sustain the economic prosperity of the region and local communities. The association developed a report on "Trends Affecting Workforce Development in San Mateo County and the San Francisco Peninsula" in May 2014.</i>	Yes	No	No	Yes
<b>Shoreline Management Plan</b> <i>Comment: San Mateo County updated its Local Coastal Program Policies (LCP) in 2012.</i>	Yes	No	No	Yes
<b>Community Wildfire Protection Plan</b> <i>Comment: CAL Fire in cooperation with the other fire agencies throughout the county administers the overarching Vegetation Management Programs and Community Wildfire Protection Plans. This includes mapping Fire Hazards Severity Zones, enforcing defensible spaces laws, and enforcing building code requirements in areas with wildland-urban interface and in Fire Hazards Severity Zones. Local agencies may have additional ordinances and plans that apply in their jurisdiction</i>	No	Yes	No	Yes
<b>Forest Management Plan</b> <i>Comment: CAL Fire administers the California Forest Improvement Program and the Forest Practice Act.</i>	No	Yes	No	No
<b>Climate Action Plan</b> <i>Comment: The San Mateo County Energy Efficient Climate Action Plan was developed in June 2013 and will be updated in the summer of 2021. SB 97 requires California Environmental Quality Act (CEQA) Guidelines to address greenhouse gas emissions. Other state policies include AB 32 and SB 375 and regulations of the Climate Action Plan.</i>	Yes	No	Yes	Yes
<b>Emergency Operations Plan</b> <i>Comment: The County Emergency Operations Plan was last updated in May 2015.</i>	Yes	No	Yes	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment: The County Sheriff's Office last updated the County of San Mateo Hazard Vulnerability Assessment in January 2015 and participated in a regional update of the THIRA in the spring of 2020 conducted by the Bay Area UASI.</i>	Yes	No	No	Yes
<b>Post-Disaster Recovery Plan</b> <i>Comment: While the County does not have a standalone plan, within the San Mateo County Emergency Operations Plan from 2015, there is a section of the plan that discusses the post-disaster recovery for the County.</i>	Yes	No	No	No
<b>Continuity of Operations Plan</b> <i>Comment: The County has a Continuity of Operations plan drafted under contract in June of 2016. Some of the elements of the plan were utilized to maintain operations of necessary functions of the county during the 2020 pandemic.</i>	Yes	No	No	No
<b>Public Health Plan</b> <i>Comment: <a href="#">Strategies for Building Healthy, Equitable Communities Strategic Plan</a> (2015); <a href="#">Vision for a SMC Food and Farm Bill</a> (2017) <a href="#">SMC Community Health and Needs Assessment</a> (2019); <a href="#">No Place Like Home Plan</a> (2019); <a href="#">Community Collaboration for Children's Success Neighborhood Action Plans</a> (2019); <a href="#">Community Assessment for Public Health Emergency-CASPER</a> (forthcoming)</i>	Yes	No	Yes	No
<b>Other</b> <i>Comment: San Mateo County Parks' five-year wildfire fuel management program to improve forest resiliency and reduce wildfire risks primarily in parks that are near private dwellings, also called the wildland urban interface, was presented to the Board of Supervisors on February 23, 2021.</i>	Yes	No	No	Yes

**Table 1-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? • If no, who does? If yes, which department?	Yes Planning and Building
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	Yes

**Table 1-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes, Sewer
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes, State Homeland Security Grant, California Health Benefit Exchange—Covered California Navigator Grant, State Emergency Solutions Grant
Development Impact Fees for Homebuyers or Developers	Yes
Other	Yes, Special District Funds

**Table 1-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	County Planning and Building
Engineers or professionals trained in building or infrastructure construction practices	Yes	County Planning and Building, County Public Works
Planners or engineers with an understanding of natural hazards	Yes	County Planning and Building, County Public Works
Staff with training in benefit/cost analysis	Yes	County Managers Office, County Controllers Office
Surveyors	Yes	Public Works Surveying Unit
Personnel skilled or trained in GIS applications	Yes	Information Services—GIS; Planning and Building
Scientist familiar with natural hazards in local area	Yes	County Public Works has biologists on staff and if needed, may contract with consulting firms
Emergency manager	Yes	County Manager’s Office and the Department of Emergency Management
Grant writers	Yes	County Managers Office, San Mateo County Sheriff’s Office and multiple agencies and organizations throughout the County



**Table 1-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes, San Mateo County Sheriff's Office, County Managers Office
Do you have personnel skilled or trained in website development?	Yes, Information Services Department
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	Yes Flood Hazard Resources Page, County Sheriff's Officer Disaster Preparedness Webpage, Local Hazard Mitigation page, Climate Ready SMC, Water Pollution Prevention Program Website, County Health System Page
Do you use social media for hazard mitigation education and outreach? • If yes, briefly describe.	Yes San Mateo County Main Facebook Page, San Mateo County Sheriff's Office YouTube Page
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	No
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	Yes DEM has frequently participated in community outreach events, has a website describing natural and technological hazards and their impacts as well as preparation actions individuals can use to reduce the impact these disasters could have on them.
Do you have any established warning systems for hazard events? • If yes, briefly describe.	Yes SMCAAlert (San Mateo County Alert System)

**Table 1-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	County Planning and Building
Who is your floodplain administrator? (department/position)	Director of Planning/Zoning Administrator
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	January 2020
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	The floodplain management program meets minimum requirements.
When was the most recent Community Assistance Visit or Community Assistance Contact?	7/10/2009
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If no, state why.	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	Yes Training in floodplain programs and policies.
Does your jurisdiction participate in the Community Rating System (CRS)? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	Yes Yes

Criterion	Response
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup>	292
• What is the insurance in force?	\$89,054,700
• What is the premium in force?	\$346,499
How many total loss claims have been filed in your jurisdiction? <sup>a</sup>	178
• What were the total payments for losses?	\$2,138,018

a. According to FEMA statistics as of March 31, 2021

**Table 1-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	06081	Date
DUNS#	Yes	073132177	N/A
Community Rating System	Yes	9	10/1/10
Building Code Effectiveness Grading Schedule	Yes	2	7/9/15
Public Protection	Yes	4-10 <sup>a</sup>	N/A
Storm Ready (Renewals conducted through 2020 and a new enhanced accreditation is underway in 2021/22)	Yes	N/A	2007
Fire Safe	Yes	N/A	N/A
Tsunami Ready (renewal is underway in 2021/2022)	Yes	N/A	2007

a. Specific rating varies between locations in the unincorporated land of San Mateo County

**Table 1-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: County has completed a Sea Level Rise Vulnerability Assessment; modelled extreme heat and landslide changes due to climate change; and launched Climate Ready.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: The County currently monitors climate change impacts in a several different ways, including photo monitoring of king tide flooding and collecting information from community members about the impacts they experience related to extreme heat, poor air quality, flooding &amp; sea level rise, and drought. Information Services Department &amp; SMC Labs monitor extreme heat and temperature. The Resiliency District has stream gauges to monitor flooding with support from County of San Mateo Department of Public Works. Additional work is needed to document climate change impacts in a systematic and coordinated way.</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: The County has staff experienced in climate vulnerability assessment and mitigation planning.</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: The County leads and facilitates RICAPS focused on bringing cities and the County together to support Climate Action Plan development.</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: The County has a Sea Level Rise Policy for capital investments and has included climate change in its capital plans.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: The County participates in a number of regional workgroups including BAYCAN, ARCA, USDN and ad hoc regional groups, and facilitates a Countywide climate network.</i>	High/



Criterion	Jurisdiction Rating <sup>a</sup>
<b>Implementation Capacity</b>	
<b>Clear authority/mandate to consider climate change impacts during public decision-making processes</b>	Medium
<p><i>Comment:</i> Authority to consider climate change impacts during public decision-making processes comes from a number of different sources. The Energy and Climate Change Element of the General Plan that includes a policy framework to adapt to the impact of climate change. The Sea Level Rise Policy for County-Owned Assets requires sea level rise to be considered in all County-owned and operated assets, design and construction projects, leases, and property acquisitions and dispositions. The Climate Emergency Declaration calls for the County to create Climate Action Plans and coordinate with the cities and other local partners in addressing the climate crisis.</p> <p>The Subdivision Regulations require tentative maps and tentative parcel maps to show the location of flooding from Sea Level Rise.</p> <p>Going forward, Senate Bill 379 requires the County to review and update the safety element as necessary to address climate adaptation and resiliency strategies. The County is currently working on additional strategies to incorporate consideration of climate change impacts into wider range of public decision-making processes.</p>	
<b>Identified strategies for greenhouse gas mitigation efforts</b>	High
<p><i>Comment:</i> The County completed a Climate Action Plan for Government Operations in 2020 and a Climate Action Plan for unincorporated areas in 2021.</p>	
<b>Identified strategies for adaptation to impacts</b>	Medium
<p><i>Comment:</i> The County has developed strategies in the General Plan and is completing the Safety Element in 2021 to include adaptation strategies.</p>	
<b>Champions for climate action in local government departments</b>	Medium
<p><i>Comment:</i> The County facilitates interdepartmental workgroups on GHG reduction and adaptation planning.</p>	
<b>Political support for implementing climate change adaptation strategies</b>	High
<p><i>Comment:</i> The County supported the formation of the Flood and Sea Level Rise District. The Board of Supervisors supports a number of climate change efforts including launching the Sea Level Rise Vulnerability Assessment, Climate Ready SMC, and passing a policy to address sea level rise for all County assets,</p>	
<b>Financial resources devoted to climate change adaptation</b>	Medium
<p><i>Comment:</i> A number of County departments currently devote staff time and other resources to climate change adaptation. Examples of financial resources devoted to climate change adaptation include the Sea Change SMC Community Resilience Grants to cities and community organizations to support sea level rise resilience planning, the Climate Ready SMC Community Adaptation Planning Pilots that supported inclusive climate planning efforts led by a city and a community organization, and a competitive RFP for community-based climate resilience projects focused on heat, fire, air quality and power outages. Additional financial resources will be needed in the future to continue the process of adapting to climate change.</p>	
<b>Local authority over sectors likely to be negative impacted</b>	Medium
<p><i>Comment:</i> The County focuses on collaboration with cities in its boundaries and coordinates through shared funding and the Climate Ready SMC initiative</p>	
<b>Public Capacity</b>	
<b>Local residents knowledge of and understanding of climate risk</b>	Medium
<p><i>Comment:</i> Many local residents have knowledge and understanding of climate risk but community members regularly request hazard and climate resilience resources tailored to their communities. The County has an ongoing effort to work with community-based organizations to understand the impacts of climate change in communities throughout the County and to gather input on viable adaptation efforts.</p>	
<b>Local residents support of adaptation efforts</b>	Medium
<p><i>Comment:</i> Local residents support adaption efforts in general, but specific projects will still need public outreach to gain understanding and support.</p>	

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Local residents’ capacity to adapt to climate impacts</b> <i>Comment: Currently local residents have mixed capacity to adapt to climate change. Community capacity to adapt to climate change impacts depends on numerous social and economic vulnerability factors such as income, availability of resources in language, at literacy level or accessible to people with disabilities, ability to afford or find needed resources and baseline conditions in each community.</i>	Medium
<b>Local economy current capacity to adapt to climate impacts</b> <i>Comment: The local economy does have some capacity to adapt to climate change, but the magnitude of adaptation needed requires additional coordination and support. The County is currently working to increase the capacity of the local economy to adapt to climate impacts, and resiliency capacity has increased during the Covid-19 pandemic.</i>	Medium
<b>Local ecosystems capacity to adapt to climate impacts</b> <i>Comment: Local ecosystems will have challenges to adapting to climate change in the future. The County is currently exploring ways to protect and facilitate the adaptation of local ecosystems, but more progress is needed.</i>	Medium

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 1.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 1.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **General Plan**—Chapter 15 “Natural Hazards” integrates hazard mitigation into the County General Plan through the consideration of hazards most likely to impact the County. Hazards are grouped broadly under Geotechnical, Fire, or Flooding Hazards, with subsections providing more details on the variety of each type of hazard that can occur. Chapter 17 “Energy and Climate Change” provides the County’s policy framework to adapt to the impact of climate change and sustain ongoing resilience in the natural and built environments. Consideration of hazards is also incorporated into Chapter 7 General Land Use, Chapter 8 Urban Land Use, and Chapter 9 Rural Land Use, and Chapter 16 Man-Made Hazards.
- **Local Coastal Program** – The Local Coastal Program (LCP) contains a hazards component with policies for the regulation of development in hazard areas in the Coastal Zone. These hazards areas include fault zones, land subject to dangers from liquefaction and other severe seismic impacts, unstable slopes, landslides, coastal cliff instability, flooding, tsunamis, fire, and steep slopes (over 30%).
- **Building Regulations** – the Building Regulations of the County of San Mateo contain several regulations related to hazards, including:
  - Regulations for flood resistant construction in flood hazard areas
  - A Fire Code with local amendments for fuel breaks, access roads, and more

- Regulations for excavating, grading, filling and clearing to reduce or eliminate the hazards of earth slides, mud flows, rock falls, undue settlement, erosion, siltation, and flooding, or other special conditions.
- **Zoning Regulations** – the San Mateo County Zoning Regulations contain a number of regulations related to hazards, including:
  - Geologic Hazard District regulations
  - Flood Hazard Areas regulations
  - Development review criteria for the Resource Management District, Resource Management-Coastal Zone District, and the Planned Agricultural District that includes regulations for hazards to public safety and special hazard areas (flood plain, tsunami inundation, seismic fault/fracture, and slope instability areas)
  - Development design criteria for the Timberland Preserve Zone for special hazard areas (floodplain hazard area, seismic hazards areas, and slope instability hazard areas)
- **Subdivision Regulations** – The San Mateo County Subdivision Regulations include several provisions that address hazards, such as a requirement for a development footprint analysis for most subdivisions. The development footprint analysis comprehensively evaluates site development constraints and potential impacts, including the avoidance of hazards such as steep/unstable slopes, fault traces, and flood prone areas. Hazards to be mitigated, remediated, or avoided shall be depicted on a map of the parent parcel and, through consultation with County staff, delineated as “nondevelopment areas”. Hazard mitigation is accomplished by modifying the number, size, and/or configuration of proposed new lots, utility corridors, and access ways within the subdivision to avoid or minimize the intrusion of buildings, roadways, and utility infrastructure into these areas. In addition, tentative maps and tentative parcel maps are required to show the location of special flood hazard areas, flooding from Sea Level Rise, projections of landward erosion over the life of the development, and all non-development areas resulting from the development footprint analysis. Findings for approval/denial of a Tentative Map or Tentative Parcel Map include extra considerations for land located in a state responsibility area or a very high fire hazard severity zone.
- **Environmental Protection** - The County of San Mateo Planning and Building Department Initial Study Environmental Evaluation Checklist includes hazard related questions on the topics of climate change, geology/soils, hazards and hazardous materials, hydrology/water quality, and wildfire.
- **Climate Action Plan**—The San Mateo County Climate Action Plan investigates climate change projections on the County and likely impacts from such changes, particularly as they relate to hazardous weather events. The Plan also includes adaption strategies for these climate change impacts. A Climate Change Vulnerability Assessment, released in December 2011, examines the County’s vulnerability to climate change for agriculture/silviculture, the coastal zone and coastal ecosystems, fire-threatened areas, public health, and water and wastewater infrastructure.
- **San Mateo County Resource Conservation District Plans**—The San Mateo County Resource Conservation District maintains numerous plans on its website, many of which tie to hazard mitigation through floodplain or watershed management. This provides the County a valuable resource to help it analyze its vulnerability in certain areas and identify necessary measures to increase resiliency.
- **Community Wildfire Protection Plan (CWPP)** – CAL FIRE, San Mateo County, Santa Cruz County, and The Resource Conservation District adopted the CWPP in April 2018. The Plan attempts to identify hazards as seen across the landscape and provide strategies to mitigate wildfire risk and restore healthier, more resilient ecosystems while protecting life and property. The CWPP also serves as a tool for the accrual of grant funding to aid in the implementation of wildfire prevention projects.

- **Emergency Operations Plan** - San Mateo County Emergency Operations Plan established policies and procedures and assigns responsibilities to ensure the effective management of emergency operations. The Emergency Operations Plan should be updated to include the latest hazard information and relevant mitigation actions from the 2021 Multijurisdictional Local Hazard Mitigation Plan.
- **Threat & Hazard Identification & Risk Assessment (THIRA)** - The THIRA helps communities understand their risks and determine the level of capability they need to address those risks. San Mateo County participated in a regional update of the THIRA in the spring of 2020 conducted by the Bay Area UASI.
- **Water Efficient Landscape Ordinance** - The County requires new and retrofitted landscape projects to follow the Water Efficient Landscape Ordinance in the California Code of Regulations, which promotes efficient water use and water retention and contributes to the mitigation of drought and flooding hazards.
- **Capital Improvement Plan**- The Capital Improvement Plan (CIP) includes one-time outlays of funds for construction, structural improvements, and non-structural renovations to County-owned facilities. It also includes major construction, renovation or rehabilitation of county infrastructure assets such as roads, utilities, and airports, which are budgeted separately in the Department of Public Works budget. The County also utilizes a five-year Facilities Capital Plan, which serves as a planning tool to track all capital projects and their estimated costs, giving policy makers an instrument to schedule future projects and anticipate potential financial challenges. The CIP currently considers known hazard areas.
- **Watershed Plan** - The San Mateo County [Stormwater Resource Plan](#) is a multi-faceted and comprehensive approach to watershed resource planning and stormwater runoff management. This plan recognizes need for watershed-based planning and incorporation of green infrastructure due to concerns with extended drought conditions and climate change.
- **Habitat Conservation Plan** - The San Bruno Mountain Habitat Conservation Plan provides a management and monitoring plan for the protection and management of: a) the habitat of the mission blue, callippe, silverspot, San Bruno elfin and bay checkerspot butterflies, and b) the overall native ecosystem of San Bruno Mountain. The plan includes discussions about wildfires and prescribed burns, and future updates could consider further incorporating hazard mitigation.

## 1.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **General Plan**—San Mateo County last updated its General Plan in 1986, and anticipates updating the Safety Element, Housing Element, and Climate Change Element over the next few years. When the County next updates its General Plan to consider current trends, needs, and statistics, it will be able to enhance its integration with hazard mitigation. Such an update would provide a significant opportunity to incorporate the results of the hazard mitigation risk analysis and suggested projects into the Safety Element, as well as considering smart land use and development in the Housing and Land Use Elements.
- **Zoning & Building Regulations** – After updates to the General Plan, the zoning and building regulations will be reviewed for internal consistency and for opportunities to further enhance the integration of hazard mitigation into those regulations.
- **San Mateo County Climate Resilience Strategy**– San Mateo County anticipates creating a Climate Resilience Strategy to address climate adaptation following an update of the Climate Action Plan.
- **Stormwater Management** - San Mateo County currently manages stormwater through the Municipal Regional Stormwater Permit (MRP), the Storm Water Management and Discharge Control Regulations in

Chapter 4.100 of the San Mateo County Code of Ordinances, the Stormwater Enforcement Response Plan, the San Mateo Water Pollution Prevention Program, San Mateo County Drainage Policy, and the Green Infrastructure Plan. The County is in the process of developing a new stormwater ordinance and drainage manual to formalize and expand requirements to incorporate stormwater retention and low-impact development treatment into new and redevelopment projects to help mitigate downstream impacts of severe weather and prevent localized flooding and other hazards.

- **Disaster Debris Management Plan** - The county and its jurisdictional subdivisions are in the process of creating a disaster debris management plan. This plan will be compatible with State and Federal plans for debris management and will likely have connection with other plans for disaster recovery.
- **Economic Development** - The San Mateo County Economic Development Association promotes business issues that enhance and sustain the economic prosperity of the region and local communities. The association developed a report on “Trends Affecting Workforce Development in San Mateo County and the San Francisco Peninsula” in May 2014. Any future Economic Development Plans for San Mateo County should incorporate hazard mitigation.
- **Coordination with Other County Departments** – There are a number of efforts that are being undertaken by various County departments, including the Office of Sustainability, Environmental Health Department, Department of Public Works, Planning and Building Department, and San Mateo County’s Department of Emergency Services. The actions listed in the Local Hazard Mitigation Plan should be incorporated into these efforts when appropriate and conducive to reducing hazards and risk.

## 1.6 RISK ASSESSMENT

### 1.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 1-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 1-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Wildfire Flare-ups	N/A	January 2021	Not Available
PG&E Power Shutoff	N/A	September-October 2020	Not Available
Wildfires	DR-4558	August 16-September 22, 2020	Not Available
COVID-19 Pandemic	DR-4482	January 20, 2020-Present	Not Available
PG&E Power Shutoff	N/A	September-November 2019	Not Available
PG&E Power Shutoff	N/A	October 2018	Not Available
Severe Winter Storms, Flooding, Mudslides	DR-4308	February 1-23, 2017	Not Available
Severe Winter Storms, Flooding, Mudslides	DR-4305	January 18-23, 2017	Not Available
Coastal Erosion	N/A	2016	Not Available
Windstorms	N/A	October-November 2014	Not Available
Windstorms	N/A	February 2014	Not Available
Drought	N/A	January 17, 2014-April 7, 2017	Not Available
Windstorms	N/A	April 2013	\$25,500
Flooding	N/A	December 2012	\$4,500,000
Severe Storms, Landslides	N/A	March 2012	\$64,000



Type of Event	FEMA Disaster #	Date	Damage Assessment
Tsunami, Seiche	DR-1968	March 11, 2011	\$89,500
Windstorms	N/A	March 2011	\$25,000
Windstorms	N/A	February 2011	\$62,917
Windstorms	N/A	November 2010	\$166,667
Explosion, Fire	FM-2856	September 10, 2010	Not Available
Severe Storms, Flooding, Wind	N/A	January 2010	\$1,167,917
Severe Storms, Flooding, Wind	N/A	October 2009	\$1,131,333
Windstorms	N/A	April 2009	\$43,714
Windstorms	N/A	January 2009	\$20,883
Coastal Erosion	N/A	2009-2011	Not Available
Windstorms	N/A	October 2008	\$50,000
Flooding	N/A	January 2008	\$200,000
Flooding, Mudslides	N/A	May 10, 2006	Not Available
Severe Storms, Flooding, Landslides, Mudslides	DR-1646	March 29-April 16, 2006	\$4,350,000
Flooding, Mudslides	N/A	February 3-April 1, 2006	Not Available
Severe Storms, Flooding, Mudslides, Landslides	DR-1628	December 17, 2005-January 3, 2006	\$10,000,000
Severe Winter Storms, Flooding	DR-1203	February 2-April 30, 1998	\$1,835,000
Coastal Erosion	N/A	1998	Not Available
Severe Storms, Flooding, Mudslides, Landslides	DR-1155	December 28, 1996-April 1, 1997	Not Available
Severe Winter Storms, Flooding, Landslides, Mudflows	DR-1046	February 13-April 19, 1995	Not Available
Severe Winter Storms, Flooding, Landslides, Mudflows	DR-1044	January 3-February 10, 1995	Not Available
Severe Freeze	DR-894	December 19, 1990-January 3, 1991	Not Available
Loma Prieta Earthquake	DR-845	October 17-December 18, 1989	Not Available
Flooding	N/A	February 1988	Not Available
Severe Storms, Flooding	DR-758	February 12-March 10, 1986	Not Available
Coastal Storms, Flooding, Slides, Tornadoes	DR-677	January 21-March 30, 1983	Not Available
Severe Storms, Flooding, Mudslides, High Tide	DR-651	December 19, 1981-January 8, 1983	Not Available
Drought	EM-3023	January 20, 1977	Not Available
Flooding	N/A	January-February 1973	Not Available
Flooding	N/A	October-November 1972	Not Available
Flooding	DR-145	February 25, 1963	Not Available
Severe Storms	DR-138	October 24, 1962	Not Available
Flooding	DR-122	March 6, 1962	Not Available
Flooding	DR-82	April 4, 1958	Not Available
Wildfires	DR-65	December 29, 1956	Not Available
Flooding	DR-47	December 23, 1955	Not Available
Flooding	DR-15	February 5, 1954	Not Available
Flooding	N/A	1861-1862	Not Available

### 1.6.2 Hazard Risk Ranking

Table 1-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the

likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 1-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Flood	117	High
2	Landslide/Mass Movements	117	High
3	Sea Level Rise / Climate Change	99	High
4	Earthquake	84	High
5	Wildfire	78	High
6	Dam Failure	72	High
7	Tsunami	30	Medium
8	Severe Weather	24	Medium
9	Drought	9	Low

### 1.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 11
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 1
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 1

#### **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Community disaster preparedness education and training efforts have not been completely successful in identifying and reaching individuals with access and functional needs or communities facing economic or culture barrier challenges (ex. farm laborers, people with disabilities, people with technology or language barriers).
- San Mateo County has more people and property value at risk from sea level rise than any other county in the state. When population projections are taken into account, the County is one of six counties in the nation (and the only one on the west coast) with over 100,000 people living in an area affected by 3 feet of sea level rise.
- Highway 1 is highly vulnerable to erosion due to sea level rise and is the only access road to many farms and south coast communities.
- Highways 1 and 92 in the Midcoast are often very congested with traffic on the weekends, which could significantly impact evacuations during an emergency.

- Several coastal communities rely mostly on wells, which are increasingly impacted by drought conditions.
- The South Coast is vulnerable to PSPS events and lack facilities with generators and charging stations. Additionally, most of the Latinx population in the area are farm workers who work outdoors and are heavily impacted by wildfire smoke and heat.
- In the Fair Oaks community, 49% of the people live below 200% of the Federal Poverty Level. In Pescadero and other areas on the South Coast, 54% of the people live below 200% of the Federal Poverty Level. These communities lack basic infrastructure, such as sewage systems, flood control systems, and transportation alternatives making emergency preparedness critical for these communities and disaster recovery significantly more difficult.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 1.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 1-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-1</b>—Continue the County’s effort to enhance hazards mitigation planning by updating plans such as Emergency Operations Plan, Continuity of Government Operations, Department Operation Center and Joint Information Center Plans.</p> <p><b>Comment:</b> Ongoing. The County’s DEM is working on implementing a Continuity of Government Operations, both agency-wide and department-wide. The DEM has also been working on their June 2019 DRAFT Emergency Operations Plan.</p>			✓	SMC-9
<p><b>Action SMC-2</b>—Leverage the County’s existing communication channels and Board of Supervisor policies across the agencies to educate the public, schools, other jurisdictions, professional associations, and businesses and industry about reducing climate change pollution and how to prepare for inevitable climate changes.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SMC-16
<p><b>Action SMC-3</b>—Identify, retrofit, upgrade, or replace deficient or vulnerable government facilities, such as the Pescadero Fire Station and the San Mateo County Sheriff’s Administrative Offices and the County’s Emergency Operation Center.</p> <p><b>Comment:</b> The County has not begun constructing a new a Fire Station yet but the new Regional Operations Center (EOC) in Redwood City has been completed. The County has also applied for several grants, including a grant for upgrades to two existing storm water pumps.</p>			✓	SMC-12
<p><b>Action SMC-4</b>—Incorporate consideration of sea level rise into the development review and infrastructure planning processes including response strategies that increase resilience to projected sea level rise risks for both the life of an asset, and for new and existing development.</p> <p><b>Comment:</b> Completed. Passed a Capital Policy in 2019. Implementing in 2021 with a consultant. Potential to be implemented in other cities/or planning.</p>	✓			



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-5</b>—Support the ongoing preparedness and training of Community Emergency Responses Teams in the unincorporated areas of the County.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SMC-5
<p><b>Action SMC-6</b>—Incorporate the Local Hazard Mitigation Plan into the County's General Plan and update the County's General Plan Safety Element in response to evolving hazards and mitigation strategies.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SMC-11
<p><b>Action SMC-7</b>—Continue to incorporate mitigation principles into local event management during Incident Command Post and Department Operations Center Action Planning.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SMC-9
<p><b>Action SMC-8</b>—Update and enhance the GIS data systems and mapping for all hazards in the unincorporated County.</p> <p><b>Comment:</b> Ongoing. A lot of datasets that make for the basis of mapping hazard data have been acquired in recent years. These include: Impervious surface data, fuel-ladder mapping data, fine-scale vegetation mapping, climate change sea-level scenarios, Survey grade contour lines, fine-resolution aerial imagery acquisition (2017), (2018) and LiDAR Data.</p>			✓	CW-4 <sup>a</sup>
<p><b>Action SMC-9</b>—Include an assessment and associated mapping of the County's vulnerability to location specific hazards and make appropriate recommendations for the use of these hazard areas in future updates to the County's General Plan.</p> <p><b>Comment:</b> In progress. A GIS based tool is being developed by Tetra Tech to map County vulnerability to specific locations.</p>			✓	CW-4 <sup>a</sup>
<p><b>Action SMC-10</b>—Identify means to coordinate, collect and store damage assessment data in GIS format for each natural hazard event that causes death, injury and or property damage.</p> <p><b>Comment:</b> Ongoing. County DEM is working on creating a real time map that would show disasters events. This data could be collected and stored for historic preservation. County Public Works is also tracking damage to public infrastructure during disaster events. They are capturing the location of the infrastructure, damage information, and pictures of the infrastructure. County GIS department has established capabilities to coordinate, collect, store and distribute damage assessment data through Esri Collector, Survey123 mobile applications. These systems have the capability to enable offline data collection in an event a hazard event occurs.</p>			✓	CW-4 <sup>a</sup>
<p><b>Action SMC-11</b>—Integrate the County's mitigation plan into current capital improvement plans to ensure that development does not encroach on known hazard areas.</p> <p><b>Comment:</b> Ongoing. The County's CIP considers known hazard areas.</p>			✓	SMC-12, 17
<p><b>Action SMC-12</b>—Coordinate mitigation planning and project efforts within the planning area to leverage all resources available to the planning partnership, including working with existing joint powers authorities (JPAs) and exploring the possibility of creating new JPAs to facilitate mitigation strategies, policies, and actions.</p> <p><b>Comment:</b> Ongoing. San Mateo County DEM continues to work with the San Mateo Operational Area Emergency Services Organization, a JPA for San Mateo County. Discontinuing exploration of new JPAs.</p>			✓	SMC-15
<p><b>Action SMC-13</b>—To the extent possible based on available resources, provide coordination and technical assistance in applications for grant funding that include assistance in benefit versus cost analysis for grant eligible projects.</p> <p><b>Comment:</b> Ongoing. County DEM continues to support FEMA and other hazard mitigation grant applicants.</p>			✓	CW-3 <sup>a</sup>

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-14</b>—Coordinate preparedness efforts with San Mateo County Sheriff’s Office of Emergency Services, San Mateo County Emergency Management Association and its cities and agencies in the County/Operational Area and the 12 County San Francisco Bay Region.</p> <p><b>Comment:</b> Ongoing. San Mateo County DEM has monthly meetings with other emergency services managers in San Mateo County through the San Mateo County Emergency Management Association. San Mateo County DEM continues to maintain preparedness efforts with cities and agencies in the County/Operational Area and the 12 County San Francisco Bay Region.</p>			✓	SMC-15
<p><b>Action SMC-15</b>—Coordinate with the private sector on prioritization of critical facilities before and during restoration of utility services.</p> <p><b>Comment:</b> Ongoing. San Mateo County DEM continues to coordinate with the private sector on prioritization of critical facilities before and during restoration of utility services. This includes enhancing the role of a private-section liaison within DEM.</p>			✓	CW-5 <i>a</i>
<p><b>Action SMC-16</b>—Harden emergency response communications, including, for example, building redundant capacity into Public Safety Answering Points for community alert and warning, replacing or hardening microwave and simulcast systems, adding digital encryption for programmable radios, and ensuring a plug-and-play capability for amateur radio.</p> <p><b>Comment:</b> In progress. Information Services Department is working on upgrading microwave antenna systems in the County currently. In addition, the new Emergency Operations Center will house a new space for Public Safety Communications.</p>			✓	SMC-12
<p><b>Action SMC-17</b>—Support the San Mateo County Information Services Department in efforts to develop maintain, and enhance, the County’s information technology efforts, including supporting multi-jurisdictional fiber backbone redundancy projects, back- up data centers, and the hardening or relocation of critical communication infrastructure.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SMC-8
<p><b>Action SMC-18</b>—Explore and analyze the potential development of community plans for the redevelopment of areas located in the unincorporated areas of the County after a disaster, with a focus on areas that have repetitive loses.</p> <p><b>Comment:</b> Ongoing. The annual work plan for this action was completed during the reporting period.</p>			✓	SMC-10
<p><b>Action SMC-19</b>—Better inform residents of comprehensive mitigation activities, for all hazards of concern including elevation of appliances above expected flood levels, use of fire-resistant roofing and defensible space in high wildfire threat and wildfire- urban-interface areas, structural retrofitting techniques for older homes, and use of intelligent grading practices through workshops, publications, and media announcements and events.</p> <p><b>Comment:</b> County staff enforces defensible space requirements and Building and Fire code requirements for structures in the County. CAL Fire and other fire agencies conduct weed abatement programs that remove dead or dangerous vegetation from high fire severity areas. The County is also in the process of updating the County’s tree regulations. As part of this update, staff is reviewing defensible space requirements and possible policy enhancements. The County also tracks the number of repetitive loss properties. The County also requires elevation certificates for development in certain FEMA flood zones. These activities were ongoing in 2019.</p>			✓	SMC-3
<p><b>Action SMC-20</b>—Support efforts of San Mateo County Department Operations Centers to develop specific mitigation actions management by objectives post disaster action planning that includes FEMA’s standard eligible funding categories for emergency protective measures including debris removal, hazardous materials spills/releases, emergency bridge and road repair, flood control, equipment purchase or rental and contractual services.</p> <p><b>Comment:</b> San Mateo County DEM continues to support this effort and mitigation measure.</p>			✓	SMC-9

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-21</b>—Support the practice of Unified Command and Management and as applicable, the continued improvements, development, and maintenance of interoperable communication systems for first responders from cities, counties, special districts, state, and federal agencies.</p> <p><b>Comment:</b> Ongoing. County DEM continues to train and develop new policy and procedures in Unified Command and Management. County DEM holds several training exercises with agencies throughout the County on a yearly basis to enhance all agencies experience with Unified Command practices.</p>			✓	SMC-9
<p><b>Action SMC-22</b>—Develop and implement a methodology to systematically assess all hazards outlined in this Plan (including, but not limited to sea level rise, seismic risk, flood risk, protective design) and climate impacts in considering building acquisitions and sales, portfolio planning, major retrofits, capital improvement planning, and master planning for County owned and leased facilities.</p> <p><b>Comment:</b> Ongoing. The Project Development Unit is currently working evaluating retrofits to existing County owned buildings and hazard mitigation measures for new County buildings. The County is proposing a Sea Level Rise policy for new and existing county buildings, land acquisitions, and facilities focused on vulnerability assessments and adaptation planning. In the future other climate impacts could be considered. Will start with consultant evaluation of County assets for various risks, which will include master planning.</p>			✓	SMC-12, 17
<p><b>Action SMC-23</b>—Look into potentially vulnerable public and private utility systems including sanitation/sewer, and fuel pumping stations.</p> <p><b>Comment:</b> Ongoing. County Department of Public Works has applied for a grant to upgrade two existing flood control pump stations.</p>			✓	SMC-22
<p><b>Action SMC-24</b>—County staff in conjunction with State Agencies will continue to support vegetation management strategies and programs to address the potential vegetation management needs within the County.</p> <p><b>Comment:</b> Ongoing. County staff in conjunction with State Agencies will continue to support vegetation management strategies and programs to address the potential vegetation management needs within the County. Parks: Pescadero Creek Park, Sam McDonald Park, new road/Fire Road – Quarry Park, El Granada. Parks is continually addressing fire fuel loads throughout the department and has focused fuel reduction efforts in Huddart Park along Kings Mountain Road, Wunderlich Park, and Quarry Park with Cal Fire and PG&amp;E partnered fuel break. The Department is also currently in the civil design phase for a new Fire Road in Quarry Park along the Southern boundary. With the CZU Fire burning approximately 2700 acres in Pescadero Creek Park, staff is currently conducting post fire mitigation as well as increasing buffers on fire roads throughout the park. Similarly, efforts continue at San Bruno Mountain Park as well as Coyote Point Recreation Area and the Crystal Springs Regional Trail. These efforts include identifying and removing hazardous trees and excess fire fuel.</p>			✓	SMC-31
<p><b>Action SMC-25</b>—Identify and plan for the combined impacts of multiple hazards – for example extreme drought followed by flooding, and effects of these impacts on people, property, and the economy.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SMC-14
<p><b>Action SMC-26</b>—Explore installing additional monitoring equipment to track subsidence, erosion, and sea level change along San Mateo County shoreline. Complete a study on subsidence and erosion rates.</p> <p><b>Comment:</b> Ongoing. Working to increase stream gages to detect flooding. Worked with USGS on additional landslide sensors. Don't have SLR monitoring equipment but in 21-22 consultant will give us options.</p>			✓	SMC-15
<p><b>Action SMC-27</b>—Continue to develop, maintain, and potentially enhance the County's classification under the Community Rating System, including use of monitoring equipment, radio base station with community alert and warning systems. This includes rain gages, flood level creek gages and safety signage for flood hazard areas on roadways.</p> <p><b>Comment:</b> Ongoing. Will continue as part of the maintenance plan for the LHMP, but not as a separate mitigation action.</p>		✓		

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-28</b>—Update and enhance existing flood hazard mapping to better reflect current conditions and potential sea level rise.</p> <p><b>Comment:</b> Ongoing. The Office of Sustainability has developed a County Wide Sea Level Rise Assessment which includes mapping and is completing a HEC-RAS model of future creek flooding based on changes in precipitation and intersection with sea level rise water levels. The County is funding projects in Millbrae and Burlingame to create more localized sea level rise maps. And coordination with FSLRRD actions continues.</p>			✓	SMC-15
<p><b>Action SMC-29</b>—Continue the County’s partnership with the San Francisquito Creek Joint Powers Authority (JPA) to improve flooding, sea level rise and other environmental recreational concerns along its waterways that lead to the San Francisco Bay.</p> <p><b>Comment:</b> The San Mateo County Flood and Sea Level Rise Resiliency District continues to be a partner with the San Francisquito Creek Joint Powers Authority. Now the responsibility of the San Mateo County Flood and Sea Level Rise Resiliency District</p>			✓	SMC-15
<p><b>Action SMC-30</b>—Continue the County’s partnership with neighboring jurisdictions to address flooding, sea level rise and other environmental recreational concerns along Colma and San Bruno Creek.</p> <p><b>Comment:</b> County Department of Public Works applied for a grant for upgrades to two pump stations along San Bruno Creek. The County Flood and Sea Rise Resiliency District continues to work with neighboring jurisdictions regarding Colma and San Bruno Creek, flood and sea level rise challenges and local agency coordination including supporting the Colma Creek Flood Control Zone Citizen’s Advisory Committee. C/CAG, Office of Sustainability and San Bruno are in the early stages of a regional stormwater project to reduce stormwater runoff moving through San Bruno Creek. Now the responsibility of the San Mateo County Flood and Sea Level Rise Resiliency District.</p>			✓	SMC-15, 23
<p><b>Action SMC-31</b>—The County will protect, preserve, and enhance natural features such as wetlands that serve as natural mitigation against the impacts of flooding, climate change and associated sea level rise.</p> <p><b>Comment:</b> The County continues to implement policies and programs that have been adopted that support SMC-31. The County is also reviewing green infrastructure that will enhance natural features as part of flood control and sea level rise adaptation. The County is also reviewing a project call Flood Control 2.0 is a multi-agency effort funded by the EPA to advance approaches for integrating habitat restoration and flood management at the Bay edge. This new toolbox includes a suite of tools to help land managers develop management approaches for flood control channels and their surrounding landscapes that benefit both people and wildlife over the long-term. The County Office of Sustainability continues to work on sea level rise studies, projected changes in precipitation rates and events, and fire risk under climate change that will better inform the action as well. The County Office of Sustainability worked with Point Blue, Stanford and the San Francisco Estuary Institute to assess bayside wetland vulnerability to sea level rise and to develop high level nature-based adaptation strategies that can be explored for the entire county shoreline.</p>			✓	SMC15, 21
<p><b>Action SMC-32</b>—Conduct watershed analysis as necessary to address data needs that will be essential towards the development of drainage solutions in flood vulnerable areas.</p> <p><b>Comment:</b> County Department of Public Works has completed the Bayfront Canal and Atherton Channel Watershed Flood Management Plan in 2019. Future related efforts in this region have been transferred to the San Mateo County Flood and Sea Level Rise Resiliency District. The County is developing high resolution maps of impervious surface and vegetation as well as maps of future flooding (2D HEC-RAS), heat and fire risk based on climate projections that could all be used as inputs for future watershed models. Now the responsibility of the San Mateo County Flood and Sea Level Rise Resiliency District.</p>			✓	SMC-15
<p><b>Action SMC-33</b>—Determine whether or not wastewater treatment plants are protected from floods, and if not, investigate the use of flood-control berms to not only protect from stream or river flooding, but also increase plant security.</p> <p><b>Comment:</b> Not applicable to County as this infrastructure is managed by individual sanitary districts.</p>		✓		

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-34</b>—Ensure that new subdivisions are designed to reduce or eliminate flood damage by requiring lots and rights-of-way are laid out for the provision of approved sewer and drainage facilities, providing on-site detention facilities whenever practicable.</p> <p><b>Comment:</b> Ongoing. The County adopted revisions to the County's subdivision regulations in 2017 to incorporate changes made to the California Subdivision Map Act and to reflect pertinent case law. The new regulations require applicants to clearly identify hazard areas on the site as part of a pre-application process that identifies non-development areas to avoid hazards or how the development will mitigate identified hazards. In addition, the County is updating its drainage management approach by drafting a new Drainage Manual and Stormwater Ordinance to better regulate drainage and stormwater management when permitting development.</p>			✓	SMC-11
<p><b>Action SMC-35</b>—As funding opportunities become available, encourage home and apartment owners to participate in acquisition and relocation programs for areas within floodways and study the potential to develop a revolving fund, issue bonds or other funding mechanisms to support acquisition and relocation from floodways.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SMC-3
<p><b>Action SMC-36</b>—Develop a "Maintain-a-Drain" campaign encouraging businesses and residents to keep storm drains in their neighborhood free of debris.</p> <p><b>Comment:</b> Completed. Storm drains marked, and outreach completed. The Office of Sustainability manages the "Adopt-a-Block" program which provides support to residents that volunteer to remove trash and debris from a specific block. During the reporting period, 2 sites were added.</p>	✓			
<p><b>Action SMC-37</b>—Encourage owners of properties in a floodplain to consider purchasing flood insurance. For example, point out that most homeowners' insurance policies do not cover a property for flood damage.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SMC-3
<p><b>Action SMC-38</b>—Conduct analysis and potential levee improvements and flood control projects for, Belmont Creek, Coyote Point area, Pescadero and Butano Creek, and other areas that are subject to repeat flooding events.</p> <p><b>Comment:</b> The San Mateo County Flood and Sea Level Rise Resiliency District continues to collaboratively with adjoining agencies towards the development of drainage and flooding solutions in the areas of Bayfront Canal, the Vista Canal, and the Atherton Channel. The San Mateo County Flood and Sea Level Rise Resiliency District is collaborating with the County of San Mateo, Redwood City, Menlo Park. Now the responsibility of the San Mateo County Flood and Sea Level Rise Resiliency District.</p>			✓	SMC-15, 21 and 23
<p><b>Action SMC-39</b>—The County will work collaboratively with adjoining agencies towards the development of drainage and flooding solutions in the areas of the Bayfront Canal, the Vista Canal, and the Atherton Channel.</p> <p><b>Comment:</b> Atherton, Woodside, California Coastal Conservancy, Cargill, and other stakeholders to identify flood and Caltrans, are studying the Belmont Creek and possible flood protection enhancements, including mitigating creek overflows and restore the natural habitat that the creek offers. Also, a Federal grant of 1.4 million dollars was awarded to the San Mateo County Resource Conversation District for Butano Creek restoration. This project seeks to restore salmon habitat and reduce flooding in the town of Pescadero. The County Office of Sustainability completed a Sea Level Rise Assessment and Adaptation Plan with County Parks. The Office is also completing a Sea Level Rise Vulnerability Assessment and Adaptation Plan for unincorporated lands from Half Moon Bay south to the county line, which include Pescadero and Butano Creeks. Now the responsibility of the San Mateo County Flood and Sea Level Rise Resiliency District.</p>			✓	SMC 15, 21, 23

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-40</b>—Develop procedures for performing a watershed analysis to look at the impact of development on flooding potential downstream, including communities outside of the jurisdiction of proposed projects.</p> <p><b>Comment:</b> County Public Works completed a watershed analysis for the Atherton Watershed. As part of the County's Green Infrastructure Plan effort, the County is drafting a Watershed and Stormwater Management element to add to its General Plan and is amending its Stormwater Ordinance to incorporate new drainage, stormwater management and treatment, and watershed assessment requirements. Also, the County, in partnership with Marin and San Francisco Counties, Golden Gate National Recreation Area, and others has acquired LiDAR data that will be used to generate an impervious surface layer for all areas in the three counties, facilitating better watershed assessment.</p>	✓			SMC-15
<p><b>Action SMC-41</b>—Continue to enforce zoning and building codes to prevent and control construction within the floodplain.</p> <p><b>Comment:</b> County staff continues to enforce zoning and building codes to prevent and control construction within the floodplain</p>			✓	SMC-3
<p><b>Action SMC-42</b>—Continue to maintain compliance and good standing under the National Flood Insurance Program (NFIP).</p> <p><b>Comment:</b> Ongoing. The County will continue to maintain compliance and good standing under the National Flood Insurance Program (NFIP).</p>			✓	
<p><b>Action SMC-43</b>—Reinforce roads/bridges from flooding through protection activities, including elevating the roads/bridges and installing/widening culverts beneath the roads/bridges or upgrading storm drains.</p> <p><b>Comment:</b> County Department of Public Works is currently applying for a National Oceanic and Atmospheric Administration grant to assist in identifying areas that could be vulnerable to coastal erosion. Public Works is also evaluating solutions for Mirada Rd. and a pedestrian bridge in Miramar. County Parks is also working with Public Works to evaluate bridges in County and regional parks that are deficient and need repair and upgrades. County Parks is working with County Public Works on creating a five-year permit for maintenance work in County Park facilities. (Cloverdale Rd Br).</p>			✓	SMC-12
<p><b>Action SMC-44</b>—Continue to repair and make structural improvements to storm drains, pipelines and/or channels to enable them to perform to their design capacity in handling water flows.</p> <p><b>Comment:</b> Ongoing. A grant application has been submitted to make structural improvements to two flood water pump stations.</p>			✓	SMC-12
<p><b>Action SMC-45</b>—Support and encourage efforts of other agencies as they plan for and arrange financing for seismic retrofits and other disaster mitigation strategies.</p> <p><b>Comment:</b> Ongoing.</p>			✓	CW-3 a and SMC-15
<p><b>Action SMC-46</b>—Require upgrade of infrastructure to withstand seismic shaking and differential settlement.</p> <p><b>Comment:</b> Ongoing. All new development projects will require to meet California Building Standards. The newly created Project Development Unit will continue to explore upgrading existing infrastructure as well.</p>			✓	SMC-12
<p><b>Action SMC-47</b>—Seismically retrofit or replace County and local ramps and bridges that are categorized as structurally deficient by Caltrans, are located in high ground shaking areas, and/or are necessary for first responders to use during and/or immediately after a disaster or emergency.</p> <p><b>Comment:</b> Ongoing. County Department of Public Works is currently undertaking an inventory of all bridges that are owned by the County. A list of deficient bridges will be created and then repairs to the bridges will be prioritized.</p>			✓	SMC-12



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-48</b>—Develop and implement plans to increase the building owner's general knowledge of and appreciation for the value of seismic upgrading of the building's structural and nonstructural elements. <a href="http://myhazards.caloes.ca.gov/">http://myhazards.caloes.ca.gov/</a> campaign.</p> <p><b>Comment:</b> Part of the County's education and outreach efforts. State has information regarding seismic upgrading of the building's structural and nonstructural elements on their website.</p>			✓	SMC-3
<p><b>Action SMC-49</b>—Study the feasibility of conducting an inventory of existing or suspected soft-story residential, commercial, and industrial structures.</p> <p><b>Comment:</b> No progress.</p>			✓	SMC-19
<p><b>Action SMC-50</b>—Apply and make available updated mapping of seismic hazards from the California Geological Survey's Seismic Hazards Mapping Program when it becomes available <a href="http://myhazards.caloes.ca.gov/">http://myhazards.caloes.ca.gov/</a> campaign.</p> <p><b>Comment:</b> Ongoing. County will apply and make available updated mapping when they are created by the California Geological Survey's Seismic Hazards Mapping Program. San Mateo County Planning has updated the Department GIS to show areas that have been mapped by this program. This program is ongoing.</p>			✓	CW-4 <i>a</i>
<p><b>Action SMC-51</b>—Protect and preserve coastline and existing infrastructure through permit review, emphasizing nature-based solutions for Bay and Coastside adaptation strategies, relying on the guidance in the recently updated Baylands Ecosystem Habitat Goals Report, and evolving science for coastal management options.</p> <p><b>Comment:</b> Ongoing. Plan Princeton is a study being conducted by San Mateo County to update the land use plan for Princeton. The project will focus on the area west of and including Highway 1, between Pillar Point Harbor and Moss Beach. The purpose of this project is to make a comprehensive update to the policies, plans, and standards regulating the Princeton study area to study several issues, including identifying and evaluating potential solutions to shoreline erosion problems and protecting and restoring water quality and sensitive habitats. The County is also reviewing possible sand replenishment project on the Coastside as part of coastal management options. The County is also reviewing potential repairs to existing infrastructure along the coast and bayside. The County Office of Sustainability worked with Point Blue, Stanford and the San Francisco Estuary Institute to assess bayside wetland vulnerability to sea level rise and to develop high level nature-based adaptation strategies that can be explored for the entire county shoreline.</p>			✓	SMC-10, 11, 12 and 15
<p><b>Action SMC-52</b>—Protect and preserve coastline and new infrastructure through coastal restoration efforts, emphasizing nature- based solutions for Bay and Coastside adaptation strategies, relying on the guidance in the recently updated Baylands Ecosystem Habitat Goals Report, and evolving science for coastal management options.</p> <p><b>Comment:</b> County now coordinates this work through FSLRRD.</p>			✓	SMC-15



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-53</b>—Evaluate the feasibility of relocation, retrofit, or upgrade of existing County facilities to limit the impact of coastal erosion, including the Half Moon Bay Landfill, Mirada Road, and other facilities.</p> <p><b>Comment:</b> Current work going on and implemented at Coyote Point, County Center, HMB Landfill, Pillar Point, Pescadero Marsh. A boulder revetment exists along Mirada Road (from Magellan Avenue to the pedestrian bridge south of Medio Avenue). The boulder revetment was installed to prevent erosion of the embankment and the undermining of Mirada Road by protecting the roadway and adjacent properties from exposure to destructive wave action during high tides and storm events. When the recent storms eroded an unprotected segment of road shoulder and bluff at the pedestrian bridge, the revetment was damaged at the bluff where the erosion occurred. Additionally, high energy waves and coastal conditions have caused boulders to shift from their original location towards the beach, leaving areas along Mirada Road unprotected, resulting in gaps in the revetment and movement of the roadway. The Department has completed the work on emergency revetment repairs by placing additional boulder rip rap. Furthermore, the County is evaluating long term solutions to stabilize and protect the Mirada Road. County Parks is exploring improvements to address sea level rise Coyote Point County Park. Office of Sustainability is working on creating a list of assets that are vulnerable to sea level rise and coastal erosion. Mirada Rd Ped Bridge to be replaced in existing alignment.</p>			✓	SMC-12
<p><b>Action SMC-54</b>—Increase efforts to reduce landslides, debris flows, slipouts and erosion in existing and future development by improving appropriate enforcement of codes and use of applicable standards.</p> <p><b>Comment:</b> Department of Public Works has worked on 25 projects that related to landslides, slip outs, and erosion due to severe weather in 2016-2017. Many of these projects were eligible for Public Assistance funding. County Planning and Building Department continues to enforce erosion control measures during construction to minimize soil loss. The County also enforces a grading moratorium during the rainy season to minimize erosion on private development projects. GIS zones labeled for any new parcels. Ongoing procedures in place for new building. In progress studies being conducted. The Office of Sustainability is working on an updated map of debris flow risks (landslides) for the County based on high resolution LiDAR data and future changes in climate. The study will include best practices for hazard reduction.</p>			✓	SMC-10, 11
<p><b>Action SMC-55</b>—Encourage public and private water conservation plans, including consideration of rainwater catchment system.</p> <p><b>Comment:</b> County has supported rainwater catchment systems for private property. In addition, on July 15, 2015 California approved revisions to the Model Water Efficient Landscape Ordinance, which promotes efficient water use in new and retrofitted landscapes. The County has adopted the State’s ordinance and has applied these requirements to development projects that have irrigated landscaping. The County Department of Health completed the San Mateo Plain Groundwater Basin Assessment to facilitate sustainable management of groundwater supplies by local authorities in the Basin.</p>	✓			
<p><b>Action SMC-56</b>—Develop and implement a comprehensive program for watershed maintenance, optimizing forest health with water yield to balance water supply, flooding, fire, and erosion concerns.</p> <p><b>Comment:</b> The County Board of Supervisors adopted its new Green Infrastructure Plan in September 2019. The GI Plan explains how the County will expand its efforts to incorporate green infrastructure into our unincorporated communities. The GI Plan includes strategies ranging from outreach and education, to modification of policies and ordinances. The Regional Water Board adopted a sediment TMDL for the Butano-Pescadero Creeks watershed that requires all property owners, including the County to take actions on its lands within the watershed to improve water quality, and these actions will optimize forest health, reduce flooding and erosion. Construction/Repair projects were completed during Fall 2018 on Old Haul Road at Keystone Creek and Harwood Creek, removing old crib-log crossings and reinforced the existing road for emergency access. These two projects prevented an estimated 11,000 cubic yards of sediment delivery into stream channels in the Pescadero/Butano Creek Watershed and proactively address TMDL compliance.</p>	✓			SMC-11, 15, 21
<p><b>Action SMC-57</b>—Continue to support existing County policy regarding the waving of fees for replacement domestic wells for wells that have failed due to drought conditions.</p> <p><b>Comment:</b> Ongoing. Waving of fees for replacement domestic wells for wells that have failed due to drought conditions still ongoing by San Mateo County Environmental Health and San Mateo County Planning and Building Department.</p>			✓	SMC-32

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-58</b>—Maintain a variety of crops in rural areas of the region to increase agricultural diversity and crop resiliency.</p> <p><b>Comment:</b> Farmers in San Mateo County continue to maintain a variety of crops in rural areas of the region to increase agricultural diversity and crop resiliency. The county has provided funding to local UC Cooperative Extension to research local alternative crops, and universities and agri-businesses are working on plant genetics to increase crop resiliency. County Agricultural Commissioners, as well as USDA's National Agricultural Statistical Survey (NASS), conduct annual agricultural production surveys and provide summaries as to crop production and variety.</p>	✓			
<p><b>Action SMC-59</b>—Promote and maintain the public-private partnerships dedicated to preventing the introduction of agricultural pests into regionally-significant crops.</p> <p><b>Comment:</b> The County Agricultural Commission has recommended determined this is no longer a viable mitigation action for SMC.</p>		✓		
<p><b>Action SMC-60</b>—Encourage livestock operators to develop an early warning system to detect animals with communicable diseases.</p> <p><b>Comment:</b> The County Agricultural Commission has recommended determined this is no longer a viable mitigation action for SMC.</p>		✓		
<p><b>Action SMC-61</b>—Support efforts to understand ground water use and groundwater basins in San Mateo County.</p> <p><b>Comment:</b> San Mateo Basin study complete. Data gathered on groundwater, wells, etc.</p>	✓			
<p><b>Action SMC-62</b>—Utilize the updated Fire Hazard Severity Zone map prepared by the California Division of Forestry and Fire Protection (Cal Fire) to target high priority areas for vegetation management, code inspections, and other fire mitigation activities.</p> <p><b>Comment:</b> The County and CAL Fire continue to support this mitigation action. CAL FIRE has not produced its Fire Risk Assessment Maps, but the County continues to use the best available information for this program.</p>			✓	SMC-15
<p><b>Action SMC-63</b>—Carry out a public education program to increase awareness of fire risks and promote implementation of fire safe practices by the owners of new and existing residences in wildland fire areas, such as, but not limited to, vegetation management, fire resistant construction, onsite water storage, adequate access and other fire prevention measures.</p> <p><b>Comment:</b> Ongoing. This action is carried out on an annual basis by CAL Fire and by Woodside Fire District.</p>			✓	SMC-3
<p><b>Action SMC-64</b>—Adopt a landscape ordinance, utilize landscape plan review, and code to ensure defensible space for structure and infrastructure.</p> <p><b>Comment:</b> Ongoing. County staff is currently updating its tree regulations that would speak to defensible space for structure and infrastructure.</p>			✓	SMC-11
<p><b>Action SMC-65</b>—Locate structure or functions outside of tsunami hazard areas whenever possible.</p> <p><b>Comment:</b> Ongoing. The County continues to enforce polices from the County's General Plan, Zoning Ordinance, Local Coastal Program, Building Code, and other requirements regarding the location of structures in tsunami hazard.</p>			✓	SMC-10, 11
<p><b>Action SMC-66</b>—Conduct a feasibility assessment for creation of a probabilistic Tsunami map for the San Mateo County planning area.</p> <p><b>Comment:</b> Cal OES is currently working on updating the Tsunami maps for California as a whole. These maps will be used by County DEM staff once they become available. At that time, the County will evaluate if the County should undertake probabilistic Tsunami maps or utilize the maps created by the State and will update this action in a future annual update.</p>		✓		

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMC-67</b>—Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.</p> <p><b>Comment:</b> Ongoing. Short Term (&lt;5yrs.) In September 2019, the BOS adopted the San Mateo County Green Infrastructure Plan, a long-term strategy to incorporate green infrastructure within unincorporated county communities. County staff convene a monthly working group to coordinate green infrastructure implementation across all departments and all public projects are evaluated to determine the feasibility of incorporating green infrastructure. The Office of Sustainability received a \$500k U.S. EPA grant to develop preliminary designs of regional stormwater capture projects and is currently working with C/CAG, Redwood City and San Bruno to move this project forward. GI incorporated into CIP as appropriate.</p>			✓	SMC-21
<p><b>Action SMC-68</b>—Establish an operational area, multi-jurisdiction standing committee for integrating individuals with disabilities, and others with access and functional needs into public information, planning, training, exercise, and response.</p> <p><b>Comment:</b> The County will implement a different approach to reach these goals via SMC-3 and SMC-4.</p>		✓		
<p><b>Action SMC-69</b>— The Daly City Department of Water &amp; Wastewater Resources is continuing work on a comprehensive plan to identify storm drainage solutions in the Vista Grande Drainage Basin and complete repairs estimated at nearly \$3 million made to strengthen the Fort Funston Sewer Outfall and Force Main. A joint NEPA/CEQA Draft EIR was publicly released 04/29/16 on the project options associated with the Vista Grande Drainage Basin Improvement Project with comments due 07/01/16. Funding for this anticipated \$100 million improvement project has yet to be secured, and some funding is anticipated to be derived from the North San Mateo County Sanitation District, a subsidiary district of Daly City. It is anticipated that this project will rectify the issues associated with identified severe repetitive loss property located in unincorporated San Mateo County.</p> <p><b>Comment:</b> No progress.</p>			✓	SMC-15

a. Now listed in Volume 1 countywide action items

## 1.8 HAZARD MITIGATION ACTION PLAN

Table 1-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 1-15 identifies the priority for each action. Table 1-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 1-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>	Social Equity Lens Priority
<b>Action SMC-1</b> —Support the County-wide initiatives identified in Volume 1 of the San Mateo County (SMC) Multijurisdictional Local Hazard Mitigation Plan (MJLHMP).							
	<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami						
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12	San Mateo County, Department of Emergency Management	N/A	Low	General Fund	Short term	High

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>	Social Equity Lens Priority
<p><b>Action SMC-2</b>— Actively participate in the SMC MJLHMP plan maintenance protocols outlined in Volume 1 of the MJLHMP.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12	San Mateo County, Department of Emergency Management	N/A	Low	General Fund	Short term	High
<p><b>Action SMC-3</b>—Implement targeted outreach, education, preparedness, and mitigation initiatives to better prepare the County's residents, especially socially vulnerable populations, including those who are monolingual persons, have access and functional needs, and live in high hazard areas. Incorporate equity considerations into program decision making and implementation. Identify, evaluate, validate and implement communications and warning technologies, including radio and audible alerting strategies and systems, for vulnerable populations. Incorporate heat, poor air quality and pandemic warnings into the overarching all hazard alerting strategy, and implement detailed evacuation information into alerts.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 4, 5, 7, 8, 9, 11, 12	San Mateo County, Department of Emergency Management	SMC Community Affairs	Medium	General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP), HSGP, EMPG	Short term	High
<p><b>Action SMC-4</b>—Involve diverse community members within socially vulnerable communities, including those with access &amp; functional needs, in hazard risk and emergency planning.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 4, 5, 7, 8, 9, 10, 12	San Mateo County, Department of Emergency Management	SMC Communications and Community Affairs	Medium	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP), HSGP, EMPG	Short term	High
<p><b>Action SMC-5</b>—Provide training to emergency planning personnel and Community Emergency Response Team, including support for the socially vulnerable, especially those with disabilities or special medical needs.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 4, 5, 7, 8, 9, 10, 12	San Mateo County, Department of Emergency Management	N/A	Low	General Fund, Grant Funding-EMPG, HSGP	Short term	High
<p><b>Action SMC-6</b>— Actively implement and expand the use of the County's new ZoneHaven evacuation tool, which includes more than 300 evacuation zones. Develop the interface between the ZoneHaven evacuation tool with the SMCAAlert alert and warning tool to provide multilingual messages for rapidly evolving emergencies requiring evacuations. Develop a coordinated strategy to addresses evacuation of transit dependent people, people with disabilities and medical needs and others who cannot evacuate independently.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12	San Mateo County, Department of Emergency Management	N/A	Medium	General Fund, Grant Funding-EMPG, HSGP	Short term	High

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>	Social Equity Lens Priority
<p><b>Action SMC-7</b>—Expand the County’s Evacuation Centers/Cooling Centers/Clean Air Centers/Respite Centers Program, which includes community facilities, as well as private sector facilities, such as hotel rooms. Publicize the availability of the centers in multiple languages, through SMCAlert and social media, and by coordinating with other services providers and community-based organizations. Ensure that the facilities meet the needs of the most vulnerable community members, especially those with access and functional needs.</p> <p><i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12	San Mateo County, Department of Emergency Management	San Mateo County Human Services Agency	Medium	General Fund, Grant Funding-FEMA BRIC	Short term	High
<p><b>Action SMC-8</b>—Identify Information Systems Department equipment and facilities that need to be relocated or improved and implement measures to reduce their vulnerability to natural hazards. This will improve county communications capacity, interoperability capabilities, systemwide reliability and disaster resilience to maintain critical post disaster operability.</p> <p><i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami, Communication Failures (Hazard of Interest)</p>							
New & Existing	1, 2, 3, 5, 7,8	San Mateo County, Department of Emergency Management	N/A	High	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Short term	Medium
<p><b>Action SMC-9</b>—Update plans such as the Emergency Operations, Continuity of Government Operations, Department Operation Center and Joint Information Center. Continue to incorporate mitigation principles into local event management during Incident Command Post and Department Operations Center Action Planning.</p> <p><i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12	San Mateo County, Department of Emergency Management	N/A	Low	General Fund	Short Term	High
<p><b>Action SMC-10</b>—Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas. Prioritize structures that have experienced repetitive losses, and/or are located in high- or medium-risk hazard areas.</p> <p><i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12, 13	San Mateo County, Planning & Building Department	N/A	High	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Long Term	High
<p><b>Action SMC-11</b>—Integrate the hazard mitigation plan into other plans, ordinances, and programs that dictate land use decisions in the community, including the County’s General Plan, the Community Wildfire Protection Plan, the Green Infrastructure Plan, and the upcoming Climate Resilience Strategy, and develop appropriate implementation procedures following plan adoption.</p> <p><i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12, 14	San Mateo County, Planning & Building Department	Office of Sustainability	Low	General Fund	Short term	High

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>	Social Equity Lens Priority
<p><b>Action SMC-12</b>—Identify, retrofit, upgrade or replace deficient or vulnerable facilities and infrastructure, such as the Pescadero Fire Station, bridges and roadways, and integrate the hazard mitigation plan into the County Capital Improvement Plan process. Assess hazards identified in the hazard mitigation plan when considering the lease or purchase of land and buildings for County use. Evaluate decisions for unintended inequitable investment, especially in previously redlined communities and low-income communities and propose future investments as appropriate.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12, 14	San Mateo County Public Works	Project Development Unit	High	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Short term	High
<p><b>Action SMC-13</b>—Establish the AgPass program through the County Agricultural Commissioner's Office. The program will administer an agricultural verification process and issue the identification to the producer to enter an evacuation zone, if deemed safe, to perform tasks to mitigate crop and livestock loss during a disaster.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 9,12	San Mateo County, Agricultural Commissioner's Office	N/A	Medium	General Fund, Grant Funding-EMPG, HSGP	Short term	Medium
<p><b>Action SMC-14</b>—Identify and plan for the combined impacts of multiple hazards – for example extreme drought followed by flooding, and effects of these impacts on people, property, and the economy.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 12, 14	San Mateo County, Department of Emergency Management	N/A	Medium	General Fund, Grant Funding-FEMA BRIC(C&CB)	Short Term	High
<p><b>Action SMC-15</b>—Actively support the mitigation actions led by other SMC MJLHMP Annex Partners, such as FSLRRD, the County Office of Education, RCD and water and sewer districts, and stakeholders representing the unincorporated areas, including CAL FIRE, San Francisco Public Utilities Commission, and Caltrans, as well as the San Mateo Operational Area Emergency Services Organization (JPA) and the San Mateo County Emergency Management Association. Where needed, actively promote the development of new mitigation actions to address hazards in the unincorporated areas of San Mateo County. (See Attachment A to this annex)</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 12, 14	San Mateo County, Department of Emergency Management	N/A	Low	General Fund	Short Term	High
<p><b>Action SMC-16</b>—Complete the San Mateo County Climate Action Plan and the San Mateo County Sea Level Rise Vulnerability Assessment. When complete, coordinate the implementation with the Local Climate Adaptation Policy Guide for Local Governments (Cal OES) to reduce risks exacerbated by climate change and sea level rise impacts and to adapt to those impacts. Integrate climate adaptation actions across regional and local General Plans (including Safety and Housing elements), Local Coastal Programs, Housing Plans, mitigation planning efforts, and infrastructure planning and development.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change</p>							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 12	San Mateo County, Office of Sustainability	Planning & Building Department	Medium	General Fund, Grant Funding- FEMA BRIC(C&CB)	Short Term	High



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>	Social Equity Lens Priority
<b>Action SMC-17</b> —Implement the County’s Government Operations Climate Action Plan in all County Capital Projects.							
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change							
New & Existing	6	San Mateo County, Public Works	Office of Sustainability and Project Development Unit	Medium	General Fund,	Short Term	Medium
<b>Action SMC-18</b> —In coordination with CAL FIRE and San Francisco Public Utilities Commission, develop strategies to protect watershed and drinking water reservoirs from debris flows that could occur following wildfires in the watershed areas.							
<i>Hazards Mitigated:</i> Landslide/Mass Movements							
New & Existing	6	San Mateo County, Public Works	SMC Department of Emergency Management	Medium	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Short Term	High
<b>Action SMC-19</b> —Conduct an inventory of existing or suspected soft-story residential, commercial, and industrial structures and develop recommendations for consideration by the Board of Supervisors.							
<i>Hazards Mitigated:</i> Earthquake							
Existing	6,9	San Mateo County, Planning & Building Department	N/A	Medium	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Short Term	High
<b>Action SMC-20</b> —Evaluate need to incorporate dam failure strategies into existing emergency plans utilizing information developed in the MJLHMP.							
<i>Hazards Mitigated:</i> Dam Failure							
New & Existing	1, 2, 4, 5, 7	San Mateo County, Department of Emergency Management	N/A	Medium	General Fund, Grant Funding-EMPG and HSGP	Short Term	High
<b>Action SMC-21</b> —Implement the County’s Green Infrastructure Plan to improve stormwater capture in County projects.							
<i>Hazards Mitigated:</i> Flood							
New & Existing	1, 2, 4, 6, 14	San Mateo County, Public Works	Office of Sustainability, Planning & Building	Medium	General Fund,	Short Term	High
<b>Action SMC-22</b> —Identify and plan upgrades of County operated utility systems including fuel pump stations and generator capacity at pump stations.							
<i>Hazards Mitigated:</i> Flood							
Existing	6,9	San Mateo County, Public Works	N/A	High	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Long Term	High
<b>Action SMC-23</b> —Continue the County’s partnership with the San Francisco Creek Joint Powers Authority and neighboring jurisdictions to address flooding, sea level rise and other environmental concerns along waterways that lead to the San Francisco Bay and along Colma Creek and San Bruno Creek.							
<i>Hazards Mitigated:</i> Flood							
New & Existing	1, 2, 4, 5, 7,14	San Mateo County, Public Works Department	N/A	Low	General Fund	Short term	High



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>	Social Equity Lens Priority
<b>Action SMC-24</b> —Develop education campaigns and other outreach efforts to encourage owners of properties in a floodplain to purchase flood insurance.							
<i>Hazards Mitigated:</i> Flood							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12	San Mateo County, Department of Emergency Management	N/A	Low	General Fund	Short term	High
<b>Action SMC-25</b> —Identify roads, bridges and storm drains that could be vulnerable to coastal erosion on County maintained roadways and public lands, continue to repair and make structural improvements, and develop a five-year permit for maintenance work in County parks to reinforce infrastructure from flooding through protection activities. Work with Caltrans to assess future realignment options of Highway 1 due to impacts from climate change and sea level rise.							
<i>Hazards Mitigated:</i> Flood							
New & Existing	1, 2, 3, 5, 7, 8, 9, 10, 11, 12, 13, 14	San Mateo County, Public Works Department	San Mateo County, Planning and Building and Parks Department	High	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Short term	High
<b>Action SMC-26</b> —Develop and implement a new stormwater ordinance and drainage manual to formalize and expand requirements to incorporate stormwater retention and low-impact development treatment into new and redevelopment projects to help mitigate downstream impacts of severe weather and prevent localized flooding and other hazards.							
<i>Hazards Mitigated:</i> Flooding & Severe Weather							
New & Existing	1, 2, 4, 6, 14	San Mateo County, Planning & Building	N/A	Medium	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Short Term	High
<b>Action SMC-27</b> —Work with PG&E to add Public Safety Power Shutoff (PSPS) Resource Centers on the Coastside.							
<i>Hazards Mitigated:</i> Severe Weather							
New & Existing	1, 2, 3, 4, 5, 8, 9,10	San Mateo County, Department of Emergency Management	PG&E	Low	General Fund	Short Term	High
<b>Action SMC-28</b> —Explore urban heat reduction solutions that prioritizes historically marginalized communities and elevate community-driven solutions, such as planting trees and installing shade, cooling, and other infrastructure in highly circulated streets.							
<i>Hazards Mitigated:</i> Severe Weather							
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9,14	San Mateo County, Health Department	Office of Sustainability	Medium	General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP),	Short Term	High
<b>Action SMC-29</b> —Scale up programs that provide cooling devices to low-income residents while helping them to enroll or qualify for energy saving or renewable energy programs.							
<i>Hazards Mitigated:</i> Severe Weather							
New & Existing	1, 2, 3, 4, 5, 8, 9	San Mateo County, Department of Emergency Services	N/A	Medium	General Fund, Grant Funding-FEMA BRIC	Short Term	High
<b>Action SMC-30</b> —Implement a community driven effort to map and validate extreme heat data and impacts in vulnerable communities.							
<i>Hazards Mitigated:</i> Severe Weather							
New & Existing	1, 2, 3, 4, 5, 8, 9	San Mateo County, Office of Sustainability	N/A	Medium	General Fund, Grant Funding-FEMA BRIC	Short Term	High

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>	Social Equity Lens Priority
<p><b>Action SMC-31</b>—Expand vegetation management strategies and programs to develop, find funding and implement vegetation management projects within the unincorporated area, including County Parks and right of ways, and particularly in areas identified as evacuation zones. Work with CAL FIRE, other Annex Partners (such as RCD), and other stakeholders (such as San Francisco Public Utilities Commission and Caltrans) to implement this action. (See Attachment A to this annex)</p> <p><u>Hazards Mitigated:</u> Wildfire</p>							
New & Existing	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14	San Mateo County, Department of Emergency Management	N/A	High	General Fund, Grant Funding- FEMA HMA (BRIC, FMA, HMGP and FMAG),	Short term	High
<p><b>Action SMC-32</b>—Support existing County policy and develop new policies as needed to reduce drought impacts on residents and business, including waiving of fees for replacement domestic wells that have failed due to drought conditions.</p> <p><u>Hazards Mitigated:</u> Drought</p>							
New & Existing	1, 2, 4, 5, 6, 14	San Mateo County, Health Department	San Mateo County, Planning & Building Dept.	Low	General Fund	Short term	High
<p><b>Action SMC-33</b>—Utilize Cal OES Tsunami maps and evaluate if maps created by the State can be utilized for public education and Coastside signage. Also, evaluate signage for areas that flood similar to tsunamic signage, with an emphasis on flood prone areas and evacuation routes.</p> <p><u>Hazards Mitigated:</u> Tsunami</p>							
New & Existing	1, 2, 3, 4, 5, 7, 8, 9, 10, 11	San Mateo County, Department of Emergency Management	San Mateo County, Public Works	Low	General Fund	Short Term	High
<p><b>Action SMC-34</b>—Strengthen core public health infrastructure for surveillance, laboratory and disease control to mitigate pandemic impacts.</p> <p><u>Hazards Mitigated:</u> Health/Pandemic (Hazard of interest)</p>							
New	1, 2, 4, 7, 9, 10, 11, 12	San Mateo County, Health Department	N/A	Medium	General Fund, CDC Grants,	Short term	High
<p><b>Action SMC-35</b>—Increase situational awareness and trustful communication and engagement with the most vulnerable populations by coordinating culturally relevant public health messaging to reduce the risk of outbreaks and maintaining healthcare emergency communication infrastructure by coordinating relevant messaging.</p> <p><u>Hazards Mitigated:</u> Health/Pandemic (Hazard of interest)</p>							
New	1, 2, 4, 7, 9, 10, 11, 12	San Mateo County, Health Department	N/A	Medium	General Fund, CDC Grants	Short term	High
<p><b>Action SMC-36</b>— Enhance preparedness of healthcare facilities through participation in the San Mateo County Healthcare Coalition and coordination of the hazard mitigation plan into the Coalition policy and planning process.</p> <p><u>Hazards Mitigated:</u> Health/Pandemic (Hazard of interest)</p>							
New	1, 2, 4, 7, 9, 10, 11, 12	San Mateo County, Health Department	N/A	Medium	General Fund, CDC Grants	Short term	High
<p><b>Action SMC-37</b>— Rapidly eliminate outbreaks and spread of disease as new disease risks emerge and threaten the public's health.</p> <p><u>Hazards Mitigated:</u> Health/Pandemic (Hazard of interest)</p>							
New	1, 2, 4, 7, 9, 10, 11, 12	San Mateo County, Health Department	N/A	Medium	General Fund, CDC Grants	Short Term	High

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 1-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	10	High	Low	Yes	Yes	Yes	High	High	High
2	10	High	Low	Yes	Yes	Yes	High	High	High
3	10	High	Medium	Yes	Yes	Yes	High	High	High
4	10	High	Medium	Yes	Yes	Yes	High	High	High
5	10	High	Low	Yes	Yes	Yes	High	High	High
6	10	High	Medium	Yes	Yes	Yes	High	High	High
7	10	High	Medium	Yes	Yes	Yes	High	High	High
8	6	High	High	Yes	Yes	No	Medium	Medium	Medium
9	10	High	Low	Yes	Yes	Yes	High	High	High
10	11	Medium	High	Yes	Yes	No	Medium	Medium	High
11	11	High	Low	Yes	Yes	Yes	High	High	High
12	11	High	High	Yes	Yes	No	Medium	High	High
13	4	High	Medium	Yes	Yes	Yes	High	High	Medium
14	10	High	Medium	Yes	Yes	Yes	High	High	High
15	10	High	Low	Yes	Yes	Yes	High	High	High
16	9	Medium	Medium	Yes	Yes	Yes	High	High	High
17	1	High	Medium	Yes	Yes	Yes	High	High	Medium
18	1	High	Medium	Yes	Yes	Yes	High	High	High
19	2	Medium	Medium	Yes	Yes	Yes	High	High	High
20	5	Medium	Medium	Yes	Yes	Yes	High	High	High
21	5	Medium	Medium	Yes	Yes	Yes	High	High	High
22	2	High	Medium	Yes	Yes	Yes	High	High	High
23	6	High	Low	Yes	Yes	Yes	High	High	High
24	10	High	Low	Yes	Yes	Yes	High	High	High
25	12	High	High	Yes	Yes	No	Medium	High	High
26	5	Medium	Medium	Yes	Yes	Yes	High	Medium	High
27	8	High	Low	Yes	Yes	Yes	High	High	High
28	10	Medium	Medium	Yes	Yes	Yes	High	High	High
29	7	High	Medium	Yes	Yes	Yes	High	High	High
30	7	Medium	Medium	Yes	Yes	Yes	High	Medium	High
31	12	High	High	Yes	Yes	No	Medium	High	High
32	6	Medium	Low	Yes	Yes	Yes	High	High	High
33	10	High	Low	Yes	Yes	Yes	High	High	High
34	8	High	Medium	Yes	Yes	Yes	High	High	High
35	8	High	Medium	Yes	Yes	Yes	High	High	High
36	8	High	Medium	Yes	Yes	Yes	High	High	High
37	8	High	Medium	Yes	Yes	Yes	High	High	High

a. See the introduction to this volume for explanation of priorities.

**Table 1-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Flood	SMC-12, 21, 22, 23, 26	SMC-8, 10, 12, 15, 22, 23, 25	SMC-3, 4, 6, 24, 33	SMC-15, 21, 23, 25	SMC-3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 27	SMC-12, 15, 22, 23, 25	SMC-11, 15, 16, 17, 21, 26	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15, 23
Landslide/Mass Movements	SMC-12, 18	SMC-8, 10, 12, 15, 18	SMC-3, 4, 6	SMC-15, 18	SMC-3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 27	SMC-12, 15, 18	SMC-11, 15, 16, 17	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15
Climate Change/Sea Level Rise	SMC-12	SMC-8, 10, 12, 15	SMC-3, 4, 6	SMC-15	SMC-3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 27	SMC-12, 15	SMC-11, 15, 16, 17	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15
Earthquake	SMC-12	SMC-8, 10, 12, 15, 19	SMC-3, 4, 6	SMC-15	SMC-3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 27	SMC-12, 15	SMC-11, 15, 16, 17	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15
Wildfire	SMC-12, 31	SMC-8, 10, 12, 15, 31	SMC-3, 4, 6, 31	SMC-15, 31	SMC-3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 27	SMC-12, 15	SMC-11, 15, 16, 17	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15
Dam Failure	SMC-12	SMC-8, 10, 12, 15	SMC-3, 4, 6	SMC-15	SMC-3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 27	SMC-12, 15	SMC-11, 15, 16, 17	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15, 21
<b>Medium-Risk Hazards</b>								
Tsunami	SMC-12	SMC-8, 10, 12, 15	SMC-3, 4, 6, 33	SMC-15	SMC-3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 27	SMC-12, 15	SMC-11, 15, 16, 17	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15
Severe weather	SMC-12	SMC-8, 10, 12, 15	SMC-3, 4, 6	SMC-15	SMC-3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 27, 29	SMC-12, 15	SMC-11, 15, 16, 17, 28, 29, 30	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15, 28, 29, 30
<b>Low-Risk Hazards</b>								
Drought	SMC-12, 32	SMC-8, 10, 12, 15	SMC-3, 4, 6, 32	SMC-15	SMC-3, 4, 5, 6, 7, 8, 9, 14, 15	SMC-12, 15	SMC-11, 15, 16, 17	SMC-1, 2, 3, 4, 5, 6, 9, 11, 14, 15

a. See the introduction to this volume for explanation of mitigation types.

## 1.9 PUBLIC OUTREACH

Table 1-17 lists public outreach activities for this jurisdiction.

**Table 1-17. Public Outreach Activities**

Dates	Activity	Participants/ Target Audience
February 22	Steering Committee Meeting #1	Steering Committee, Planning Partners & Public
March 15	Media Release announcing launch of MJLHMP Process and release of Survey #1	Public
March 20	South Coast Sustainable SC4 Amateur Radio Club	Coastside community; Public; 50 participants
March 22	Steering Committee Meeting #2	Steering Committee, Planning Partners & Public
March 25	Survey Outreach for Unhoused Populations	Senior Coastsiders (Public); 5 participants
March 25	Public Workshop #1: Risk Assessment and Story Map	Public
April 12	Monthly Meeting #1 (presentation from County staff)	Bay Area Community Health Advisory Council (Public); 22 participants; 90% African American
April 13	Email blast to listserv	Bay Area Community Health Advisory Council (Public); 155 people reached
April 19	Staff Meeting	Center for Independence of Individuals with Disabilities (CID) (Public)
April 24	Center for Independence of Individuals with Disabilities (CID) Emergency Preparedness Program/ Food Distribution Event	CID (Public); 8 participants
April 26	Steering Committee Meeting #3	Steering Committee, Planning Partners & Public
April 29	CID Support Group	Public; survey response support; 3 participants
April 30	CID Virtual Peer Support Group Meeting	Public; 1:1 accessibility support; 1 participant
May 10	Monthly Meeting #2 (presentation from County staff)	Bay Area Community Health Advisory Council (Public)
May 10	Presentation to SAM Board (County staff participating)	Public
May 13	Evergreen Seniors event (panel from various coastal jurisdictions)	Senior Coastsiders (Public); 12 participants
May 24	Steering Committee Meeting #4	Steering Committee, Planning Partners & Public
June 3	Wildfire Risk and Resilience in San Mateo County, sponsored by FSLRRD and the League of Women Voters	Public
June 4	Media Release announcing Survey #2 to Community Residents seeking input on Mitigation Actions	Public
June 7 & 10	Center for Independence of Individuals with Disabilities Staff Meeting and Peer Support Group	Outreach to Vulnerable Community Members; 15 participants
June 10	Nuestra Casa Environmental Justice Academy Focus Group	Outreach to Vulnerable Community Members; 25 participants (17 Spanish/8 English)
June 14	Bay Area Community Health Advisory Council Meeting	Outreach to Vulnerable Community Members; 22 participants; 90% African Americans
June 17	CID Support Group	Public; 6 participants
June 23	South Coast Sustainable Focus Group	Outreach to Vulnerable Community Members; 57 participants
June 23	Climate Resilient Communities Event	Public with focus on East Palo Alto, Belle Haven and North Fair Oaks Communities
June 24	South Coast Sustainable Focus Group	Puente; Public; 15 participants; farmworkers and Latinx; Spanish language translation
June 24	North Fair Oaks Community Council	Public
June 28	Steering Committee Meeting #5	Steering Committee, Planning Partners & Public
July 13	Pescadero Municipal Advisory Committee	Public
July 20	Presentation to the Menlo Park City Council on the Multi-Jurisdictional Local Hazard Mitigation Plan (County staff participating)	Public
July 26	Steering Committee Meeting #6	Steering Committee, Planning Partners & Public
August 12	Public Workshop #2: Review of DRAFT Multi-Jurisdictional Local Hazard Mitigation Plan	Steering Committee, Planning Partners & Public

## 1.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **San Mateo County Building Regulations** – The building regulations were reviewed for the capability assessment and for identifying plan integration.
- **San Mateo County Zoning Regulations** – The zoning regulations were reviewed for the capability assessment and for identifying plan integration.
- **San Mateo County Subdivision Regulations** – The subdivision regulations were reviewed for the capability assessment and for identifying plan integration.
- **San Mateo County Code of Ordinances, Chapter 4.100** – The Code of Ordinances, Chapter 4.1 Storm Water Management and Discharge Control Regulations were reviewed for the capability assessment and for identifying plan integration.
- **San Francisco Bay Region Municipal Regional Stormwater NPDES Permit** – Municipal Regional Stormwater Permit was reviewed for the capability assessment and for identifying plan integration.
- **The San Mateo County Emergency Operations Plan** – The Emergency Operations Plan was reviewed for the capability assessment and for identifying plan integration.
- **The CA. State Civil Code section 1102** – The Civil Code was reviewed for was reviewed for the capability assessment.
- **The California Environmental Quality Act** – the application of CEQA was reviewed for the capability assessment and for identifying plan integration.
- **California Code of Regulations model Water Efficient Landscape Ordinance** – the Water Efficient Landscape Ordinance was reviewed for the capability assessment and for identifying plan integration.
- **The San Mateo County General Plan** – The General Plan was reviewed for the capability assessment and for identifying plan integration.
- **The San Mateo County Capital Improvement Plan** – the Capital Improvement Plan was reviewed for the capability assessment and for identifying plan integration.
- **San Bruno Mountain Habitat Conservation Plan** - the Habitat Conservation Plan was reviewed for the capability assessment and for identifying plan integration.
- **The San Mateo County Local Coastal Program** – The Local Coastal Program was reviewed for the capability assessment and for identifying plan integration.
- **Santa Cruz And San Mateo Community Wildfire Protection Plan** – The Community Wildfire Protection Plan was reviewed for the capability assessment and for identifying plan integration.
- **The San Mateo County Energy Efficient Climate Action Plan** - The Climate Action Plan was reviewed for the capability assessment and for identifying plan integration.
- **The San Mateo County Emergency Operations Plan** - Emergency Operations Plan was reviewed for the capability assessment and for identifying plan integration.
- **Threat & Hazard Identification & Risk Assessment (THIRA)** – the THIRA was reviewed for the capability assessment and for identifying plan integration.
- **The San Mateo County Continuity of Operations Plan** – The Continuity of Operations Plan was reviewed for the capability assessment.

- **San Mateo County Public Health Plans** – public health plans (Strategies for Building Healthy, Equitable Communities Strategic Plan (2015); Vision for a SMC Food and Farm Bill (2017); SMC Community Health and Needs Assessment (2019); No Place Like Home Plan (2019); Community Collaboration for Children’s Success Neighborhood Action Plans (2019)) were reviewed for the capability assessment and for identifying plan integration.
- **The North Fair Oaks Community Plan** - The North Fair Oaks Community Plan was reviewed for recent and expected future development trends.
- **The San Mateo County Sea Level Rise Vulnerability Assessment** – The Sea Level Rise Vulnerability Assessment was reviewed to understand the County’s adaptive capacity for climate change.
- **San Mateo County Stormwater Resource Plan** – The Stormwater Resource Plan was reviewed for the capability assessment and for identifying plan integration.
- **The San Mateo County Green Infrastructure Plan** – The Green Infrastructure Plan was reviewed for the capability assessment and for identifying plan integration.
- **San Mateo County Drainage Policy** – The Drainage Policy was reviewed for the capability assessment and for identifying plan integration.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## 1.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

To better understand risk and vulnerability, the County could implement a program to digitally map historical hazard events and future hazard events and impacts. The County could also review the replacement cost multiplier used in the risk assessment for accuracy for this location.



## Attachment A.

Project	Area Scope	Agency	Funding Source	Value	Start	Status
<b>FIRE SAFE SMC</b>						
HWY 35	Old La Honda Rd. to Hwy 84	Fire Safe	PG&E	\$80,000	Jul-21	Operational
	Hwy 35 - From Hwy 92 to Southern County line		CAL FIRE CCI	\$200,000		In Contracts
Fire Safe SMC Wildfire Resiliency	San Carlos Parks & Thornewood, Wod	Fire Safe	Coastal Conservancy	\$189,000	Aug-21	
SMC Hwy 35 Evacuation Route	25 miles of Hwy 35 in SMC	Fire Safe	Cal Fire	\$2,600,000	APPLIED	
WFPD Hazard Map	Hazard Risk Map WFPD, Wod, PV, SMC	Fire Safe/ WFPD	Cal Fire	\$42,000	APPLIED	
SMC Fire Prevention WUI Inspections	Palomar Park, Devonshire	Fire Safe	OOS	\$50,000	APPLIED	
SMC Wildfire Resiliency Projects	All WUI Areas within SMC	SMC	Measure K	\$1,068,000	PENDING	
SMC Neighborhood Chipping	Select Neighborhoods within SMC	Fire Safe/ RCD	Measure K/ Grant	\$100,000 approx.	NOW	
San Bruno Eucalyptus Removal	Crestmoor Dr./ Cal Trans Hwy 380	Fire Safe/ Cal Trans	State	\$150,000 approx.	NOW	
Community Wildfire Prep/ Response	WUI Neighborhoods TBD	S. Coast Sustainable	OOS	Unknown	NOW	
Wildfire Camera Installation	Select Sites East side of Hwy 35	Fire Safe/ PANO	PGE	TBD	PENDING	
Cuesta La Honda	Fuel Reduction Vacant Parcels/ Chipping	Fire Safe/ Cal Fire	Cal Fire/ Grant	TBD	PENDING	
Skywood Acres Neighborhood	Southeast Wunderlich/ Skywood	SMC Parks/ Fire Safe	Unknown	TBD	PENDING	
SMC Eucalyptus Removal	Strategic Coastal Eucalyptus Removal - MCC Maps	Fire Safe/ Cal Trans	State	TBD	PENDING	
<b>RCD (Current Projects)</b>						
Forest Health	Quarry Park Shaded Fuel Break	RCD/ SMC Parks	Coastal Conservancy	\$1M	AUG	
Forest Health	Forest Health across 440 acres (Huddart & Wunderlich County Park, Girl Scout Camp)	RCD/ SMC Parks/ Girl Scouts (Private Landowner),	CAL FIRE FH Grant	\$2.5M	NOW	
Fuel Reduction	Quarry Park/ El Granada Eucalyptus Removal SOW	RCD/ Residents	County	\$75,000	PENDING	
Vegetation Management	Quiroste Valley (Amah Mutsun Tribal Band)	RCD/ State Parks	State Parks	\$724,300	NOW	
Cuesta La Honda	Perimeter Shaded Fuel Break Cuesta LaHonda	RCD/ Cal Fire	CCI Grants	\$1M	FUTURE	CEQA started
Quarry Park	Eucalyptus Removal/ Forest Restoration	RCD/ SMC Parks	Unknown	Unknown	FUTURE	
Forest Health	Butano State Park 420 acres + LiDAR	RCD/ SP/ SMSN	CAL FIRE FH Grant	\$2.8M	PENDING	
Vegetation Management	Hypericum control (in permitting)	RCD/ Cal Fire/ etc.	Multiple/ County Ag	50,000	NOW	

Project	Area Scope	Agency	Funding Source	Value	Start	Status
SMC Neighborhood Chipping	Select Neighborhoods within SMC	Fire Safe/ RCD	FSA Grant	\$103,500	NOW	
<b>(Projects in Development)</b>						
Coastal Public Works Plan	Coastal Com Partnership Forest Health Projects	RCD/ Coastal Com	Unknown	Unknown	PENDING	
Coastal Regional Prioritization Group	Regional project prioritization	RCD/ SCRCD/ SMSN	Coastal Conservancy	\$40,000	NOW	
Post-fire technical assistance	CZU burn zone- culvert replacement, hazard tree assessment, erosion control, technical assistance	RCD/ NRCS	SMC, NRCS, FEMA (pending)	\$260,000	NOW	
Technical Assistance Fuels/ Habitat	Portola Valley Habitat and Fuels concerns	RCD	County		NOW	
Technical Assistance Fuels/ Habitat	El Granada Eucalyptus Removal	RCD	County		NOW	
Technical Assistance Fuels/ Habitat	Cuesta La Honda project development	RCD	County		NOW	
HWY 35 French Broom Mapping & BMP	Developing BMP for invasive species management	CAL FIRE/ RCD	CAL FIRE	\$20,000	NOW	
<b>Other Agencies</b>						
CAL FIRE / SMC FIRE Prescribed Burn	SFPUC Water Shed/ Crystal Springs	CAL FIRE/ SFPUC	Unknown	Unknown	Ongoing	CEQA almost completed
Alert Wildfire Cameras	Selected sites in San Mateo and neighboring counties	CAL FIRE/ Alert Wildfire	PGE/ CAL FIRE/ Donations	\$150,000+	Ongoing	18 Cameras Operational 6 pending
TomKat Ranch VMP	Fuel Reduction, Habitat management, Fire Access	CAL FIRE	CAL FIRE/ Private	\$50k	Ongoing	
Pomponio Ranch VMP	Fuel Reduction, Habitat management, Fire Access	CAL FIRE	CAL FIRE/ Private	\$50k	Ongoing	
SFPUC Cahil Ridge Fuel Break	Shaded Fuel Break	SFPUC	SMCF/ CAL FIRE Project Engines	\$75K	Ongoing	
SFPUC Polhemus Road	Defensible Space behind homes on SFPUC lands	SFPUC	SMCF/ CAL FIRE Project Engines	\$50K	Almost Complete	
SFPUC Dam Face Burns	Fuel Reduction, Dam Safety	SFPUC	CAL FIRE/ SMCF/ PUC/ CCC	\$50K	Ongoing	
SFPUC Hwy 35 SOD	SOD removal	SFPUC	SFPUC/ SMCF/ CAL FIRE Project Engines	\$400K	Ongoing	
SFPUC Peninsula Watershed Fuel Reduction	Ongoing Mowing and Mastication on SFPUC Lands	SFPUC	SFPUC Contracts	\$500K	Ongoing	
SFPUC Edgewood Park Fuel Break	Reclear Edgewood Park Southern Fuel Break from old FSC grant	PG&E/ SFPUC	SFPUC/ PG&E	\$400K	Almost Complete	
Junipero Sierra County Park	Fuel Reduction behind homes	SM Parks	SM Parks/ CAL FIRE/ SMCF	\$75K	Ongoing	
Truck Trail Maintenance	Access Road Maintenance/ Fuel Reduction	CAL FIRE	CAL FIRE	\$150K	Ongoing	



## 2. TOWN OF ATHERTON

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### 2.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Dan Larsen, Police Commander  
80 Fair Oaks Lane  
Atherton, CA 94027  
650-752-0506  
dlarsen@ci.atherton.ca.us

#### Alternate Point of Contact

Jen Frew, HR Manager  
80 Fair Oaks Lane  
Atherton, CA 94027  
650-752-0503  
jfrew@ci.atherton.ca.us

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 2-1.

**Table 2-1. Local Mitigation Planning Team Members**

Name	Title
Dan Larsen	Police Commander
Jen Frew	Human Resources Manager
Stephanie B. Davis	Contract Principal Planner
Robert Ovardia	Director of Public Works

### 2.2 JURISDICTION PROFILE

#### 2.2.1 Location and Features

The Town of Atherton is a small semi-rural and residential city in San Mateo County, California. Atherton is located in the midst of what has grown to be an almost continuous urban/suburban complex stretching along the western shore of San Francisco Bay between the cities of San Francisco and San Jose. The area known as “The Peninsula” is constrained by the Bay and the Santa Cruz Mountains.

The Town employs both full-time Town employees as well as a number of part-time and contract employees. While the Town provides local police services, the fire services are supplied by the Menlo Park Fire Protection District. Atherton is in the heart of the Mid-peninsula and is bounded by Redwood City on the north side, Menlo Park on the east and south side and Woodside on the west. The Town has an area of approximately 3,600 acres or 5.6 square miles; 89% of which is residential, 5% parks and open space, and 6% public and private schools and municipal facilities.

Atherton, along with most of the San Francisco Bay Area, enjoys a mild Mediterranean climate with warm, dry summers and cool, relatively wet winters. December is generally the coolest month and July is the warmest month. The annual average rainfall is just over 20 inches, with 90% of that falling November to March. The

average year-round temperature is 58° F. Humidity averages 43 to 94 %. Prevailing winds are from the generally from the west or north/west and average 4 mph.

### **2.2.2 History**

In 1866, The Town of Atherton was known as Fair Oaks, and was a flag stop on the California Coast for the Southern Pacific Railroad between San Francisco and San Jose for the convenience of the owners of large estates living north of Menlo Park. The entire area was called Menlo Park. It was part of the Rancho de las Pulgas, which is now southern San Mateo County. In 1923, Menlo Park wanted to incorporate its lands to include Fair Oaks. During a meeting of the representatives of the two communities, the Fair Oaks property owners maintained their community as a strictly residential area, and they would incorporate independently. Both groups rushed to Sacramento, but the Fair Oaks committee arrived first. It was at that time they realized that they could not keep the name Fair Oaks, as it was already the name of a town near Sacramento. It was decided to honor Faxon Dean Atherton who had been one of the first property owners in the south peninsula and name the town for him. The Town of Atherton was incorporated on September 12, 1923.

### **2.2.3 Governing Body Format**

The Town of Atherton is governed by a five-member Town Council. The eight (8) town departments: City Manager’s Office, Police, Finance, Public Works, Building, Planning, Library and Parks Department. The Town has nine (9) Committees and Commissions that report to the Town Council.

The Town Council assumes responsibility for the adoption of this plan; the City Manager will oversee its implementation.

## **2.3 CURRENT TRENDS**

### **2.3.1 Population**

According to the California Department of Finance, the population of Atherton as of January 2020 was 7,031. Since 2016, the population has declined at an average annual rate of 0.4 percent.

### **2.3.2 Development**

Future new residential development in Atherton is limited since the Town is primarily built out. The only other residential development possibilities within the Town may be smaller, sub-dividable areas and the few remaining vacant parcels. Any new subdivision would be subject to the minimum development standards of the Atherton Municipal Code.

Table 2-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 2-2. Recent and Expected Future Development Trends**

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? • If yes, give the estimated area annexed and estimated number of parcels or structures.	No					
Is your jurisdiction expected to annex any areas during the performance period of this plan? • If yes, describe land areas and dominant uses. • If yes, who currently has permitting authority over these areas?	No					
Are any areas targeted for development or major redevelopment in the next five years? • If yes, briefly describe, including whether any of the areas are in known hazard risk areas	No					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2016	2017	2018	2019	2020
	Single Family	26	27	30	21	23
	Multi-Family	0	0	0	0	0
	Other (commercial, mixed use, etc.)	15	24	11	13	5
	<b>Total</b>	<b>41</b>	<b>51</b>	<b>41</b>	<b>34</b>	<b>28</b>
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	Development has been evenly dispersed in the Town. New construction is subject to hazards that affect the entire community.					
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	Future new residential development in Atherton is limited since the Town is primarily built out. Redevelopment of existing single family residential properties and construction of accessory dwelling units is accounted for in the Town's General Plan and Housing Element. The only other residential development possibilities within the Town may be smaller, sub-dividable areas and the few remaining vacant parcels. Any new subdivision would be subject to the minimum development standards of the Atherton Municipal Code					

## 2.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The "Analysis of Mitigation Actions" table in this annex identifies these as community capacity building mitigation actions.

The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 2-3.
- Development and permitting capabilities are presented in Table 2-4.
- An assessment of fiscal capabilities is presented in Table 2-5.
- An assessment of administrative and technical capabilities is presented in Table 2-6.
- An assessment of education and outreach capabilities is presented in Table 2-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 2-8.
- Classifications under various community mitigation programs are presented in Table 2-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 2-10.

**Table 2-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b> <i>Comment:</i> ATH Ord. 601 § 2, 2013; Ord. 590 § 2 (part), 2010 (Title 15)	Yes	No	Yes	Yes
<b>Zoning Code</b> <i>Comment:</i> ATH Ord. 582 § 1 (Exh. A) (part), 2009	Yes	No	No	Yes
<b>Subdivisions</b> <i>Comment:</i> ATH Ord. 441 § 1 (part), 1988	Yes	No	No	Yes
<b>Stormwater Management</b> <i>Comment:</i> ATH Ord. 481 (part), 1994/Chapter 8.5	Yes	No	Yes	Yes
<b>Post-Disaster Recovery</b> <i>Comment:</i> Emergency Operations Plan V.1 & V.2, 2000	Yes	No	No	Yes
<b>Real Estate Disclosure</b> <i>Comment:</i> CA State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.	No	Yes	Yes	No
<b>Growth Management</b> <i>Comment:</i> (Ord. 441 § 1 (part), 1988)	Yes	No	Yes	Yes
<b>Site Plan Review</b> <i>Comment:</i> Conducted by the Building Department, Public Works, Planning and Fire Department.	Yes	No	No	Yes
<b>Environmental Protection</b> <i>Comment:</i> ATH Ord. 317 Ch. 12(b) § 1, 1973	Yes	No	Yes	Yes
<b>Flood Damage Prevention</b> <i>Comment:</i> ATH Ord. 494 (part), 1996	Yes	No	No	Yes
<b>Emergency Management</b> <i>Comment:</i> ATH Ord. 318 § 1, 1973	Yes	No	No	Yes
<b>Climate Change</b> <i>Comment:</i> Climate Action Plan, adopted November 2016	Yes	No	Yes	Yes
<b>Other</b> <i>Comment:</i> Chapter 8.54 (Grading, Erosion, and Sediment Control)	Yes	No	No	Yes



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
<b>General Plan</b> <i>Is the plan compliant with Assembly Bill 2140?</i> Yes <i>Comment:</i> Town of Atherton General Plan Update Adopted, 2020 Housing Element Update Plan, 2014	Yes	No	Yes	Yes
<b>Capital Improvement Plan</b> <i>How often is the plan updated?</i> Annually, in budget. Considered on a 5-year scale, per FY 2015/16 budget. <i>Comment:</i>	Yes	No	No	Yes
<b>Disaster Debris Management Plan</b> <i>Comment:</i> Countywide Plan is forthcoming	No	Yes	No	Yes
<b>Floodplain or Watershed Plan</b> <i>Comment:</i>	No	No	No	Yes
<b>Stormwater Plan</b> <i>Comment:</i> Stormwater Drainage Master Plan Updated in April 2015	Yes	No	No	Yes
<b>Urban Water Management Plan</b> <i>Comment:</i> CalWater	No	Yes	Yes	Yes
<b>Habitat Conservation Plan</b> <i>Comment:</i>	No	No	No	No
<b>Economic Development Plan</b> <i>Comment:</i>	No	No	No	No
<b>Shoreline Management Plan</b> <i>Comment:</i> Town of Atherton has no shoreline	No	No	No	No
<b>Community Wildfire Protection Plan</b> <i>Comment:</i>	No	Yes	No	Yes
<b>Forest Management Plan</b> <i>Comment:</i> Menlo Park Fire Protection District	No	Yes	No	Yes
<b>Climate Action Plan</b> <i>Comment:</i> Climate Action Plan (2016)	Yes	No	No	Yes
<b>Emergency Operations Plan</b> <i>Comment:</i> Emergency Operations Plan V.1 & V.2, 2000	Yes	No	Yes	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment:</i> Bay Area UASI	No	Yes	No	Yes
<b>Post-Disaster Recovery Plan</b> <i>Comment:</i> Future plan development	No	No	No	Yes
<b>Continuity of Operations Plan</b> <i>Comment:</i> No	Yes	No	No	Yes
<b>Public Health Plan</b> <i>Comment:</i> San Mateo County	No	Yes	No	Yes
<b>Other</b> <i>Comment:</i> Bike Pedestrian Master Plan, Civic Center Project, Holbrook-Palmer Park Master Plan, Neighborhood Traffic Management Program, Drainage Master Plan, Green Infrastructure Plan	Yes	No	No	Yes

**Table 2-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? • If no, who does? If yes, which department?	Yes Building Department
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	Yes

**Table 2-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State-Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	Yes

**Table 2-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Public Works/Planning Dept.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building/Planning/Public Works
Planners or engineers with an understanding of natural hazards	Yes	Building/Public Works
Staff with training in benefit/cost analysis	Yes	Building/Planning/Public Works
Surveyors	No	Public Works/Contract
Personnel skilled or trained in GIS applications	Yes	Building/Planning/Public Works
Scientist familiar with natural hazards in local area	No	Building/Planning/Public Works
Emergency manager	Yes	City Manager
Grant writers	Yes	Consultants

**Table 2-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Commander for PD or Assistant to The City Manager for Town issues.
Do you have personnel skilled or trained in website development?	No
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	No
Do you use social media for hazard mitigation education and outreach? • If yes, briefly describe.	Yes News Flash and SM Alerts
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	Yes  The Town participates as a member of the San Mateo County Emergency Managers Association which includes topics on hazard mitigation Countywide.
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	No
Do you have any established warning systems for hazard events? • If yes, briefly describe.	Yes Emergency Siren for local dam breach/fire within the area of Walsh Road (upper west side of Atherton). <a href="http://www.smcalert.info">www.smcalert.info</a> . SMC Alert is an opt-in countywide notification system that can alert mobile devices, landlines and send emails

**Table 2-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Building Department
Who is your floodplain administrator? (department/position)	Chief Building Official
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	2013 (as part of IBC/CBC building code standards adoption)
Does your floodplain management program meet or exceed minimum requirements?  • If exceeds, in what ways?	Meets minimum NFIP standards for community with no mapped SFHA
When was the most recent Community Assistance Visit or Community Assistance Contact?	Unknown – No SFHA
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If no, state why.	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No

Criterion	Response
Does your jurisdiction participate in the Community Rating System (CRS)?	No
• If yes, is your jurisdiction interested in improving its CRS Classification?	
• If no, is your jurisdiction interested in joining the CRS program?	No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup>	56
• What is the insurance in force?	\$19,215,000
• What is the premium in force?	\$28,426
How many total loss claims have been filed in your jurisdiction? <sup>a</sup>	9
• What were the total payments for losses?	\$244,589

a. According to FEMA statistics as of March 31, 2021

**Table 2-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0603092	N/A
DUNS#	Yes	091837856	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection (ISO rating)	Yes	2	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A

**Table 2-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment:</i> Climate Action Plan, adopted November 2016, includes strategy 3.4 "Education and Promotion" to implement identified GHG reduction program and policy recommendations. Additionally, in July 2021 the Town hired a part-time Sustainability Coordinator to further develop and implement the Town's Climate Action Plan and other Town-wide sustainability efforts and programs.	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment:</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment:</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment:</i>	Low
Participation in regional groups addressing climate risks <i>Comment:</i> Climate Action Plan, adopted November 2016, includes strategy 3.4 "Education and Promotion" to implement identified GHG reduction program and policy recommendations. Additionally, in July 2021 the Town hired a part-time Sustainability Coordinator to further develop and implement the Town's Climate Action Plan and other Town-wide sustainability efforts and programs, including continued participation in the Regionally Integrated Climate Action Planning Suite (RICAPS) program; a collaboration of all cities in San Mateo County to meet their climate action plan goals.	Medium

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Low
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i> Climate Action Plan, adopted November 2016 includes a series of adopted Greenhouse Gas (GHG) reduction measures, including specific program details, implementation, and funding.	High
Identified strategies for adaptation to impacts <i>Comment:</i>	Low
Champions for climate action in local government departments <i>Comment:</i>	Low
Political support for implementing climate change adaptation strategies <i>Comment:</i> In July 2021 the Town hired a part-time Sustainability Coordinator to further develop and implement the Town's Climate Action Plan and other Town-wide sustainability efforts and programs, including continued participation in RICAPS; a collaboration of all cities in San Mateo County to meet their climate action plan goals	Medium
Financial resources devoted to climate change adaptation <i>Comment:</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i> In July 2021 the Town hired a part-time Sustainability Coordinator to further develop and implement the Town's Climate Action Plan and other Town-wide sustainability efforts and programs, including continued participation in RICAPS; a collaboration of all cities in San Mateo County to meet their climate action plan goals	Medium
<b>Public Capacity</b>	
Local residents' knowledge of and understanding of climate risk <i>Comment:</i> Climate Action Plan, adopted November 2016, includes strategy 3.4 "Education and Promotion" to implement identified GHG reduction program and policy recommendations. Additionally, in July 2021 the Town hired a part-time Sustainability Coordinator to further develop and implement the Town's Climate Action Plan and other Town-wide sustainability efforts and programs.	Medium
Local residents' support of adaptation efforts <i>Comment:</i> Climate Action Plan, adopted November 2016, includes strategy 3.4 "Education and Promotion" to implement identified GHG reduction program and policy recommendations. Additionally, in July 2021 the Town hired a part-time Sustainability Coordinator to further develop and implement the Town's Climate Action Plan and other Town-wide sustainability efforts and programs.	Medium
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	Low
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 2.5 INTEGRATION REVIEW

For hazard mitigation planning, "integration" means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard

mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 2.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **General Plan**—The Town’s General Plan integrates hazard mitigation through the consideration of hazards most likely to impact the County. Seismic Hazards, flooding, urban and wildland fires, climate change and the Town’s Emergency Operations Plan are all hazards considered in the Community Safety Element, and the importance of open space is described through the Open Space and Conservation Element.
- **Climate Action Plan** – The Town establishes a framework designed to enhance the Town’s sustainable footprint. To the extent feasible and practical, the Town considers the long-term sustainability impacts of all governmental decisions; makes the protection and preservation of our natural environment a high priority in decision-making; recognizes that community education and participation are key to reaching sustainable goals; and seeks to work collaboratively with regional strategic partners to achieve sustainability targets.

### 2.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Public Outreach**—The Town of Atherton recognizes that there are currently public information opportunities available to facilitate public engagement regarding hazard mitigation. The Town has recently contracted with a part-time Sustainability Coordinator consultant who could potentially assist in implementing such public education and outreach efforts.

## 2.6 RISK ASSESSMENT

### 2.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 2-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

### 2.6.2 Hazard Risk Ranking

Table 2-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 2-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Pandemic	DR-3428-CA	3/22/20	Unknown
Pandemic	ER_3428-CA	3/15/20	Unknown
Winter Storms – El Camino Real and Side Street Flooding	N/A	Annually in the Winter	Unknown
Winter Storms – Flooding Various Locations		Annually in the Winter	Unknown
Severe Storms	DR-3408-CA	4/1/17	Unknown
Severe Storms	DR-3405-CA	3/16/17	Unknown
Heavy Winds		Annually	Unknown
Earthquake	DR-845	10-18-1989	Unknown
Severe Storm	N/A	12-23-2012	Unknown
Severe Storm	DR-1203	2-9-1998	Unknown
Freezing	DR-894	2-11-1991	Unknown

**Table 2-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	36	High
2	Severe weather	24	Medium
3	Dam Failure	22	Medium
4	Landslide/Mass Movements	18	Medium
5	Drought	9	Low
6	Sea Level Rise / Climate Change	0	Low
7	Flood	0	Low
8	Tsunami	0	Low
9	Wildfire	0	Low

### 2.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:



- Localized flooding in various locations.
- Flooding along El Camino Real and at side street connections.
- Tree/Canopy Health – due to recurring droughts and increases in tree diseases.
- Vulnerabilities to the Atherton Channel drainage system as outlined in the Drainage Master Plan Update dated 2015

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 2.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 2-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>AT-1</b> – Require preparation of site-specific geologic or geotechnical reports for development and redevelopment proposals in areas subject to earthquake-induced landslides or liquefaction as mandated by the State Seismic Hazard Mapping Act in selected portions of the Bay Area where these maps have been completed, and condition project approval on the incorporation of necessary mitigation measures related to site remediation, structure, and foundation design, and/or avoidance.</p> <p><b>Comment:</b> Ongoing - This is ongoing as per the California Building Code Ch. 18 Section 1803 Geotechnical Soils Reports, and the California Geological Survey and Seismic Hazard Zones Map per Chapter 7, 8, Division 2 of the California Public Resources Code (Seismic Hazards Mapping Act).;</p>	✓			
<p><b>AT-2</b> – Review new development proposals to ensure that they incorporate required and appropriate fire mitigation measures, including adequate provisions for occupant evacuation and access by emergency response personnel and equipment. Develop a clear regulatory framework at the local level to manage the wildland-urban-interface consistent with sustainable community principles.</p> <p><b>Comment:</b> This is ongoing activity – reviews are conducted by the Menlo Fire Protection District – no longer an HMP action item</p>	✓			
<p><b>AT-3</b> – Continue maintenance and testing of the Walsh Road Evacuation Siren for local dam breach and/or local fire within the west side of Alameda de las Pugals, in conjunction with the Fire Department and the California Water Service.</p> <p><b>Comment:</b> Ongoing activity – no longer an HMP action item</p>	✓			
<p><b>AT-4</b> – Update the Heritage Tree Ordinance to allow/encourage the removal dangerous trees, such as Eucalyptus trees, along with an educational component.</p> <p><b>Comment:</b> Heritage Tree Ordinance was updated in 2020. Eucalyptus trees are listed as disfavored tree species and are removals are not classified as Heritage trees regardless of size or age.</p>	✓			
<p><b>AT-5</b> – Establish and enforce requirements for new development so that site-specific designs and source-control techniques are used to manage peak stormwater runoff flows and impacts from increased runoff volumes.</p> <p><b>Comment:</b> This is ongoing activity regulated via the Towns Grading and Drainage requirements and the Town's Green Infrastructure Plan. – no longer an HMP action item</p>	✓			

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>AT-6</b> – Establish and enforce provisions (single family homes) that geotechnical and soil-hazard investigations be conducted and filed to prevent grading from creating unstable slopes, and that any necessary corrective actions be taken prior to development approval.</p> <p><b>Comment:</b> Ongoing activity – no longer an HMP action item</p>	✓			
<p><b>AT-7</b> – Establish and enforce grading, erosion, and sedimentation ordinances by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation prior to development approval.</p> <p><b>Comment:</b> Ongoing activity – no longer an HMP action item</p>	✓			
<p><b>AT-8</b> – Establish and enforce provisions under the creek protection, storm water management, and discharge control ordinances designed to control erosion and sedimentation.</p> <p><b>Comment:</b> Ongoing activity – no longer an HMP action item</p>	✓			
<p><b>AT-9</b> – Continual yearly clearing of the Atherton Channel, along with current structural integrity improvements along the section of Marsh Road from Middlefield Road to Atherton border beginning June 2016.</p> <p><b>Comment:</b> Ongoing activity – no longer an HMP action item</p>	✓			
<p><b>AT-10</b> – Develop Continuity of Operations/Continuity of Government plans and ensure force protection measures are in place in relation to vulnerable critical facilities within the Town, such as The Town Civic Center.</p> <p><b>Comment:</b> New Town Center currently being built with a project completion of October of 2021.</p>	✓			
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b></p>			✓	ATH-1
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b> Atherton is listed as a Tree City USA (30 years). The Town does not participate in the CRS or StormReady as there are no Special Flood Hazard Areas within the Town limits. The Town has partnered with the San Mateo County Flood &amp; Sea Level Rise Resiliency District regarding placement of flow stream gauges in the Atherton Channel.</p>	✓			
<p><b>Action G-3</b>—Continue to maintain the minimum National Flood Insurance Program participation requirement for communities with no mapped Special Flood Hazard Area.</p> <p><b>Comment:</b> The Town maintains its classification as a NFIP community – last FEMA review was completed in 2020</p>			✓	ATH-4
<p><b>Action G-4</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> The San Mateo County Flood and Sea Level Rise Resiliency District has installed a stream sensor in the Atherton Channel upstream of the Watkins rail crossing along with an associated rain gauge. Data from the rain gauge and stream sensor are being used in support of development of the Flood Early Warning System for Sam Mateo County.</p>	✓			
<p><b>Action G-5</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Relevant and associated policies integrated into updated general plan.</p>			✓	ATH-2
<p><b>Action G-6</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> The Town does not have resources to provide such funding.</p>		✓		

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action G-7</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan. <b>Comment:</b> Ongoing			✓	ATH-3
<b>Action G-8</b> — Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan. <b>Comment:</b> Ongoing			✓	ATH-3

## 2.8 HAZARD MITIGATION ACTION PLAN

Table 2-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 2-15 identifies the priority for each action. Table 2-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 2-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action ATH-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Earthquake, Severe weather, Dam Failure, Landslide/Mass Movements, Flood, Tsunami, Wildfire						
Existing	6, 7, 9, 11, 13	Town of Atherton	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action ATH-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community.						
<i>Hazards Mitigated:</i> Earthquake, Severe weather, Dam Failure, Landslide/Mass Movements, Drought, Climate Change, Flood, Tsunami, Wildfire						
New & Existing	1, 2, 4, 6, 7, 8, 13	Town of Atherton	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action ATH-3</b> —Actively participate in the County-wide initiative and plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, Severe weather, Dam Failure, Landslide/Mass Movements, Drought, Climate Change, Flood, Tsunami, Wildfire						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Town of Atherton	County	Low	Staff Time, General Funds	Short-term
<b>Action ATH-4</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<i>Hazards Mitigated:</i> Flood						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14	Town of Atherton		Low	Staff Time, General Funds	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action ATH-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: <ul style="list-style-type: none"> <li>• Evaluation of Enhanced Building Code Requirements (Reach Codes) to reduce the carbon footprint of new construction projects</li> <li>• Evaluation of the use of solar to reduce carbon footprint of Town facilities</li> <li>• Installation of electrical vehicle charging stations at Town facilities</li> <li>• Implementation of Green Infrastructure</li> </ul>						
<u>Hazards Mitigated:</u> Earthquake, Severe weather, Dam Failure, Landslide/Mass Movements, Drought, Climate Change, Flood, Tsunami, Wildfire						
New & Existing	1, 2, 3, 4, 5, 8, 10, 14	Town of Atherton	County Office of Sustainability, Peninsula Clean Energy	Low	Staff Time, General Funds	Short-term
<b>Action ATH-6</b> — Purchase stationary generators for critical facilities and infrastructure that lack adequate backup power, including Civic Center and EOC						
<u>Hazards Mitigated:</u> Earthquake, Severe weather, Dam Failure, Landslide/Mass Movements, Flood, Tsunami, Wildfire						
Existing	6, 7, 8	Town of Atherton	N/A	Medium	Staff Time, General Funds, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action ATH-7</b> — Improve community response to local emergencies in various ways, including but not limited to: <ul style="list-style-type: none"> <li>• Continued partnership with the Atherton Disaster and Preparedness Team to educate, organize and support residents in preparing for emergencies and natural disasters</li> <li>• Support CERT training for residents</li> <li>• Conducting preparedness drills</li> <li>• Community outreach and education vis newsletters and e-blasts</li> </ul>						
<u>Hazards Mitigated:</u> Earthquake, Severe weather, Dam Failure, Landslide/Mass Movements, Flood, Tsunami, Wildfire						
New & Existing	2, 3, 7, 8, 9, 10, 11	Town of Atherton	MPFPD, County DEM	Low	Staff Time, General Funds	Short-term
<b>Action ATH-8</b> — Improve community response to flood emergencies in various ways, including but not limited to: <ul style="list-style-type: none"> <li>• Coordinate with San Mateo County Flood and Sea Level Rise Resiliency District for the installation of creek monitoring devices for use in local and countywide flood early warning system</li> <li>• Conduct community flood preparation, education, and recovery outreach.</li> </ul>						
<u>Hazards Mitigated:</u> Earthquake, Severe weather, Dam Failure, Landslide/Mass Movements, Flood, Tsunami, Wildfire						
New & Existing	2, 3, 7, 8, 9, 10, 11	Town of Atherton	Flood & Sea Level Rise Dist. (FSLRRD), Menlo Park Fire (MPFPD)	Medium	Staff Time, General Fund, Grant Funding-EMPG and HSGP	Short-term
<b>Action ATH-9</b> — Improve local stormwater drainage to alleviate repeated localized flooding, including support and implementation of green infrastructure projects						
<u>Hazards Mitigated:</u> Severe weather, Climate Change, Flood						
New & Existing	4, 7, 8	Town of Atherton	N/A	High	Staff Time, General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Long-term
<b>Action ATH-10</b> —Install drainage collection system along El Camino Real to reduce flooding along the State Highway (CA 82) and at side street intersections						
<u>Hazards Mitigated:</u> Severe weather, Climate Change, Flood						
New & Existing	4, 7, 8	Town of Atherton	Caltrans	High	Caltrans, Grants FEMA HMA (BRIC, FMA and HMGP), Staff Time, General Fund	Long-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action ATH-11—</b> Atherton Channel Improvements – including relining of the concrete channel and other improvements identified in the 2015 Drainage Master Plan Update						
<i>Hazards Mitigated:</i> Severe weather, Climate Change, Flood						
New & Existing	4, 7, 8	Town of Atherton	N/A	High	Grants FEMA HMA (BRIC, FMA and HMGP), Staff Time, General Fund	Long-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 2-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	5	High	High	Yes	Yes	No	Medium	High
2	7	Medium	Low	Yes	No	Yes	High	Low
3	14	Medium	Low	Yes	No	Yes	High	Low
4	13	Medium	Low	Yes	No	Yes	High	Low
5	8	Medium	Low	Yes	No	Yes	High	Low
6	3	High	Medium	Yes	Yes	No	Medium	High
7	7	Medium	Low	Yes	No	No	Low	Low
8	7	Medium	Medium	Yes	Yes	No	Medium	Medium
9	3	High	High	Yes	Yes	No	Medium	High
10	3	High	High	Yes	Yes	No	Medium	High
11	3	High	High	Yes	Yes	No	Medium	High

a. See the introduction to this volume for explanation of priorities.

**Table 2-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	2, 3, 5	1	3, 7, 8	5,	6, 7, 8	5	5,8	2, 3, 5, 7, 8
<b>Medium-Risk Hazards</b>								
Severe weather	2, 3, 5	1	3, 7, 8	5, 9, 10, 11	6, 7, 8	5, 9, 10, 11	8, 9, 10, 11	2, 3, 5, 7, 8
Dam Failure	2, 3, 5	1	3, 7, 8	5	6, 7, 8	5	8	2, 3, 5, 7, 8
Landslide/Mass Movements	2, 3, 5	1	3, 7, 8	5	6, 7, 8	5	8	2, 3, 5, 7, 8

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>Low-Risk Hazards</b>								
Drought	2, 3, 5		3	5		5	5	5
Sea Level Rise/ Climate Change	2, 3, 5		3	5, 9, 10, 11		5, 9, 10, 11	8, 9, 10, 11	5
Flood	2, 3, 5	1	3, 7, 8	5, 9, 10, 11	6, 7, 8	5, 9, 10, 11	8, 9, 10, 11	2, 3, 5, 7, 8
Tsunami	2, 3, 5	1	3, 7, 8	5	6, 7, 8	5	8	2, 3, 5, 7, 8
Wildfire	2, 3, 5	1	3, 7, 8	5	6, 7, 8	5	8	2, 3, 5, 7, 8

a. See the introduction to this volume for explanation of mitigation types.

## 2.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Town of Atherton Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **Town of Atherton Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **Town of Atherton General Plan**—The general plan was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **Town of Atherton Emergency Operations Plan (EOP)**—The EOP was reviewed for the capability assessment and for identifying opportunities for action plan integration.

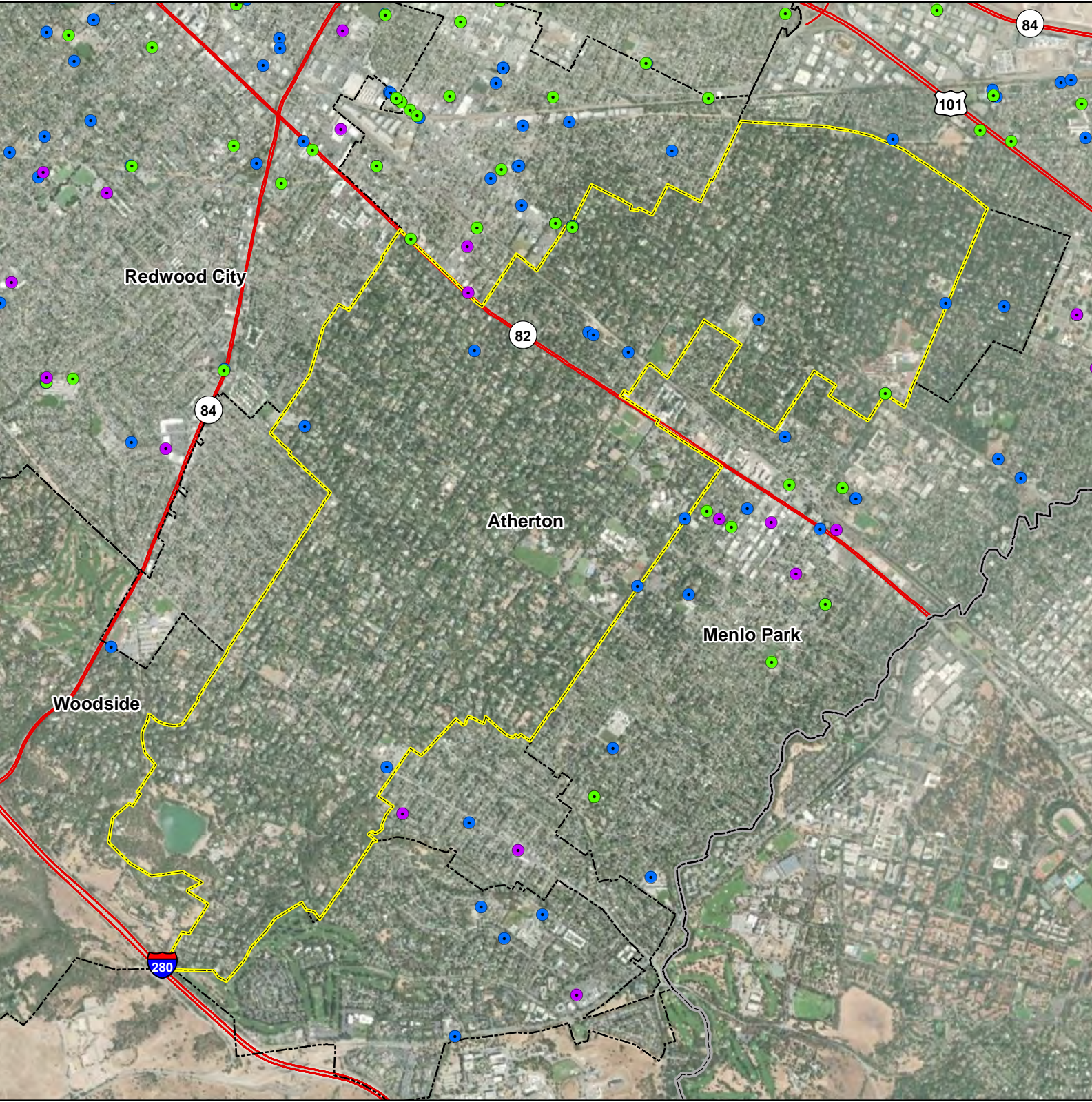
The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.



# Atherton

## Critical Facilities, 1 of 2



- Food, Water, Shelter
- Health and Medical
- Safety and Security
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD





# Atherton

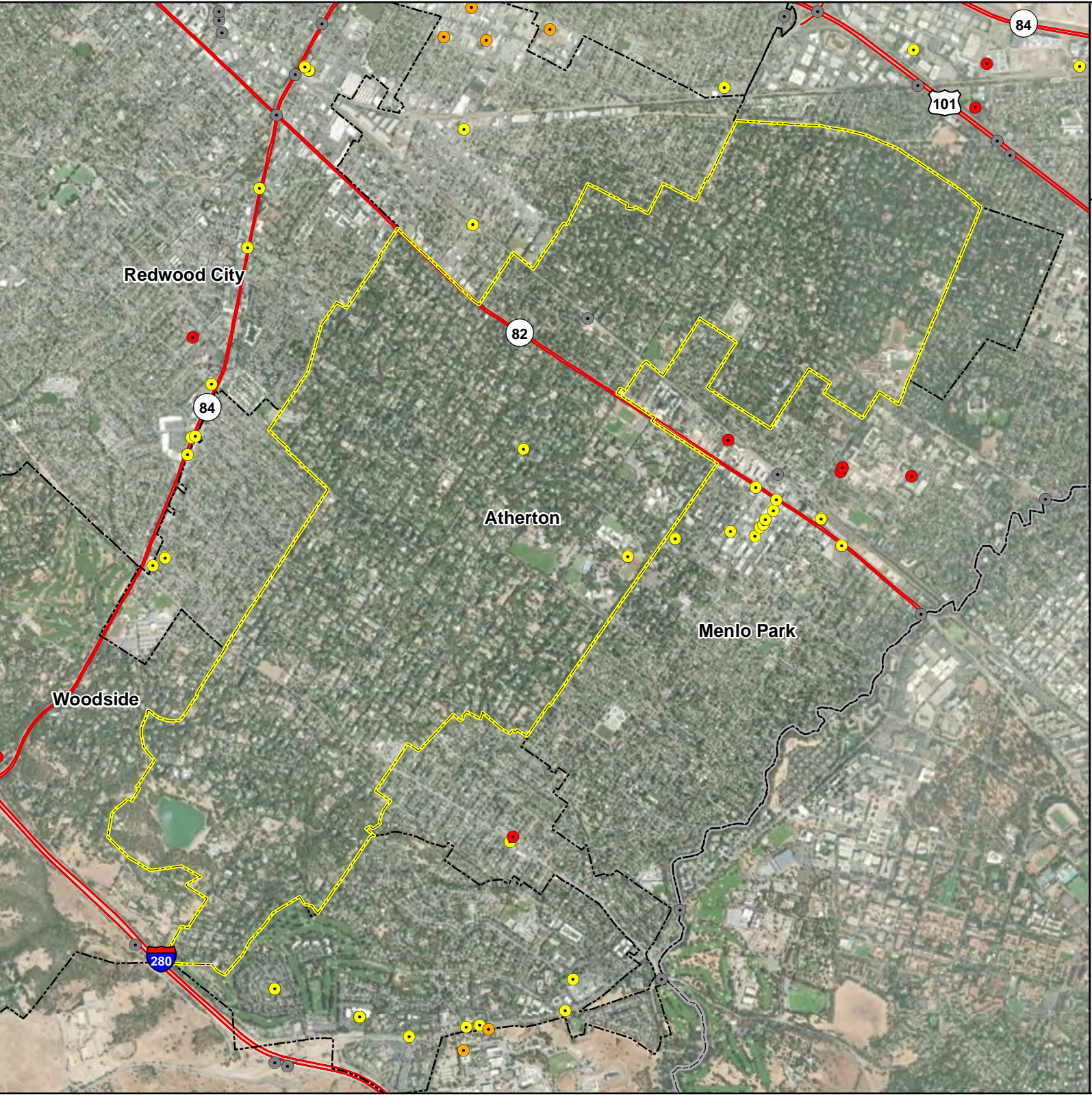
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.2 0.4 0.8 Miles





# Atherton

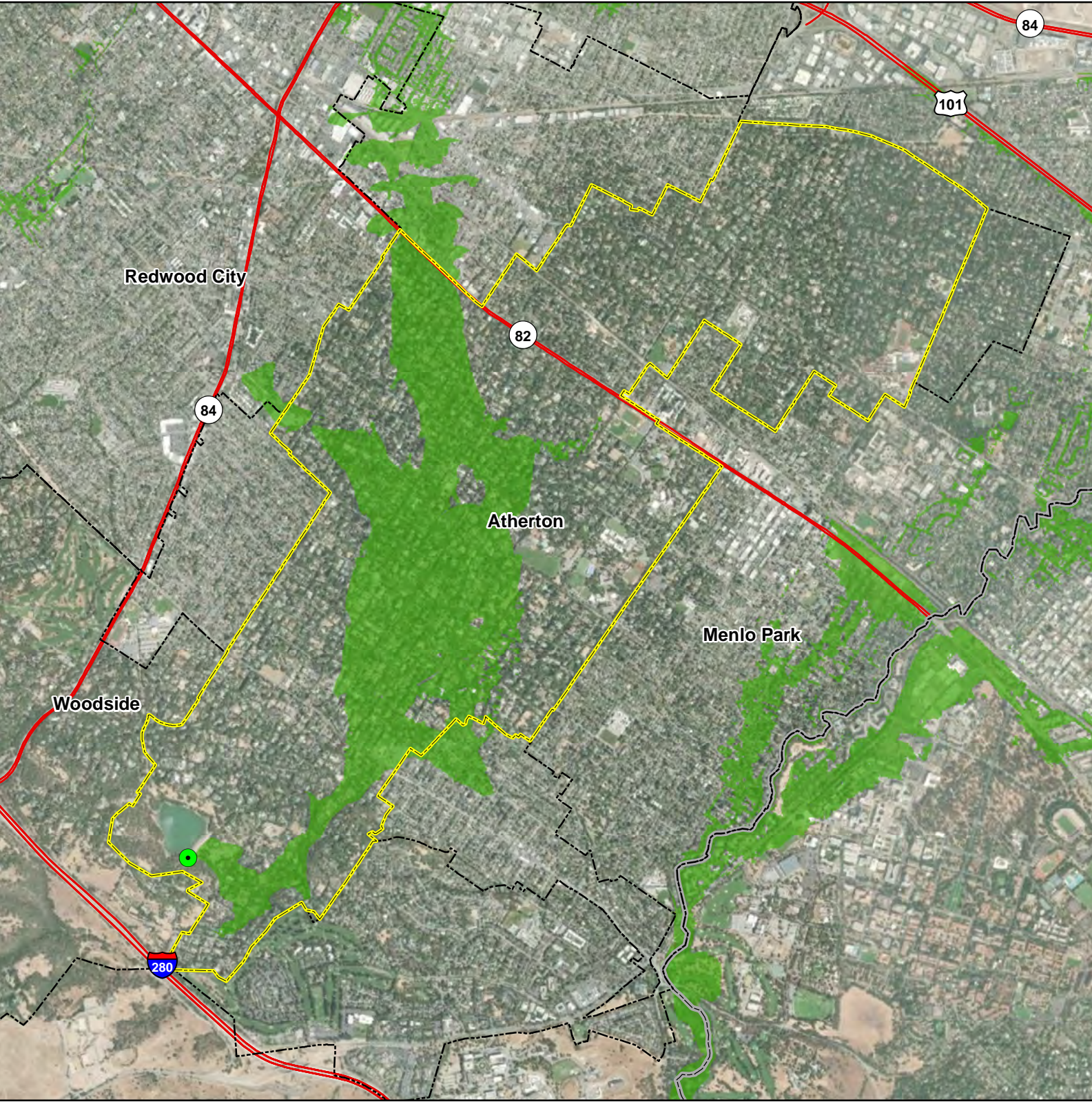
## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR












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Miles





# Atherton

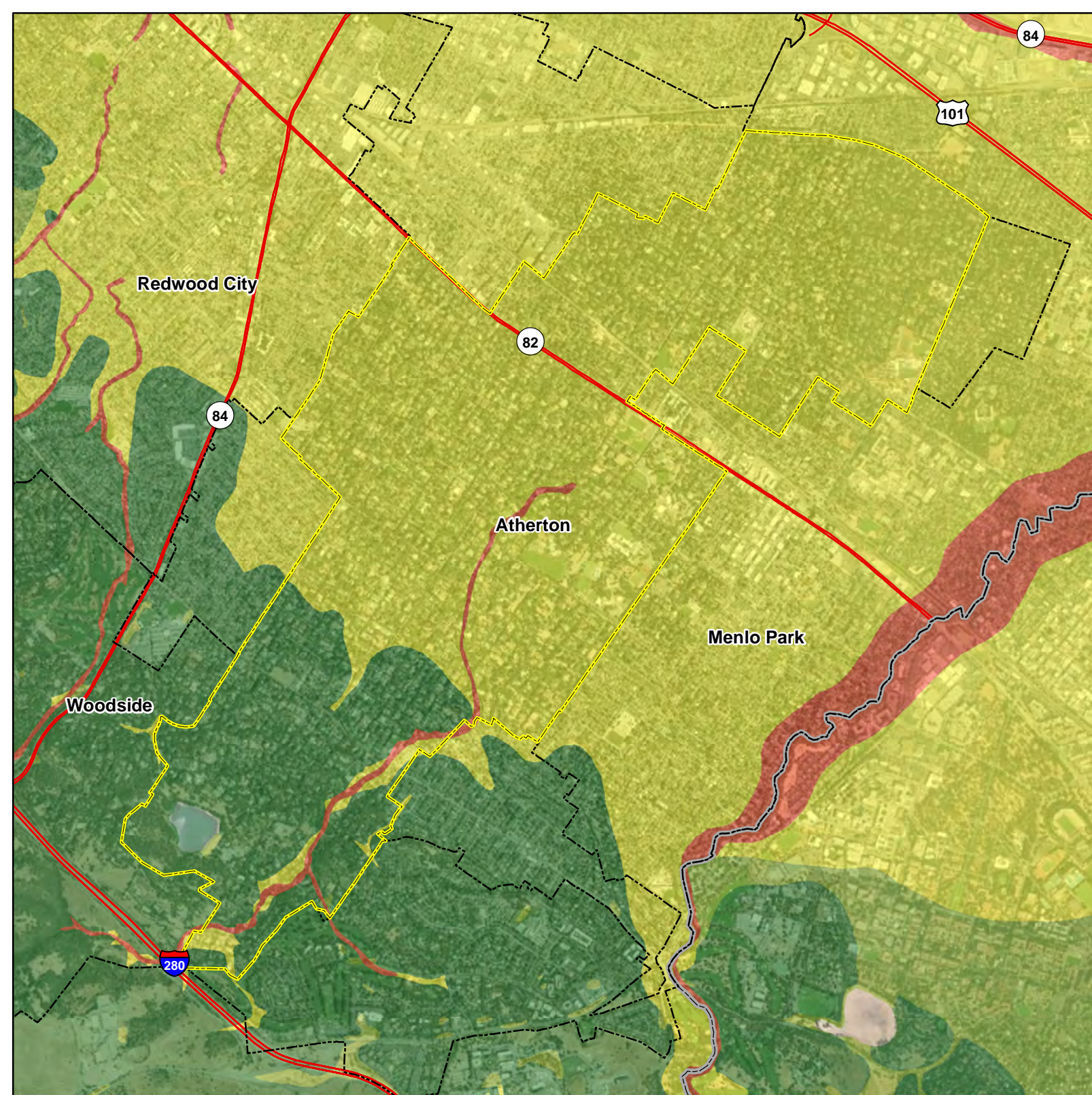
## Liquefaction Susceptibility

-  Very Low
-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., ABAG (USGS)










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# Atherton

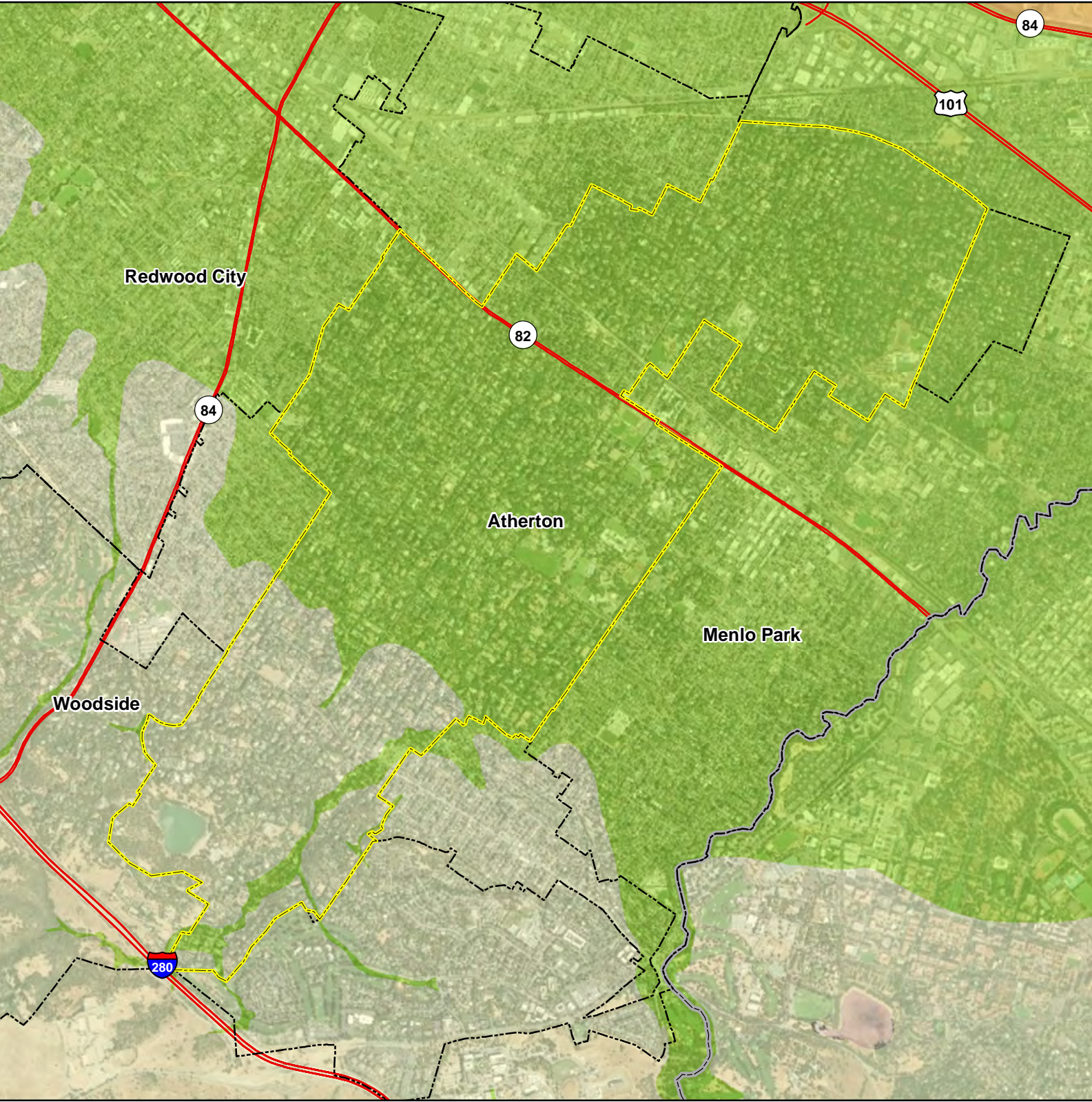
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS



0 0.2 0.4 0.8 Miles





# Atherton

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

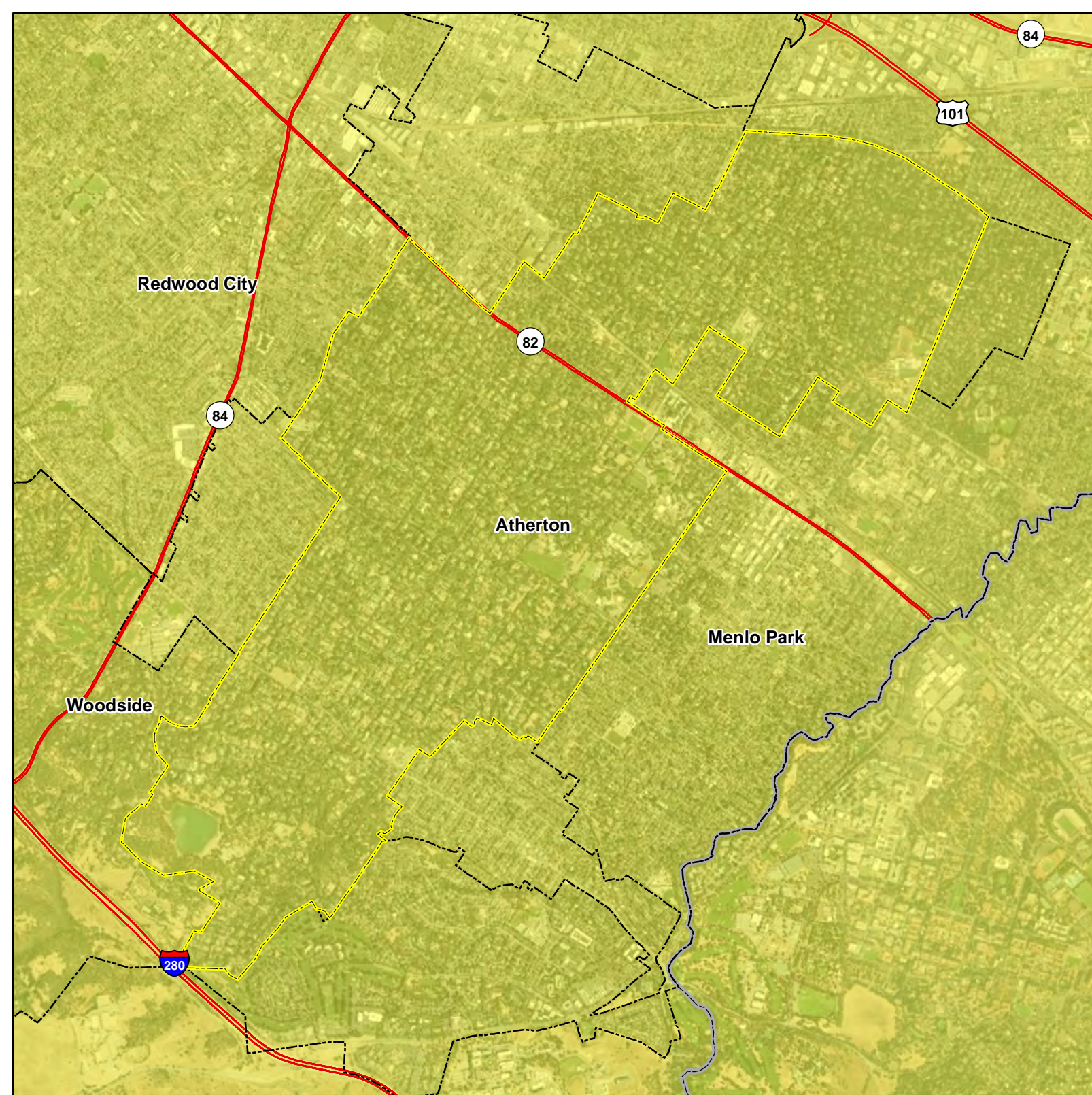
-  VII (Very Strong/Moderate)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.2 0.4 0.8  
 Miles





# Atherton

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 VIII (Severe/Moderate-Heavy)

 Selected City

 Incorporated Cities


 County Boundary

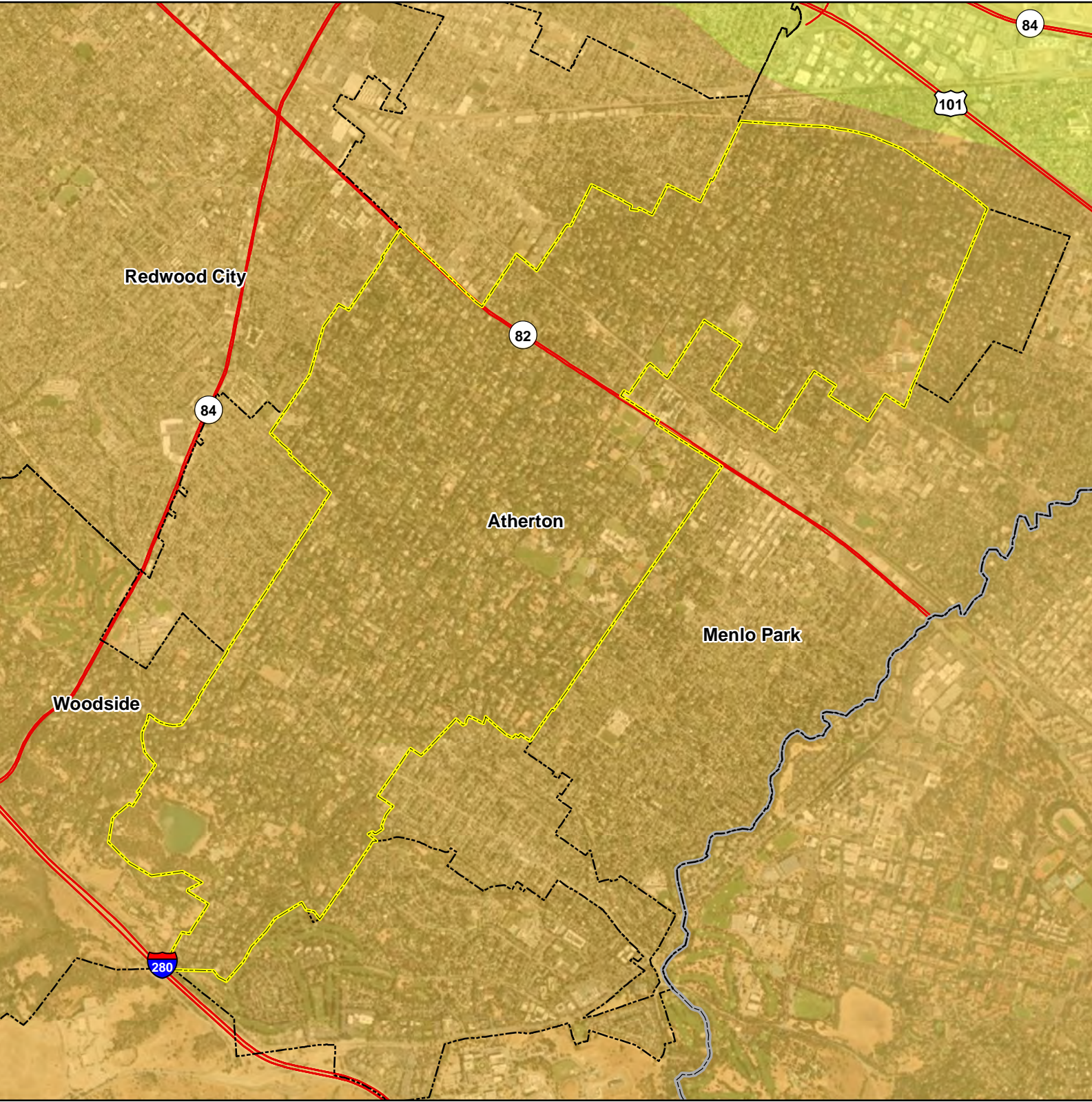
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.2 0.4 0.8  
 Miles





# Atherton

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

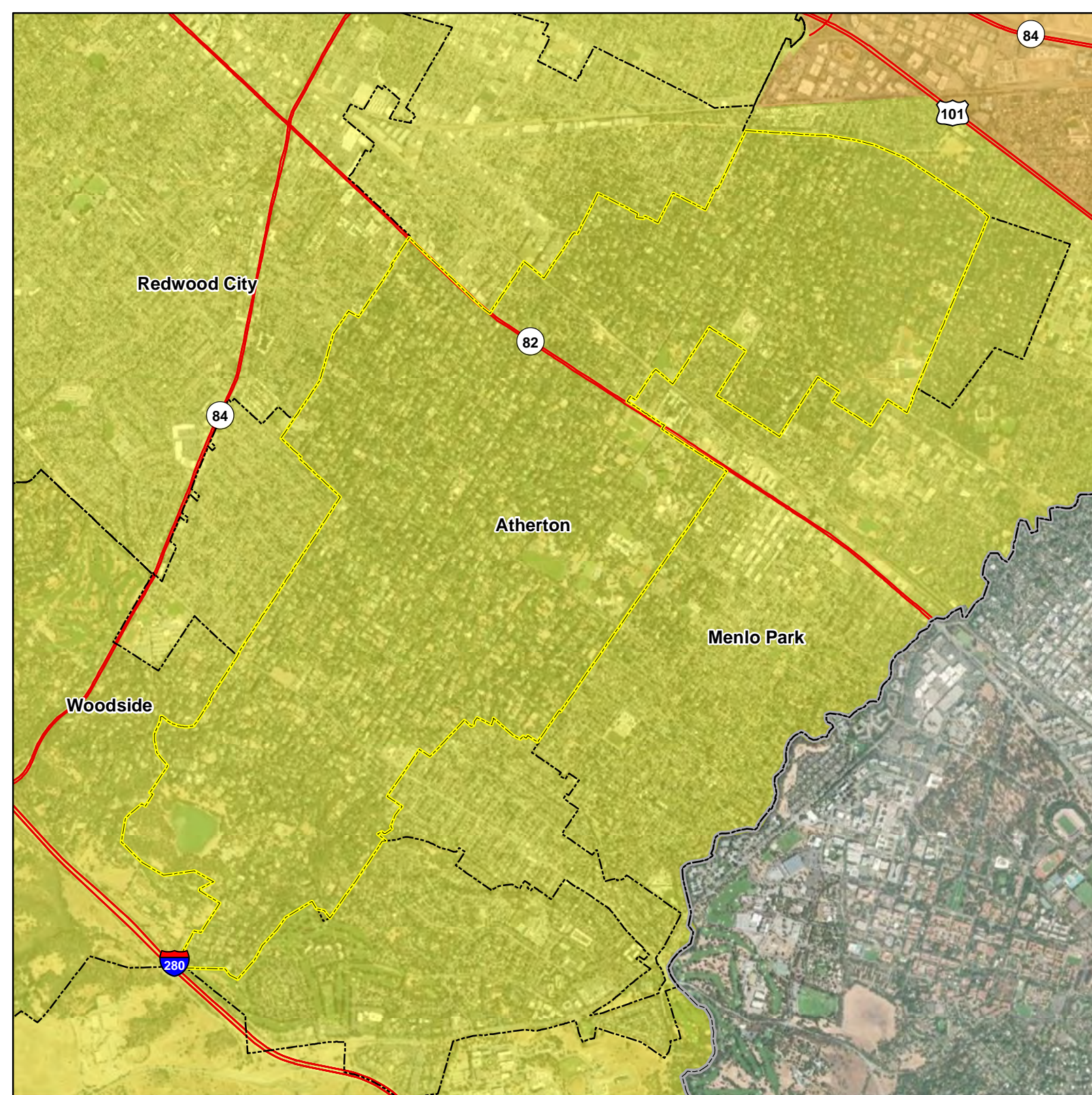
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.2 0.4 0.8 Miles





# Atherton

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 VIII (Severe/Moderate-Heavy)

 Selected City

 Incorporated Cities

 County Boundary

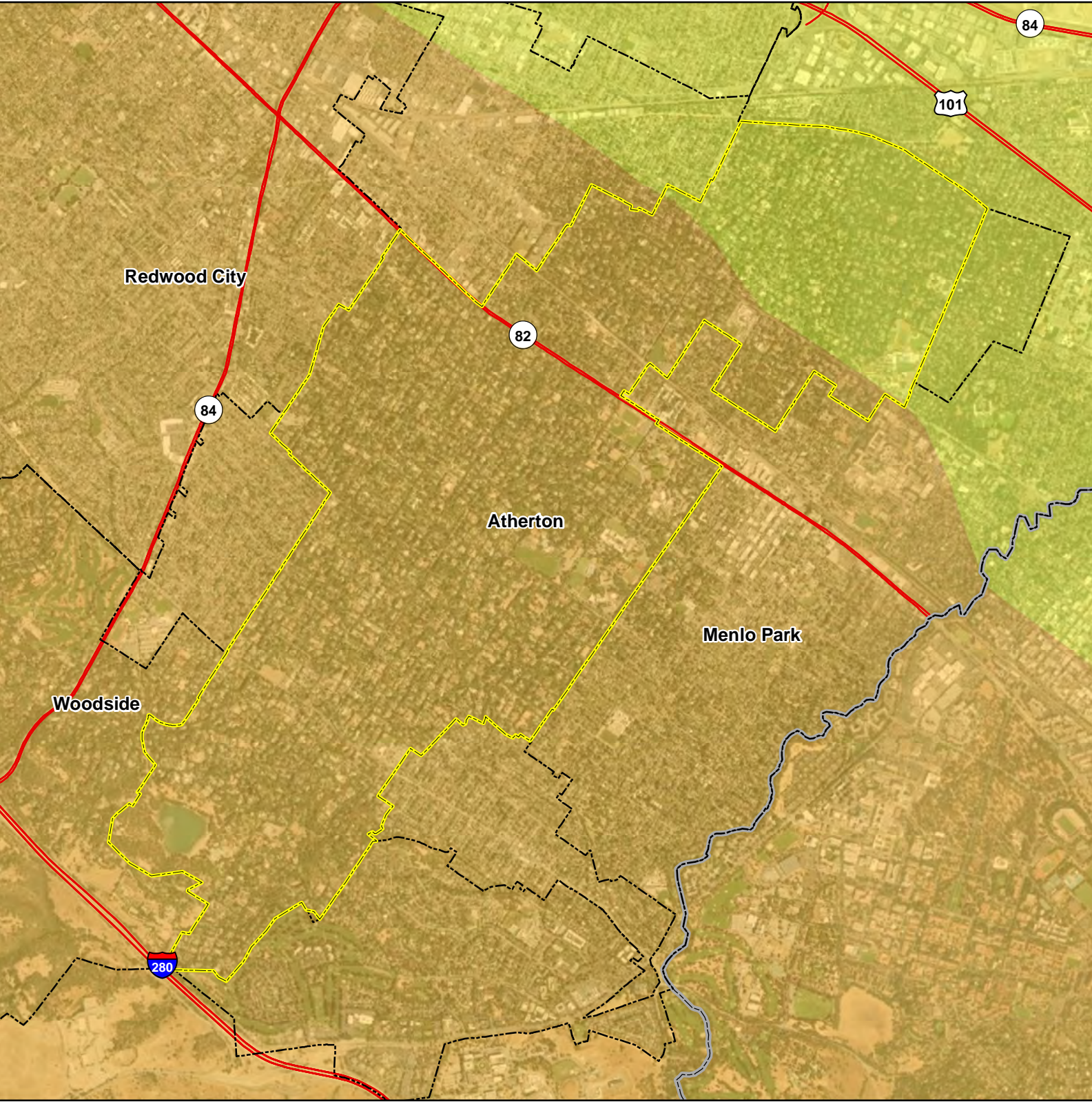
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.2 0.4 0.8 Miles





# Atherton

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

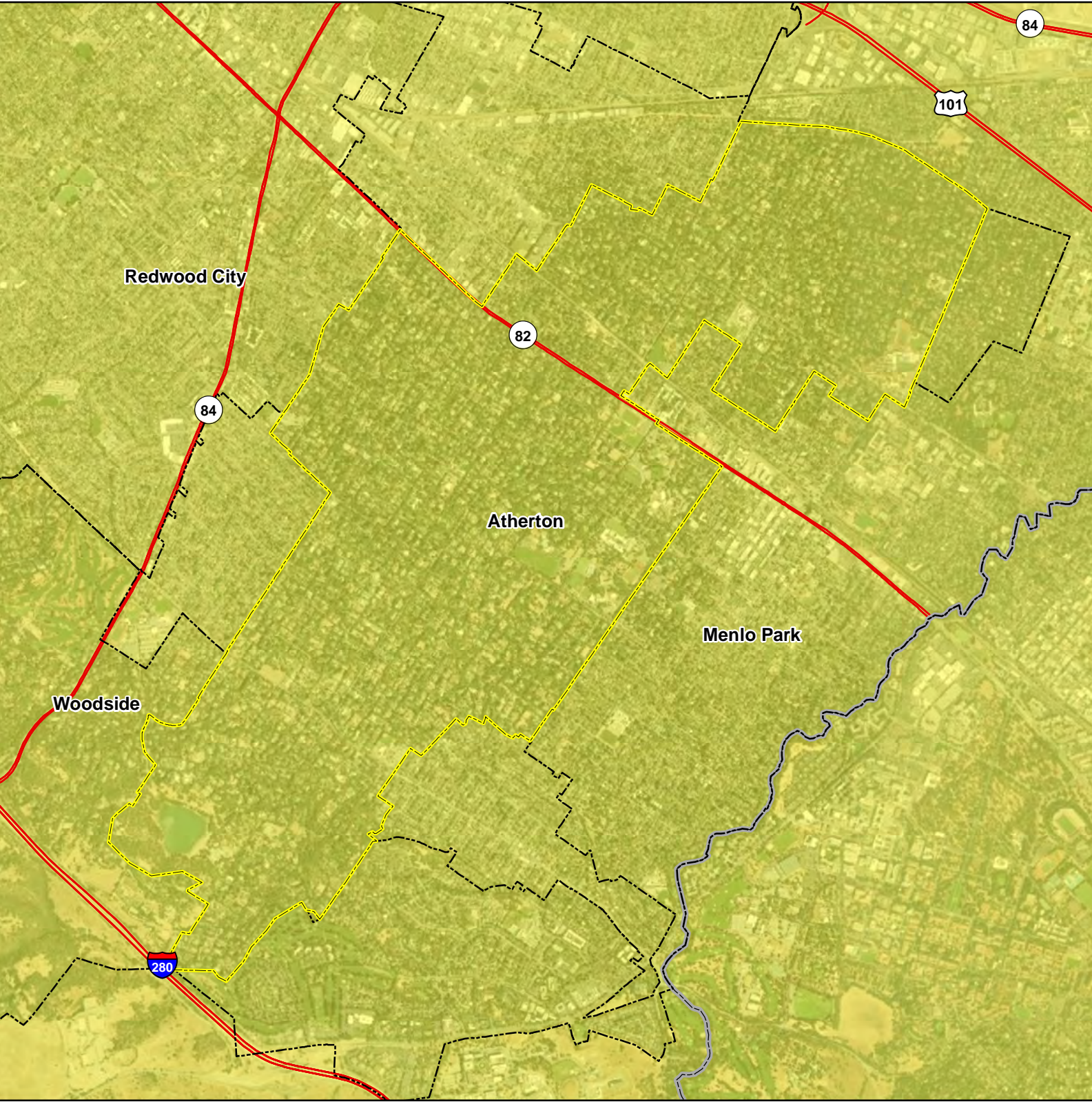
-  VII (Very Strong/Moderate)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.2 0.4 0.8 Miles





# Atherton

## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.2 0.4 0.8 Miles





# Atherton

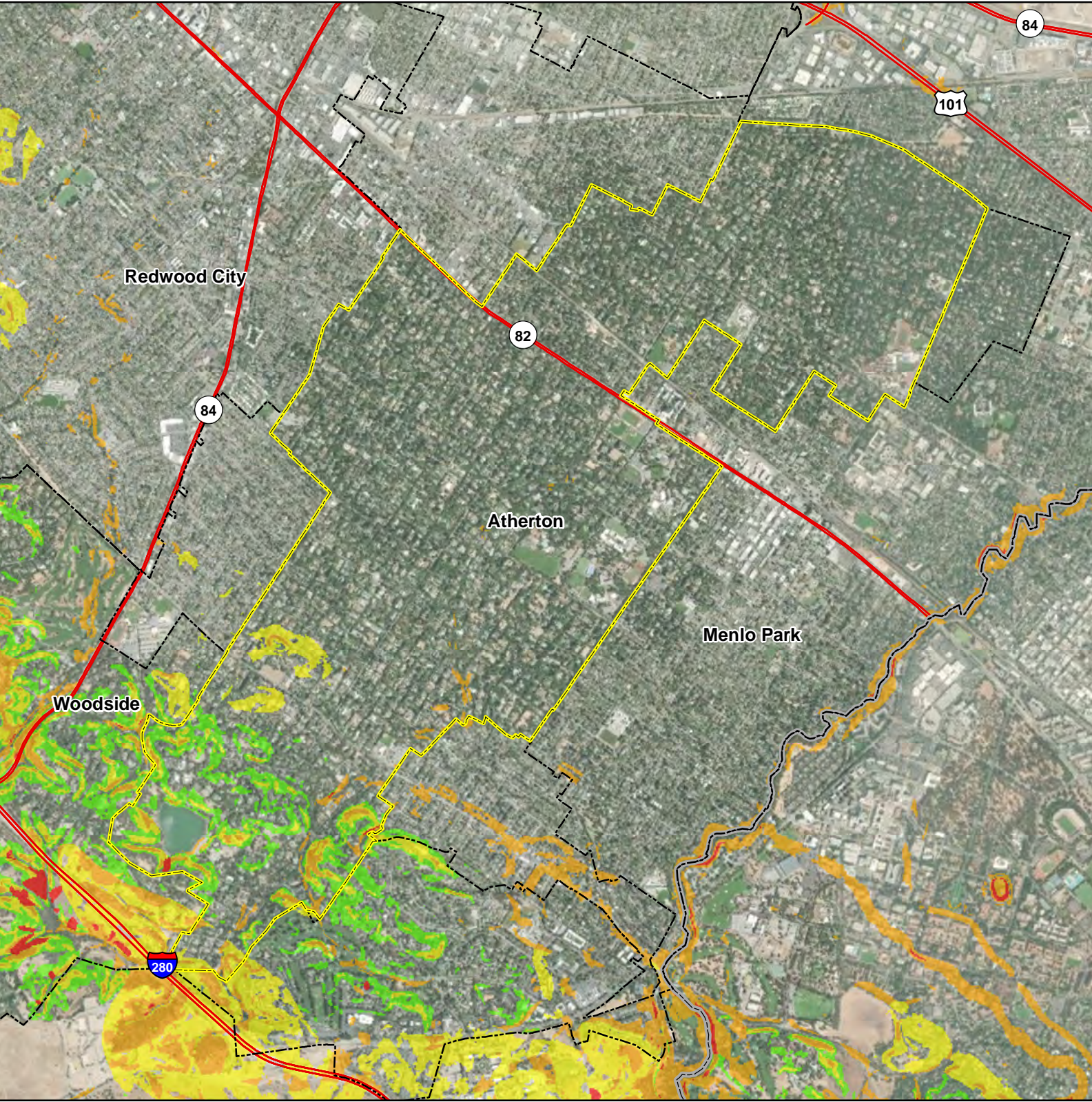
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








0 0.2 0.4 0.8 Miles





# Atherton

## Sea Level Rise

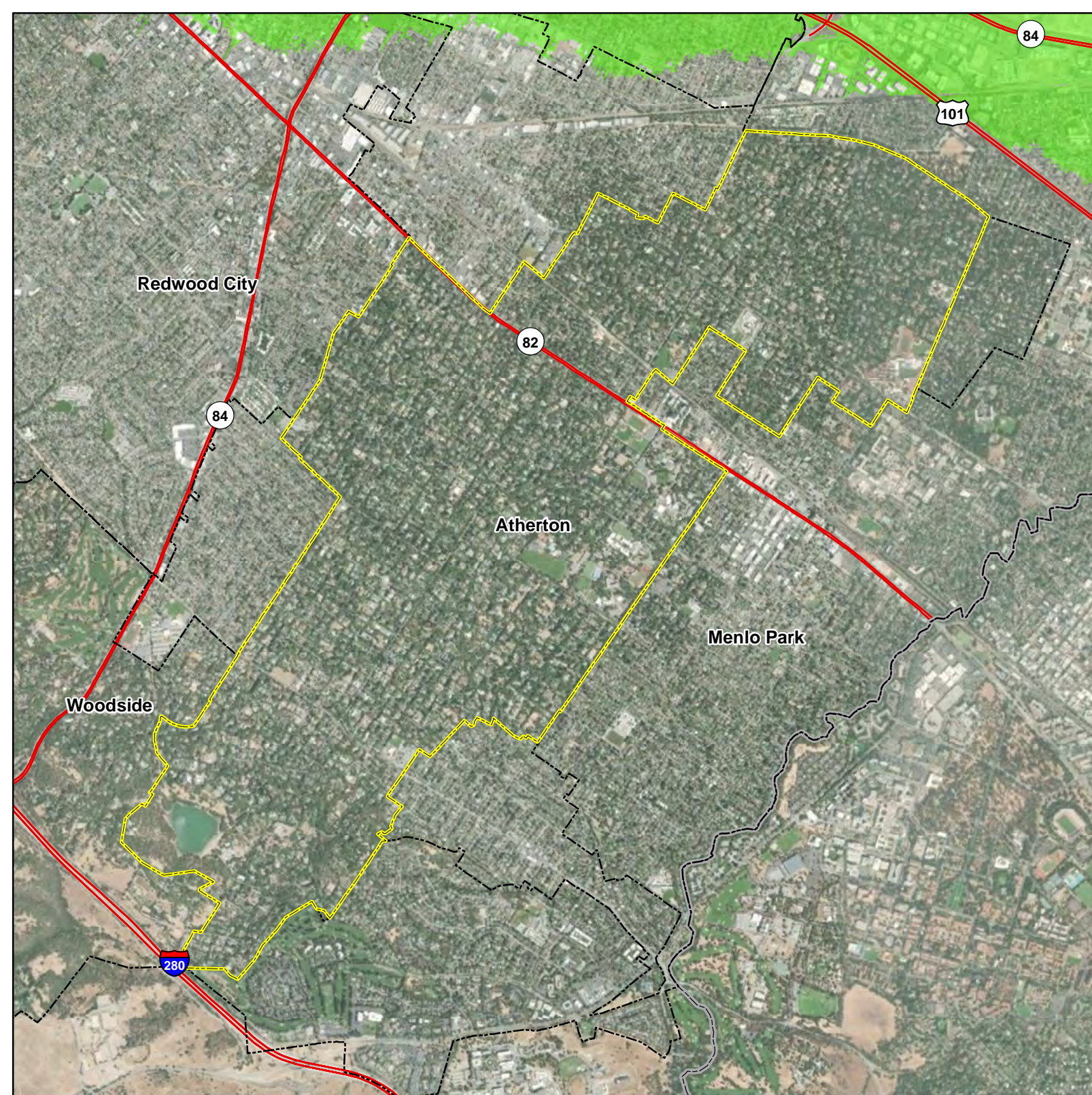
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.2 0.4 0.8 Miles





# Atherton

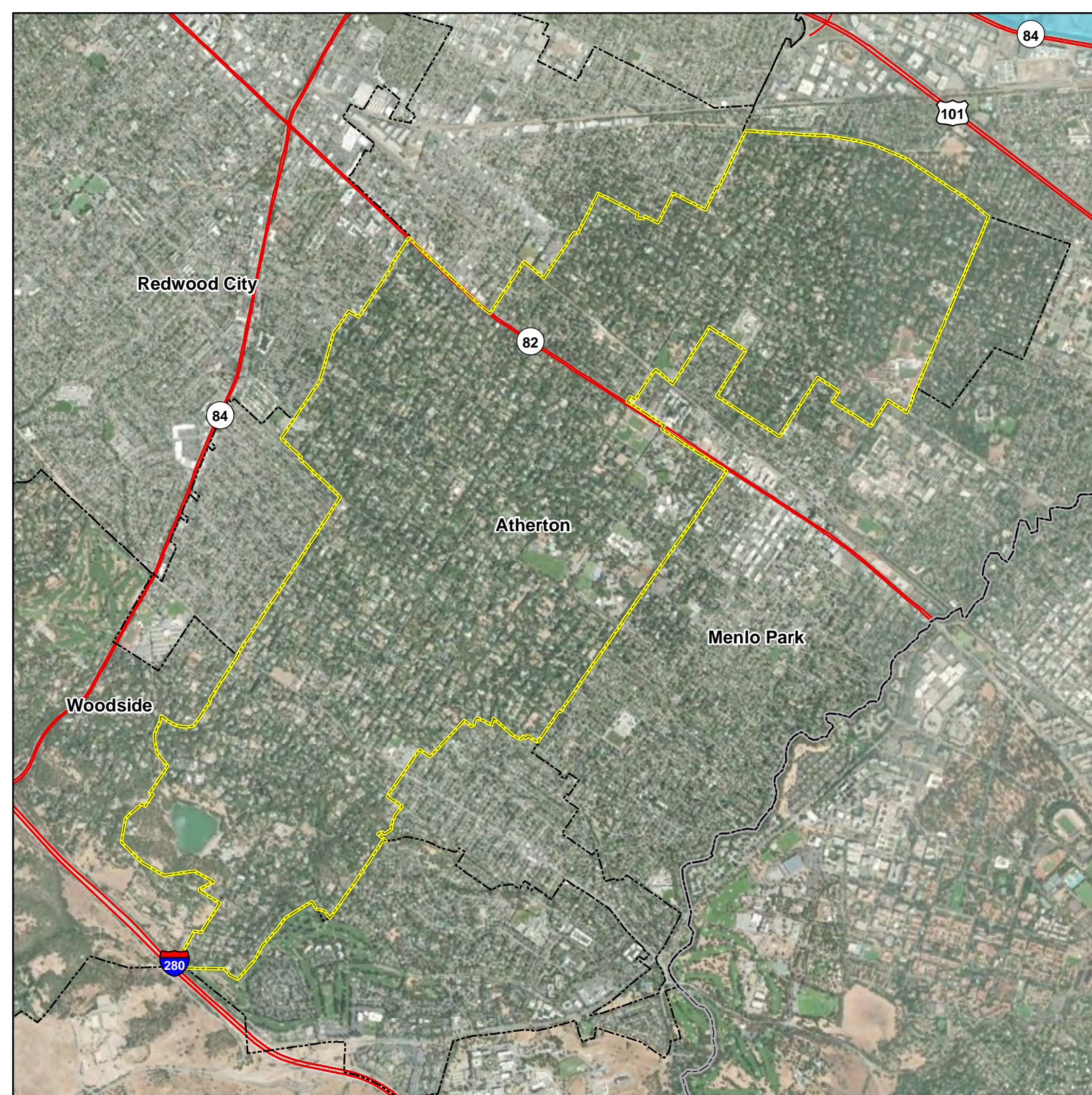
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.2 0.4 0.8  
Miles





# Atherton

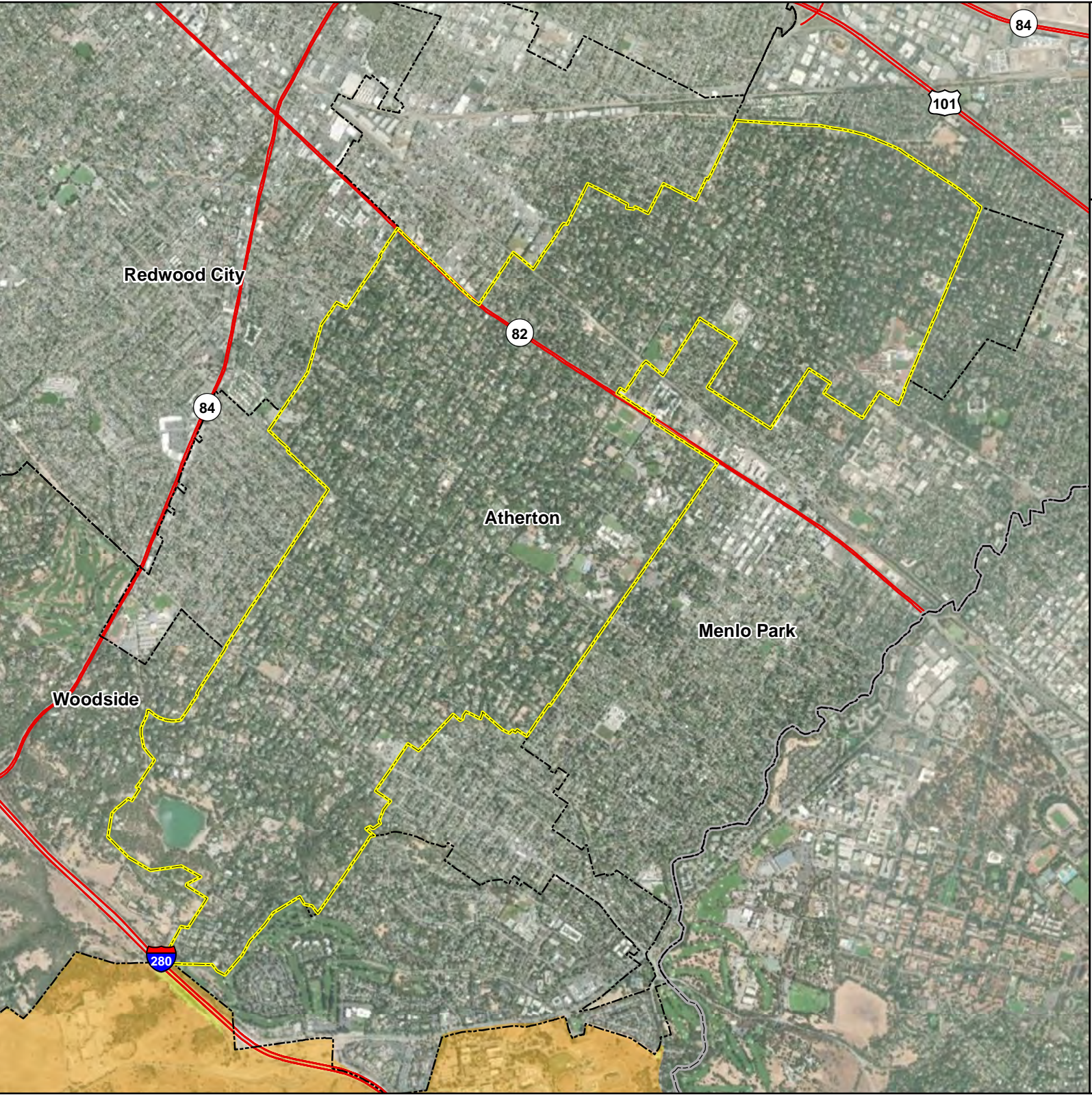
## Wildfire Hazard Severity Zones

- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.2 0.4 0.8 Miles





## 3. CITY OF BELMONT

### 3.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Kacey Treadway, Emergency Services Specialist  
 1900 O’Farrell St, Ste. 375  
 San Mateo, CA 94403  
 650-522-7962  
 ktreadway@smcfire.org

#### Alternate Point of Contact

Peter Lotti, Police Lieutenant  
 1 Twin Pines Ln, #160  
 Belmont, CA 94002  
 650-595-7412  
 plotti@belmont.gov

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 3-1.

**Table 3-1. Local Mitigation Planning Team Members**

Name	Title
Scott Rennie	City Attorney
Jozi Plut	City Clerk and Communications Coordinator
Carlos DeMelo	Community Development Director
Afshin Oskoui	City Manager
Nawel Voelker	Management Analyst
Grace Castenda	Acting Finance Director/Treasurer
Cora Dino	Human Resources Director
Jason Eggers	GIS Coordinator
Pete Lotti	Police Lieutenant
Brigitte Shearer	Parks and Recreation Director
Peter Brown	Public Works Director
Kevin Ortiz	Administrative Assistant
Robert Marshall	Fire Marshal
Kacey Treadway	Emergency Services Specialist
Pat Halleran	Emergency Services Specialist
Bill Euchner	Battalion Chief

## 3.2 JURISDICTION PROFILE

### 3.2.1 Location and Features

Known for its wooded hills, views of the San Francisco Bay and stretches of open space, Belmont is a quiet residential community in the midst of the culturally and technologically rich Bay Area. Belmont is located in San Mateo County, half-way between San Francisco and San Jose. The city is within easy driving distance of the Pacific Ocean, three major airports, and major employment centers including San Francisco, Silicon Valley, and the East Bay. Belmont borders the cities of San Mateo, San Carlos and Redwood City as well as unincorporated San Mateo County.

The City of Belmont enjoys the San Francisco Bay Area’s Mediterranean-style climate with mild temperatures during the summer months and cool temperatures during the winter months. The warmest month of the year is July with an average maximum temperature of 80.8 degrees Fahrenheit while the coldest month is in December with an average minimum temperature of 38.6 degrees Fahrenheit. The annual average precipitation is 20.16 inches, with the wettest month of the year being January with an average rainfall of 4.20 inches.

The City of Belmont and the State of California more broadly continues to be impacted by the effects of climate change. Most notably, we are experiencing, including extreme heat and wind events, along with more frequent lightning strikes that lead to real and potential wildfires with greater frequency. This has resulted in increased risk and severity of wildfire, increased presence of non-native vegetation and more distressed trees. Other concerns are extended periods of drought as well as sea-level rise.

### 3.2.2 History

Since its incorporation in 1926, Belmont has grown from a small town of less than 1,000 residents to a community of over 26,000. Much of the city’s population and housing growth occurred during the 1950s and 1960s during the post-war periods.

### 3.2.3 Governing Body Format

The City of Belmont is governed by a five-member city council elected to four-year terms. The council also serves as the governing body of the Belmont Fire Protection District, a subsidiary district providing fire services to Belmont and the Harbor Industrial Area in unincorporated San Mateo County. Other departments within the city include Administrative Services, Community Development, Police and Public Works. The city has two commissions: Planning and Parks & Recreation, both of which make recommendations to the council in their respective areas.

The City Council assumes responsibility for the adoption of this plan; and the city’s designated Emergency Management Coordinator will oversee its implementation.

## 3.3 CURRENT TRENDS

### 3.3.1 Population

According to the California Department of Finance, the population of Belmont as of January 2020 was 26,813. Since 2016, the population has decreased at an average annual rate of 0.95 percent.

### 3.3.2 Development

Over the last five-year period, the City has experienced significant development activity centering on single-family, multi-unit residential/mixed-use, and accessory dwelling unit construction. Two hotels were also constructed during this time period (265 rooms total) along Shoreway Road. Single Family and accessory dwelling units construction have been concentrated in the City's R-1 & HRO Districts, and multi-family construction has occurred along the City's main transportation corridor (El Camino Real). Since 2016, the City is averaging approximately 6-7 new homes, and 12 to 24 new accessory dwelling units per year. Since 2016, over 106 new multi-family units have been constructed (all located between the 400-600 Blocks of El Camino Real. Another 66 units are currently under construction. For an approximation of residential development anticipated (and where) over the next five-year period, refer to Table 3-2. Also, for the next five-year period, while difficult to forecast where and under what level of intensity, the City is fielding many inquiries for possible large format Biotech/Life Sciences Commercial Development. Likely locations for future Biotech/Life Sciences construction include Island Parkway/Concourse Drive (current Oracle Properties currently for sale), Unincorporated Harbor Industrial Area—in particular along both the north & south sides of Harbor Boulevard, and Shoreway Road 1300-1400 Block.

Table 3-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

## 3.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The "Analysis of Mitigation Actions" table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 3-3.
- Development and permitting capabilities are presented in Table 3-4.
- An assessment of fiscal capabilities is presented in Table 3-5.
- An assessment of administrative and technical capabilities is presented in Table 3-6.
- An assessment of education and outreach capabilities is presented in Table 3-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 3-8.
- Classifications under various community mitigation programs are presented in Table 3-9.
- The community's adaptive capacity for the impacts of climate change is presented in Table 3-10.

**Table 3-2. Recent and Expected Future Development Trends**

Criterion	Response					
<p>Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i></p>	<p>Yes</p> <p>Two parcels; approximately 13k square feet total area</p>					
<p>Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses.</i></p> <p><i>If yes, who currently has permitting authority over these areas?</i></p>	<p>Yes</p> <p>608 Harbor Boulevard; Multi-family housing – 103 units; approximately 30k square feet total area.</p> <p>Joint permitting authority has been established between the City of Belmont &amp; County of San Mateo.</p>					
<p>Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i></p>	<p>Yes</p> <p>Over the next 5-year period, significant development activity is anticipated along El Camino Real (178 multi-family units); Old County Road (535 multi-family units); Hill Street (16 multi-family units); and Davis Drive (80k Commercial Office)</p>					
<p>How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?</p>		2016	2017	2018	2019	2020
	Single Family	6	5	12	1	9
	Multi-Family	0	106	0	0	66
	Other (commercial, mixed use, etc.)	4	5	0	0	1
	<b>Total</b>	<b>10</b>	<b>116</b>	<b>1</b>	<b>1</b>	<b>76</b>
<p>Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.</p>	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 0</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 0</li> <li>• Tsunami Inundation Area: 0</li> <li>• Wildfire Risk Areas: 0*</li> </ul> <p>Development permit activity during the 2016-2021 Plan cycle has occurred primarily in five locations: El Camino Real (3 mixed use projects with a total of 172 residential units &amp; 18,500 SF of commercial space); Shoreway Road (2 hotels with 265 rooms total); Island Parkway (new 60k auto dealership); Davis Drive (new 60k Private Middle School); and Merry Moppett Drive (new 12k Private Elementary School)</p> <p>*Pending revised hazard maps</p>					
<p>Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.</p>	<p>Refer to response regarding anticipated major redevelopment.</p>					

**Table 3-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	No	Yes	No
<i>Comment:</i> Adopted Triennial Building Code Standards via City Ordinance #2019-1144 on Dec.10,2019 as mandated by the State. Other Jurisdiction includes the California Building Standards Commission.				
<b>Zoning Code</b>	Yes	No	No	Yes
<i>Comment:</i> 2035 General Plan update and Belmont Village Specific Plan adopted in November 2017; Zoning Code modifications adopted in November 2017 to implement and maintain General Plan & Belmont Village Specific Plan consistency. Zoning Base map amendments adopted in March 2018 to further implement General Plan. Various State Assembly bills or Federal Legislation enacted require local compliance (exp. Secondary Dwelling Units, State Housing Law, Wireless Communications Facilities); Belmont complies as appropriate with these mandates.				
<b>Subdivisions</b>	Yes	No	Yes	Yes
<i>Comment:</i> City's Subdivision Ordinance Adopted 1985; amended periodically. Subject to ongoing compliance and consistency with State of California Subdivision Map Act.				
<b>Stormwater Management</b>	Yes	Yes	Yes	No
<i>Comment:</i> Referenced in City Municipal Code Chapter 9(Grading) & Chapter 21 (Sewers and Sewage Disposal). City is also part of the San Mateo County Pollution Prevention Program. Other jurisdiction includes the State and Regional Water Quality Control Board. Federal Clean Water Act also mandates. 2009 Storm Drain Master Plan				
<b>Post-Disaster Recovery</b>	No	Yes	No	Yes
<i>Comment:</i> Authority: San Mateo County, Cal OES				
<b>Real Estate Disclosure</b>	No	No	Yes	No
<i>Comment:</i> Sale/Purchase of real estate must comply with Real Estate Transfer Disclosure provisions as per California Civil Code §1102, Et Seq.				
<b>Growth Management</b>	Yes	No	Yes	No
<i>Comment:</i> Addressed in adopted 2035 Belmont General Plan update (Nov 2017). Further addressed in Belmont's adopted 2015-2023 Housing Element update (May 2015).				
<b>Site Plan Review</b>	Yes	No	Yes	No
<i>Comment:</i> Site Plan Reviews facilitated primarily through Community Development and Public Works. California Building Code Section 107.2.1 provides guidance/information on construction documents in general terms as follows: Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules, and regulations, as determined by the building official.				
<b>Environmental Protection</b>	Yes	Yes	Yes	No
<i>Comment:</i> City Municipal Code (multiple sections), Municipal Regional Permit (MRP) with Bay area Regional Water Quality Control Board, CEQA documentation, mitigations, and Conditions of Approval. The laws/rules governing the CEQA process are contained in CEQA statute (Public Resources Code Section 21000 and following), the CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 and following), published court decisions interpreting CEQA, and locally adopted CEQA procedures.				
<b>Flood Damage Prevention</b>	Yes	Yes	No	No
<i>Comment:</i> FEMA policy adopted in Belmont Municipal Code Sec. 7-208 on 11/27/01. Flood Insurance Rate Maps are adopted by FEMA for Belmont.				
<b>Emergency Management</b>	Yes	Yes	Yes	Yes
<i>Comment:</i> Belmont Emergency Operations Plan 2017				
<b>Climate Change</b>	Yes	No	Yes	No
<i>Comment:</i> Belmont Climate Action Plan (CAP) adopted in November 2017. Policy guidance provided in adopted CAP & 2035 General Plan regarding Climate Mitigation.				
<b>Other - Notre Dame Dam Maintenance</b>	Yes	Yes	No	No
<i>Comment:</i> City Code, Army Corp of Engineers/ Dept of Water Resources				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
<b>General Plan</b> <i>Is the plan compliant with Assembly Bill 2140?</i> Yes <i>Comment:</i> Adoption of the 2035 Belmont General Plan Update (November 2017) included the Safety Element Chapter which provides background/conditions, and goals/policies/action items for the topics of Seismic & Geological Hazards, Flooding Hazards, Hazardous Materials & Operations, Utilities, Fire Hazards, and Public Safety & Emergency Management. The LHMP is also referenced in the adopted Safety Element.	Yes	No	Yes	No
<b>Capital Improvement Plan</b> <i>How often is the plan updated?</i> Annually <i>Comment:</i>	Yes	No	No	No
<b>Disaster Debris Management Plan</b> <i>Comment:</i> County is working on developing a disaster debris management plan, expected in 2022. Cities would then work to comply with the Plan. 2022 County Plan with Belmont Annex	No	Yes	No	Yes
<b>Floodplain or Watershed Plan</b> <i>Comment:</i> Flood Insurance Rate Map adopted by FEMA. Notre Dame Dam Failure Plan which is an adjacent item to this.	No	Yes	Yes	Yes
<b>Stormwater Plan</b> <i>Comment:</i> Stormwater Master Plan adopted by Council in 2009. Update to the plan currently underway.	Yes	Yes	Yes	No
<b>Urban Water Management Plan</b> <i>Comment:</i> Mid-Pen Water develops the plan - adopted in 2016.	No	Yes	Yes	No
<b>Habitat Conservation Plan</b> <i>Comment:</i> Conservation element of the General Plan contains goals, policies, objectives, and action plan items specific to habitat conservation.	No	No	No	No
<b>Economic Development Plan</b> <i>Comment:</i> Addressed in 2035 Belmont General Plan Update & Belmont Village Specific Plan. Economic Development goals, policies, objectives, and action plan items are featured within the General Plan & Belmont Village Specific Plan.	Yes	No	No	No
<b>Shoreline Management Plan</b> <i>Comment:</i> Not applicable. The City does not maintain a shoreline.	No	No	No	No
<b>Community Wildfire Protection Plan</b> <i>Comment:</i> Community Wildfire Mitigation Plan being asked for in next fiscal year budget. Current name is Wildfire Mitigation Plan and is awaiting funding	No	No	No	Yes
<b>Vegetation Management Plan</b> <i>Comment:</i> Awaiting funding in next fiscal year budget. VMP is awaiting funding.	No	No	No	Yes
<b>Climate Action Plan</b> <i>Comment:</i> Belmont Climate Action Plan (CAP) adopted in November 2017. CAP includes background/conditions, goals/policies/objectives, action plan items, and 23 performance measures addressing reduction in community and municipal Greenhouse Gas Emissions (GHG).	Yes	No	Yes	No
<b>Emergency Operations Plan</b> <i>Comment:</i> Last revision 3/14/2017.	Yes	No	No	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment:</i> Was part of initial Hazard Mitigation Plan Annex with ABAG in 2005. Bay Area UASI THIRA	No	No	No	Yes
<b>Post-Disaster Recovery Plan</b> <i>Comment:</i>	No	Yes	No	Yes
<b>Continuity of Operations Plan</b> <i>Comment:</i> COOP/COG Plan is under development, projected for 2022.	No	No	No	Yes

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Public Health Plan</b>	No	Yes	No	No
<i>Comment:</i> Public Health Department is a part of San Mateo County Health System				
<b>Other: Belmont Village Specific Plan</b>	Yes	No	No	No
<i>Comment:</i> Belmont Village Specific Plan adopted in Nov 2017. This area plan and the entirety of El Camino Real within the borders of Belmont, has been designated a "Priority Development Area (PDA)" by the Bay Area's regional planning agency.				

**Table 3-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Community Development
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No

**Table 3-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other – Property related storm fees and Property Taxes as examples	Yes – Property Related Storm Fee being considered, Property Taxes



**Table 3-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Department of Public Works/City Engineer, Public Works Director, Senior Civil Engineer, City Planning Staff
Engineers or professionals trained in building or infrastructure construction practices	Yes	Department of Public Works/All Engineering and Inspection personnel
Planners or engineers with an understanding of natural hazards	Yes	Department of Public Works/Assistant Public Works Director/City Engineer, Senior Civil Engineer, City Planning Staff
Staff with training in benefit/cost analysis	Yes	Department of Finance/Deputy Finance Director and Controller
Surveyors	Yes	Department of Public Works/Senior Civil Engineer
Personnel skilled or trained in GIS applications	Yes	Department of Information Technology/GIS Coordinator, Department of Public Works/Engineering Technician/Associate Civil Engineer
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Contracted in JPA with SMCDF / City Manager / Fire Chief/ Belmont PD is a Liaison position
Grant writers	No	
Other	No	

**Table 3-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes, PIO through Belmont Police Department and City Manager's Office
Do you have personnel skilled or trained in website development?	Yes, personnel within each city department as well as support through Information Technology Department
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Dedicated web page linked under "About Belmont"
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Outreach/Education provided primarily through Nextdoor, Twitter, City Website, and City Manager's Weekly Update
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes City of Belmont Planning Commission, Parks & Recreation Commission
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes, Limited Vegetation Management Program providing information on wildfire threat within community
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes SMC Alert in partnership with San Mateo County DEM

**Table 3-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Department of Public Works
Who is your floodplain administrator? (department/position)	Public Works Director or Assistant Public Works Director/City Engineer
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	11/27/01
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Exceeds Belmont Ordinance adopted exceeds the minimum requirements. For example, building in Zone A shall be elevated 2 feet higher than adjacent grade. This is more than the 1 foot required by FEMA.
When was the most recent Community Assistance Visit or Community Assistance Contact?	September 9, 2010
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	Yes  Staff may need continuous training to update their knowledge about most current requirements.
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No N/A Yes
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	74 \$367,041 \$2,282
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	29 \$178,678

a. According to FEMA statistics as of April 26, 2021

**Table 3-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608105108	Unknown
DUNS#	Yes	068863091	Prior to early 1980s
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	Yes	ISO Class 2	2012
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A

**Table 3-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: There are no Belmont stand-alone FTEs dedicated to sustainability/climate change assessment. Individual staff members from operating departments provide contributions as necessary to address climate change matters.</i>	Low
Jurisdiction-level monitoring of climate change impacts <i>Comment: See comment above.</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: See comment above.</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: The City relies on regional agency assistance via the County of San Mateo Sustainability Division &amp; third-party consulting firms to generate the City's local &amp; municipal GHG inventory/metrics.</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: The City considers climate change objectives in preparing Belmont's Capital Improvement Program and advancement of sustainability initiatives.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: City staff attend regional agency meetings in concert with the County of San Mateo Sustainability Division &amp; the Regionally Integrated Climate Adaptation Program group (RICAPS) to understand climate change/sustainability topics, strategies, and best practices.</i>	Medium
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Authority is conferred to City staff to consider climate change in public decision-making. As noted earlier, there is no dedicated staff specific to sustainability management.</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Strategies and performance measures (23) established as part of adopted 2017 CAP to address GHG mitigation.</i>	Medium
Identified strategies for adaptation to impacts <i>Comment: Refer to adopted 2017 CAP for these strategies.</i>	Medium
Champions for climate action in local government departments <i>Comment: As noted earlier, No FTEs are specifically dedicated to sustainability/climate change assessment. Individual staff members from operating departments provide contributions as necessary to address climate change matters.</i>	Low
Political support for implementing climate change adaptation strategies <i>Comment: The Belmont City Council &amp; City Manager's Office are supportive of climate change adaption strategies &amp; implementation.</i>	High
Financial resources devoted to climate change adaptation <i>Comment: See comments above regarding staff resources/FTEs.</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment: Individual privately held properties that are likely to be negatively impacted due to their location may include a range of sectors from residential, commercial and utilities. The City may exert limited authority over privately held property through its development review process.</i>	Low

Criterion	Jurisdiction Rating
<b>Public Capacity</b>	
Local residents' knowledge of and understanding of climate risk <i>Comment: The draft Local Hazard Mitigation Plan will include identification of climate risk factors such as urban fire zone, etc. The draft Plan will be shared with the community to build knowledge and understanding of climate risk. The City will hold a public meeting on the draft plan and consider community input prior to adoption.</i>	Unsure
Local residents' support of adaptation efforts <i>Comment: No information available.</i>	Unsure
Local residents' capacity to adapt to climate impacts <i>Comment: No information available.</i>	Unsure
Local economy current capacity to adapt to climate impacts <i>Comment: No information available.</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment: No information available.</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 3.5 INTEGRATION WITH OTHER PLANNING INITIATIVES

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 3.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Belmont General Plan**—Belmont’s Adopted 2035 General Plan Update (November 2017) integrates the local hazard mitigation plan through the development of goals, policies, and actions within the following elements:
  - **Safety**—is AB2140 compliant by referencing the city’s hazard mitigation plan and associated planning efforts and plan development, and addresses vulnerabilities including seismic and geologic, flooding (including dam inundation & sea level rise), hazardous materials, utilities, fires (urban & wildland) hazards.
  - **Land Use**—references updating area plans with creating design standards for the interface between open spaces and neighborhoods within the wildland urban interface zone, as well as the combination

of geologic, flood, steep slope, and wildland fire hazards within both the San Juan and Western Hills Area Plans.

- **Parks, Recreation and Open Space**—addresses the continuation of programs to reduce the fire danger in open space areas and evaluating the necessity of a stream buffer overlay zone around Belmont Creek to facilitate management and protection of the waterway and developed areas
- **Conservation**—addresses the reduction of wildland fire and pathogen threats (such as Sudden Oak Death) throughout the open space areas, restoration of Belmont Creek to enhance flood control, preservation/conservation of water resources in partnership with Mid-Peninsula Water District, maintaining and improving the reliability of the city’s storm drainage system to reduce flooding, and the development of a Climate Action Plan.
- **San Juan Hills Area Plan**—plan addresses unique conditions within the San Juan Hills area, including geologic (seismic, landslides, steep slope) and flooding as well as goals, objectives and policies addressing such conditions including adoption of geologic maps, requiring geologic investigations as part of applications for development and adherence to land use policies.
- **Western Hills Area Plan**—plan addresses unique conditions within the San Juan Hills area, including geologic (seismic, landslides, steep slope) and flooding as well as goals, objectives and policies addressing such conditions including adoption of geologic maps, requiring geologic investigations as part of applications for development and adherence to land use policies.
- **City of Belmont Emergency Operations Plan**—EOP includes a Threat Summary and Assessments chapter addressing earthquake, hazardous materials, flooding, dam failure, transportation accident, landslides, wildfire, oil spill, tsunami, civil unrest, and national security emergency.
- **CERT**—Community Emergency Response Team (CERT) - The Community Emergency Response Teams train regularly to be prepared for emergency response and recovery. Having these teams in place with training in triage, medical response and search and rescue will enhance responsiveness after a disaster and mitigate the impact that effects would have had on individuals and property if left unattended.

### 3.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Notre Dame Dam Emergency Action Plan**—plan needs to be updated to better incorporate hazard mitigation goals, risk assessment and/or recommendations of the hazard mitigation plan.
- **San Juan Hills Plan**—update of plan is a long-range implementation priority addressed in the Land Use Element of the General Plan and needs to better incorporate hazard mitigation goals, risk assessment and/or recommendations of this hazard mitigation plan, including the incorporation of the wildland-urban interface (WUI) threat.
- **Western Hills Area Plan**—update of plan is a long-range implementation priority addressed in the Land Use Element of the General Plan and needs to better incorporate hazard mitigation goals, risk assessment and/or recommendations of this hazard mitigation plan, including the incorporation of the wildland-urban interface (WUI) threat.
- **City of Belmont Climate Action Plan**—Climate Action Plan adopted in conjunction with 2035 Belmont Comprehensive General Plan Update (November 2017).
- **City of Belmont Emergency Operations Plan**—EOP needs to be updated to better incorporate goals, risk assessment and recommendations of this newly revised mitigation plan.

- **Vegetation Management Plan**—plan to assess City open space property topography and vegetation and to develop a prescriptive plan for future maintenance and care of this area.
- **Wildfire Mitigation Plan**—plan to identify actionable, measurable, and adaptive plan to reduce the risk of potential wildfire ignition and propagation in Belmont’s WUI areas through enhanced system hardening, situational awareness, and operational practices. Wildfire Mitigation Plan, if funded, would integrate into San Juan Hills and Western Hills Area Plan.
- **City of Belmont Continuity of Operations/Continuity of Government Plan**—plan to identify essential functions within the City of Belmont’s operation with recovery time objectives, essential personnel, backup systems and orders of succession/delegation.

## 3.6 RISK ASSESSMENT

### 3.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 3-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 3-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Power Outages/Disruption	N/A	Fall 2019 Summer 2020 Fall 2020	Pacific Gas & Electric’s Public Safety Power Shutoff (PSPS) program and Rolling Blackouts done in response to Climate Change and Severe Weather Conditions to help prevent wildfires and prevent strain on the power grid (Secondary Hazard to Climate Change, Extreme Weather, Windstorms, Severe Storms and Wildfire Hazards) Damage Assessment: Unknown
Extreme Weather	N/A	Winter 2018 Fall 2019 Winter 2019 Summer 2020	Extreme temperatures including summer heat and winter cold linked to Climate Change. Foster City has activated cooling centers and shelters for citizens in response. Damage Assessment: Unknown
Wildland Fire	N/A	September 21, 2020	40 homes evacuated; fire contained to approx. 2 acres
Drought	N/A	2014-2017 July 2021	In January 2014, the Governor proclaimed a State of Emergency and directed State officials to take all necessary actions to prepare for drought conditions. As of July 8, 2021, San Mateo County has been included in the Governor’s emergency declaration. Damage Assessment: Unknown
Severe Winter Storm	DR-4308	February 1-23, 2017	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Winter Storm	DR-4305	January 18-23, 2017	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Winter Storm	N/A	December 11, 2014	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Winter Storm	N/A	December 17-19, 2010	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Winter Storm	N/A	January 18-22, 2010	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Autumn Storm	N/A	October 13, 2009	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Winter Storm	N/A	January 25-28, 2008	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown

Type of Event	FEMA Disaster #	Date	Damage Assessment
Severe Winter Storm	N/A	January 3-7, 2008	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Spring Storm	N/A	April 3-5, 2006	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Spring Storm	N/A	March 27, 2006	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Landslides (Courtland Rd & Vine St)	N/A	February 2005	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Severe Winter Storm	DR-1203	December 1997-February 1998	Localized flooding, mud/debris flow, downed trees Damage Assessment: Unknown
Loma Prieta Earthquake	DR-845	October 17, 1989	\$37,662

### 3.6.2 Hazard Risk Ranking

Table 3-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 3-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	60	High
2	Wildfire	51	High
3	Sea Level Rise / Climate Change	45	High
4	Earthquake	42	High
5	Flood	36	High
6	Dam Failure	30	High
7	Severe weather	24	Medium
8	Drought	9	Low
9	Tsunami	0	Low

### 3.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0



## Other Noted Vulnerabilities

No jurisdiction-specific issues were identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources.

## 3.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 3-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 3--13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>BM-1</b>—Where appropriate, support retrofitting, purchase or relocation of structures located in high hazard areas and prioritize those structures that have experienced repetitive losses.</p> <p><b>Comment:</b> Budget/Resource limitations have constrained establishing this type of program; carry over for the next plan cycle.</p>			X	BEL-1
<p><b>BM-2</b>—Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions within Belmont.</p> <p><b>Comment:</b> Ongoing process and should keep for future development but it has been incorporated into plans in the past 5 years.</p>			X	BEL-4
<p><b>BM-3</b>—Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.</p> <p><b>Comment:</b> This program is still applicable but had not been created in the past five years due to limited significant events.</p>			X	BEL-15
<p><b>BM-4</b>—Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Completed but it is an ongoing process that should continue in the next years' plan.</p>			X	BEL-5
<p><b>BM-5</b>—Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Completed but it is an ongoing process that should continue in the next years' plan.</p>			X	BEL-5
<p><b>BM-6</b>— Continue to maintain good standing and compliance under the National Flood Insurance Program (NFIP). This will be accomplished through the implementation of floodplain management programs that will, at a minimum, meet the requirements of the NFIP:</p> <p>Enforcement of the flood damage prevention ordinance Participate in floodplain identification and mapping updates Provide public assistance/information on floodplain requirements and impacts.</p> <p><b>Comment:</b> Completed, but it is an ongoing process that should continue in the next years' plan.</p>			X	BEL-10
<p><b>BM-7</b>—Work with building officials to identify ways to improve the jurisdictions' BCEGS classification.</p> <p><b>Comment:</b> Ongoing process; keep for next plan cycle.</p>			X	BEL-3
<p><b>BM-8</b>—Develop a post-disaster recovery plan and a debris management plan.</p> <p><b>Comment:</b> With the new debris management plan being a County initiative with City Support, it would be beneficial to move this to another bullet point. A post disaster recovery plan is still needed.</p>			X	BEL-3
<p><b>BM-9</b>—Participate in programs such as Firewise, StormReady and the Community Rating System.</p> <p><b>Comment:</b> Participation in the example programs as well as others is still ongoing and applicable.</p>			X	BEL-16

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>BM-10</b>—Develop a Soft Story Retrofit Program requiring property owners to seismically strengthen vulnerable residential buildings in Belmont modeled after City &amp; County of San Francisco’s Program.</p> <p><b>Comment:</b> Some elements of this program were integrated into processes over the past 5 years, but a dedicated stand-alone program has not been established and should be carried over to the next plan.</p>			X	BEL-2
<p><b>BM-11</b>—Develop a Continuity of Operations Plan (COOP) to ensure the continuation of government functions following a significant event.</p> <p><b>Comment:</b> Due to limitations (budget, staff time, and prioritization), this item should be carried over to the next plan as it is still important to complete.</p>			X	BEL-7
<p><b>BM12</b>— Develop inventory of vulnerable populations (i.e., school children, elderly) within Belmont as well as a communications and resource allocation plan specific to target population.</p> <p><b>Comment:</b> There has been some work done in this area, but it would be beneficial to carry over into the next plan to ensure that a more complete inventory of this data set is done (reference Jason’s data map)</p>			X	BEL-19
<p><b>BM-13</b>—Develop emergency preparedness outreach program targeting vulnerable populations (i.e., school children, elderly) within community.</p> <p><b>Comment:</b> This is an ongoing element that should be carried over to next year’s plan.</p>			X	BEL-18
<p><b>BM-14</b>—Coordinate the dredging of City waterways, such as Water Dog Lake, to regain lost water storage capacity and reduce flood risk.</p> <p><b>Comment:</b> This item should carry over, but the language has been updated accordingly. This was not completed in the last 5-year cycle because CA DWR was preparing new inundation projections and maps.</p>			X	BEL-20
<p><b>BM-15</b>—Develop mapping of geologically active areas within Belmont for the purpose of adopting plans similar to the city’s San Juan Area Plan, which serves as a means to develop focused policies designed to address unique problems and assets in the area.</p> <p><b>Comment:</b> This should be carried over to next year’s plan as there were limitations such as prioritization in completing this project.</p>			X	BEL-17
<p><b>BM-16</b>—Identify needs associated with a permanent drainage solution for the areas east of Highway 101 in Belmont.</p> <p><b>Comment:</b> This item is no longer needed as the infrastructure needs have changed and should be removed in future plans.</p>		X		
<p><b>BM-17</b>—Coordinate with the California Department of Forestry and Fire Protection’s Fire and Resource Assessment Program on expanding the very high Fire Hazard Severity Zone to the San Juan Canyon area of Belmont.</p> <p><b>Comment:</b> This is an ongoing item, however with the pending revision of Fire hazard maps by Cal Fire, certain areas may change.</p>			X	BEL-26
<p><b>BM-18</b>— Facilitate improvements to Water Dog Lake Road for public safety access to open space areas in Belmont.</p> <p><b>Comment:</b> Minor repairs and maintenance have been performed, but this item should carry over to the next 5-year plan.</p>			X	BEL-25
<p><b>BM-19</b>—Partner with Mid-Peninsula Water District on providing water conservation outreach &amp; education to community.</p> <p><b>Comment:</b> Completed, but ongoing.</p>				BEL-22
<p><b>BM-20</b>—Coordinate inventory and assessment of drought stressed and/or diseased trees within Belmont.</p> <p><b>Comment:</b> This item should carry over to the next plan as there were limitations such as limited staff in completing this.</p>			X	BEL-25
<p><b>BM-21</b>—Develop long-term strategy for replacement of distressed roadways throughout Belmont.</p> <p><b>Comment:</b> Pavement Management Plan (2021-2026) was completed in 2020.</p>	X			

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>BM-22</b> —Work with Mid-Peninsula Water District on incorporating procedures into city's Emergency Operations Plan (EOP) addressing potential failure of non-seismic retrofitted water tanks. <b>Comment:</b> The EOP has not been updated in this time frame and should carry over to the next plan/also ongoing because of water tank upgrades.			X	BEL-9
<b>BM-23</b> —Map inundation areas associated with Water Dog Lake Dam failure. <b>Comment:</b> Shape file of flood plain and incorporated into other submitted plans.	X			
<b>BM-24</b> —Expand public outreach/education and emergency notification to include Water Dog Lake Dam failure threat. <b>Comment:</b> Completed, but ongoing.			X	BEL-18
<b>M-25</b> —Continue to work with local electric utility on the city's Utilities Undergrounding Program. <b>Comment:</b> This is an ongoing item that should be carried over to the next plan.			X	BEL-23
<b>Action G-1</b> —Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting. <b>Comment:</b> This is an ongoing item that should be carried over to the next plan.			X	BEL-2

### 3.8 HAZARD MITIGATION ACTION PLAN

Table 3-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 3-15 identifies the priority for each action. Table 3-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 3-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BEL-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas. <b>Hazards Mitigated:</b> Climate Change, Dam Failure, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire						
Existing	1, 7, 13, 14	Belmont	N/A	Medium	Staff Time, General Fund, Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<b>Action BEL-2</b> - Develop a Soft Story Retrofit Program requiring property owners to seismically strengthen vulnerable residential buildings, modeled after the City & County of San Francisco's program. Provide information for homeowners and eligible non-profit and private entities to adapt to risks through structural and non-structural retrofitting. <b>Hazards Mitigated:</b> Earthquake, Landslide/Mass Movement						
Existing	1, 6, 8, 9, 13	Belmont	N/A	High	Staff Time, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<b>Action BEL-3</b> —Adopt and enforce the latest edition of the California Building Standards Code with additional local requirements as necessary tailored to Belmont. Work with buildings officials to identify ways to improve the city's BCEGS classification. <b>Hazards Mitigated:</b> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire						
New & Existing	1, 6, 7, 8, 13	Belmont	SMCFire	Low	Staff Time, General Fund, Grant Funding- FEMA-BRIC (C&CB)	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BEL-4</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community.						
<i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise						
New & Existing	1, 3, 5, 6, 7, 8, 9, 10, 11	Belmont	SMCFire	Low	Staff Time, General Fund	Ongoing
<b>Action BEL-5</b> —Actively participate in the plan maintenance protocols outlined in Vol. 1 of this hazard mitigation plan and support County-wide initiatives identified in Vol. 1.						
<i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise						
New & Existing	1, 5, 6, 7, 8, 10, 11	Belmont	SMCFire	Low	Staff Time, General Fund	Ongoing
<b>Action BEL-6</b> — Develop plans such as a post-disaster recovery plan to mitigate current and future hazards.						
<i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise						
New & Existing	1, 5, 6, 7, 8, 9, 11	Belmont	SMCFire	High	Staff Time, General Fund, Grant Funding-EMPG and HSGP	Long-Term
<b>Action BEL-7</b> – Develop a Continuity of Operations Plan (COOP/COG) to ensure the continuation of government functions following a significant event.						
<i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise						
New & Existing	1, 8, 9,11	Belmont	SMCFire	Medium	Staff Time, General Fund	Short-Term
<b>Action BEL-8</b> - Maintain the City's Emergency Operations Center in a full functional state of readiness and designate a back-up Emergency Operations Center with redundant communications systems. This includes identified projects such as:						
<ul style="list-style-type: none"> <li>• Update and maintain the Emergency Operations Center</li> <li>• Update and maintain the back-up Emergency Operations Center</li> <li>• Develop and implement MAC policy and procedures with other SMCFire JPA cities</li> </ul>						
<i>Hazards Mitigated:</i> Climate Change, Dam Failure, Earthquake, Severe weather, Flood, Drought, Landslide/Mass Movements, Wildfire, Sea Level Rise						
New & Existing	1, 5, 6, 7, 8,10	Belmont	SMCFire	Medium	Staff Time, General Fund, Grant Funding-EMPG and HSGP	Ongoing
<b>Action BEL-9</b> – Update and maintain City's Emergency Operations Plan (EOP) including work with Mid-Peninsula Water District on incorporating their procedures into the EOP.						
<i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise						
New & Existing	1, 5, 6, 7, 11	Belmont	Mid-Peninsula Water District, SMCFire	Medium	Staff Time, General Fund, Grant Funding-EMPG and HSGP	Short-Term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action BEL-10</b>—Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:</p> <ul style="list-style-type: none"> <li>Enforce the flood damage prevention ordinance.</li> <li>Participate in floodplain identification and mapping updates.</li> <li>Provide public assistance/information on floodplain requirements and impacts.</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change, Dam Failure, Severe weather, Flood</p>						
New & Existing	1, 8, 9,13	Belmont	San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD)	Medium	Staff Time, General Fund,	Ongoing
<p><b>Action BEL-11</b> - Develop Flood Management Program to improve flood protection and resilience. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>Belmont Creek Stream Restoration Project</li> <li>Multi-Benefit Stormwater Detention Basin Project at Twin Pines Park</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change, Drought, Severe weather, Flood</p>						
New & Existing	1, 6, 14	Belmont	FSLRRD	High	Staff Time, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<p><b>Action BEL-12</b> -Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:</p> <ul style="list-style-type: none"> <li>Conduct Climate Action Plan (CAP) Assessment to reevaluate previous Climate Action Plan (CAP) to build off of and initiate update of CAP to reflect new State legislation, changing priorities, and environmental sustainability and greenhouse gas (GHG) reduction policies and goals</li> <li>Adopt modifications to existing plans and procedures to meet climate change issues and impacts.</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change</p>						
New & Existing	1, 3, 5, 6, 7, 8, 9,14	Belmont	N/A	Low	Staff Time, General Fund	Short-Term
<p><b>Action BEL-13</b> - Assess city facilities for potential upgrades or replacement to mitigate hazards and/or enhance emergency services. This includes, but is not limited to, evaluation for and establishment of community centers as incident resource centers, inspection and retrofit of bridges, and maintenance/upgrade of communications networks.</p> <p><u>Hazards Mitigated:</u> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise</p>						
New & Existing	1, 6, 8	Belmont		Medium	Staff Time, General Fund, Grant Funding--FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<p><b>Action BEL-14</b>- Ensure adequate emergency power at critical City facilities, including sewer pump stations for continuity of government and services.</p> <p><u>Hazards Mitigated:</u> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise</p>						
New & Existing	1, 6, 8	Belmont		High	Staff Time, General Fund, Grant Funding--FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<p><b>Action BEL-15</b>—Develop and implement a program to capture perishable data after significant incidents (e.g., high watermarks, preliminary damage estimates, damage photos) to support future mitigation efforts including implementation and maintenance of the hazard mitigation, climate action and other plans.</p> <p><u>Hazards Mitigated:</u> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire</p>						
New & Existing	1, 5, 6,8	Belmont		Medium	Staff Time, General Fund	Short-Term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action BEL-16</b>—Participate in community mitigation programs, such as Firewise, StormReady and the Community Rating System.  <i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise</p>						
New & Existing	1, 5, 7, 8, 9,11	Belmont	SMCFire	Medium	Staff Time, General Fund,	Ongoing
<p><b>Action BEL-17</b> - Develop mapping of geologically active areas within Belmont and require site specific geotechnical and engineering reports for new structures and maintain a geotechnical report library, for the purpose of adopting plans similar to the San Juan Area Plan in other areas. Update San Juan Area Plan, Western Hills Plan, and similar plans as needed, to keep current.  <i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements, Severe weather</p>						
New & Existing	1, 5, 7, 8,9	Belmont	SMCFire	Medium	Staff Time, General Fund, Grant Funding--FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<p><b>Action BEL-18</b> - Expand public emergency outreach/education including, but not limited to, emergency preparedness, CERT, evacuation planning and Notre Dame Dam failure threat. Encourage participation in community alert &amp; warning systems.  <i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise</p>						
New & Existing	5, 7, 8,11	Belmont		Low	Staff Time, General Fund, LISTOS	Ongoing
<p><b>Action BEL-19</b> – Develop inventory of vulnerable populations (e.g., elderly, AFN) as well as a communications and resource allocation plan specific to target populations.  <i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Sea Level Rise</p>						
New & Existing	1, 5, 6, 8, 9, 11	Belmont	SMCFire	Medium	Staff Time, General Fund	Short-Term
<p><b>Action BEL-20</b> – Coordinate the maintenance of City waterways, such as Notre Dame Lake, to regain lost water storage capacity and reduce flood risk.  <i>Hazards Mitigated:</i> Climate Change, Dam Failure, Severe weather, Flood,</p>						
New & Existing	1, 8, 9,13	Belmont	FSLRRD,	Medium	Staff Time, General Fund,	Ongoing
<p><b>Action BEL 21</b> - Maintain and improve the City's main wastewater system to ensure improved reliability, durability, redundancy and sustainability through preventative maintenance and upgrades.  <i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements, Severe weather, Flood</p>						
New & Existing	1, 6, 13	Belmont	N/A	Medium	Staff Time, General Fund, Grant Funding--FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<p><b>Action BEL-22</b> – Partner with Mid-Peninsula Water District on providing water conservation outreach and education to community.  <i>Hazards Mitigated:</i> Climate Change, Drought</p>						
New & Existing	1, 5, 6,9	Belmont	Mid-Peninsula Water District	Low	Staff Time, General Fund	Ongoing
<p><b>Action BEL-23</b> – Enhance and maintain work with local electric utility on City's Utilities Undergrounding Program.  <i>Hazards Mitigated:</i> Severe weather</p>						
New & Existing	1, 6, 7,8	Belmont	N/A	High	Staff Time	Long-Term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BEL -24</b> - Mutual Aid – Participate in general mutual-aid agreement and agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.						
<u>Hazards Mitigated:</u> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire, Tsunami						
New & Existing	1,10	Belmont	SMCFire	Medium	Staff Time, General Fund	Ongoing
<b>Action BEL-25</b> - Establish wildfire mitigation and vegetation management plans and ordinances such as the current Tree Ordinance, which advises how to deal with dead and diseased trees on private property. Educate residents on home hardening and other safety measures, implement fuel reduction measures where feasible. Coordinate inventory and assessment of drought stressed and/or diseased trees within Belmont. Facilitate improvements to Water Dog Lake Road for public safety access to open space areas.						
<u>Hazards Mitigated:</u> Climate Change, Wildfire						
New & Existing	1, 5, 7, 8, 9,14	Belmont	SMCFire	Medium	Staff Time, General Fund, Grant Funding-BRIC (C&CB)	Short-Term
<b>Action BEL-26</b> – Coordinate with the California Department of Forestry and Fire Protection's Fire and Resource Assessment Program.						
<u>Hazards Mitigated:</u> Climate Change, Severe weather, Wildfire						
New & Existing	1, 5, 6, 7, 8, 9, 11, 14	Belmont	SMCFire	Low	Staff Time, General Fund	Ongoing
<b>Action BEL-27</b> - Through the City's Joint Powers Authority Fire/Rescue provider, the San Mateo Consolidated Fire Department, adopt the most current uniform codes and local regulations, conduct annual inspections of businesses and multi-family dwellings to ensure compliance with fire/life safety and hazardous materials requirements, with inspections of residential care facilities done as requested by of the Department of Social Services.						
<u>Hazards Mitigated:</u> Earthquake, Wildfire						
New & Existing	1, 3, 5, 6, 7, 8, 9	Belmont	SMCFire	Low	Staff Time, JPA Budget	Ongoing
<b>Action BEL-28</b> - Evacuation Planning - Adopt current best practices for evacuation procedures and public education.						
<u>Hazards Mitigated:</u> Earthquake, Wildfire						
New	1, 3, 5, 6, 7, 8, 11	Belmont	SMCFire	Medium	Staff Time, General Fund	Short-Term/Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 3-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	4	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
2	5	High	High	Yes	Yes	No	Medium	High	High
3	5	High	Low	Yes	Yes	Yes	Medium	Medium	High
4	9	High	Low	Yes	No	Yes	Medium	Low	Low
5	7	Medium	Low	Yes	No	Yes	Medium	Low	Low
6	7	High	High	Yes	Yes	No	Medium	High	High
7	4	High	Medium	Yes	No	Yes	High	Low	High
8	6	Medium	Medium	Yes	Yes	Yes	Medium	Medium	Low
9	5	High	Medium	Yes	Yes	Yes	Medium	Medium	High
10	4	High	Medium	Yes	Yes	Yes	Medium	Medium	High
11	3	High	High	Yes	Yes	No	Medium	High	High
12	8	Medium	Low	Yes	No	Yes	Medium	Low	High
13	3	Medium	High	No	Yes	No	Low	High	High
14	3	High	High	Yes	Yes	No	Medium	High	High
15	4	Medium	Medium	Yes	No	Yes	Medium	Low	High
16	6	High	Medium	Yes	Yes	Yes	Medium	Medium	High
17	5	High	Medium	Yes	Yes	Yes	High	Medium	High
18	4	High	Low	Yes	Yes	Yes	Medium	Medium	High
19	6	Medium	Medium	Yes	No	Yes	Medium	Low	High
20	4	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
21	3	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
22	4	Medium	Low	Yes	No	Yes	Medium	Low	High
23	4	High	High	Yes	Yes	No	Medium	High	High
24	2	Medium	Medium	Yes	No	Yes	Medium	Low	High
25	7	High	Medium	Yes	No	Yes	High	Low	High
26	8	High	Low	Yes	No	Yes	Medium	Low	Low
27	7	High	Low	Yes	No	Yes	Medium	Low	High
28	7	High	Medium	Yes	No	Yes	High	Low	High

a. See the introduction to this volume for explanation of priorities.



**Table 3-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Landslide/Mass Movement	3, 13, 14, 15, 17	1, 2, 21	15, 16, 18	17	8, 19, 24		1,2	4, 5, 6, 7, 8, 9, 16, 17, 19, 24
Earthquake	3, 13, 14, 15, 17	1, 2, 21	15, 26, 18	17	8, 19, 24		1,2	4, 5, 6, 7, 8, 9, 16, 17, 19, 24
Sea Level Rise/Climate Change	3, 10, 12, 13, 14, 15	1, 25, 26	15, 16, 18, 22	11,25	8, 19, 24	11	1, 11, 12, 22, 25, 26	4, 5, 6, 7, 8, 9, 16, 24
Wildfire	3, 13, 14, 15, 27	1, 25, 26	15, 16, 18, 28	25	8, 19, 24		1, 25, 26	4, 5, 6, 7, 8, 9, 16, 19, 28
Flood	3, 10, 13, 14, 15	1,21	15, 16, 18	11,20	8, 19, 24	11,20	1, 10, 11	4, 5, 6, 7, 8, 9, 16, 24
Dam Failure	3, 10, 13, 14, 15	1	15, 16, 18	20	8, 19, 24	20	1,10	4, 5, 6, 7, 8, 9, 16, 24
<b>Medium-Risk Hazards</b>								
Severe weather	3, 10, 13, 14, 15, 23	1,26	15, 16, 18	17,20	8, 19, 24	11,20	1, 10, 11, 26	4, 5, 6, 7, 8, 9, 16, 17, 19, 24
<b>Low-Risk Hazards</b>								
Drought	3, 13, 14, 15		15, 16, 18, 22	11	19,24	11	11	4, 5, 6, 7, 8, 9, 16, 24

a. See the introduction to this volume for explanation of mitigation types.

### 3.9 PUBLIC OUTREACH

Table 3-17 lists public outreach activities for this jurisdiction. Figure 3-1 shows example public outreach announcements.

**Table 3-17. Local Public Outreach**


Local Outreach Activity	Date	Number of People Involved
Distribution of Survey #1 Via City Newsletter and Social Media Platforms	April 30, 2021	39
Distribution Of CERT Survey Via Neon	June 11, 2021	62

Public Safety

**Your Input Needed take the Survey - Local Hazard Mitigation Plan**

The County of San Mateo began to update the Multijurisdictional Local Hazard Mitigation Plan to address threats such as climate change, drought, earthquakes, flooding, heat, landslides and pandemics. People who live in San Mateo County are invited to contribute and participate of the 2021 Plan Update, by identifying hazards of concern and mitigation solutions to make San Mateo County more resilient. Tell us about your experience with the following hazards in San Mateo County by taking the survey.

CERT Announcement - Feedback Needed for Hazard Mitigation Survey



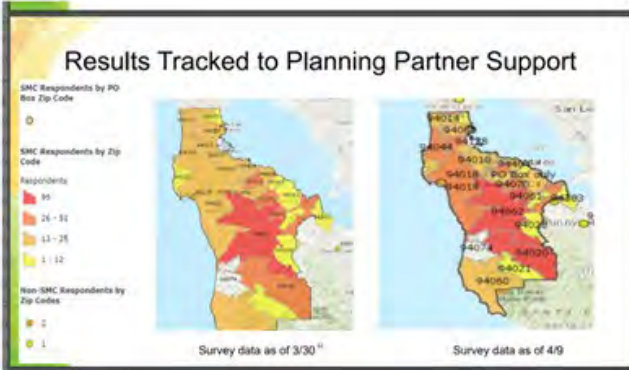
Your Valuable Insights are Needed!

The County, led by the Office of Emergency Services, is in the process of developing an updated Multijurisdictional Local Hazard Mitigation Plan (LHMP) and the public's input is needed!

Tell us via a short survey what actions the County of San Mateo and its partner agencies can take to help community members prepare for natural hazard events such as earthquake, fire, flooding, extreme heat, and landslide:

<https://www.surveymonkey.com/r/NWT388K>

More information here: <https://cmo.smcgov.org/multijurisdictional-local-hazard-mi>



**Results Tracked to Planning Partner Support**

SMC Respondents by PO Box Zip Code

Respondents: 95, 26-31, 43-25, 4-12

Non-SMC Respondents by Zip Codes: 0, 1

Survey data as of 3/30

Survey data as of 4/9

Figure 3-1. Public Outreach Announcements

### 3.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City of Belmont Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration. Flood damage prevention ordinance is included in the Municipal Code.
- **Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **City Budget** – The budget was reviewed for funding of action items and assisted with prioritization setting.
- **City Mutual Aid Agreements** – Belmont Mutual Aid Agreements were used to assess capacity.
- **City’s Emergency Operations Plan** – The City’s EOP was used when doing the assessment of action items.
- **City’s Previous LHMP** – The prior LHMP was reviewed when creating this document.
- **City’s General Plan** – The City’s General Plan was reviewed during this process for prioritization and mitigation action item building.
- **City’s Climate Action Plan** – The City’s CAP was used in the mitigation action building phase as well as to assess the City’s climate action assessment (see Table 3-10).

- **San Juan Hills Area Plan** – The City’s San Juan Hills Area Plan was used in the mitigation action building phase.
- **Western Hills Area Plan** - The City’s Western Hills Area Plan was used in the mitigation action building phase.
- **Notre Dame Dam Emergency Action Plan** - The Notre Dame Dam EAP was used in the mitigation action building phase.








The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **Various San Mateo County Plans and Resources** – Resources provided from the County, including previous plans, data sources, etc. were used in analyzing and preparing this document.
- **California DWR Dam Inundation Map** – This resource was used to demonstrate to planning partners how dam inundation for the respective City appears.
- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **The National Risk Index** – This was used to calculate the Risk Category (Equity Lens) for hazards specific to Belmont.



# Belmont

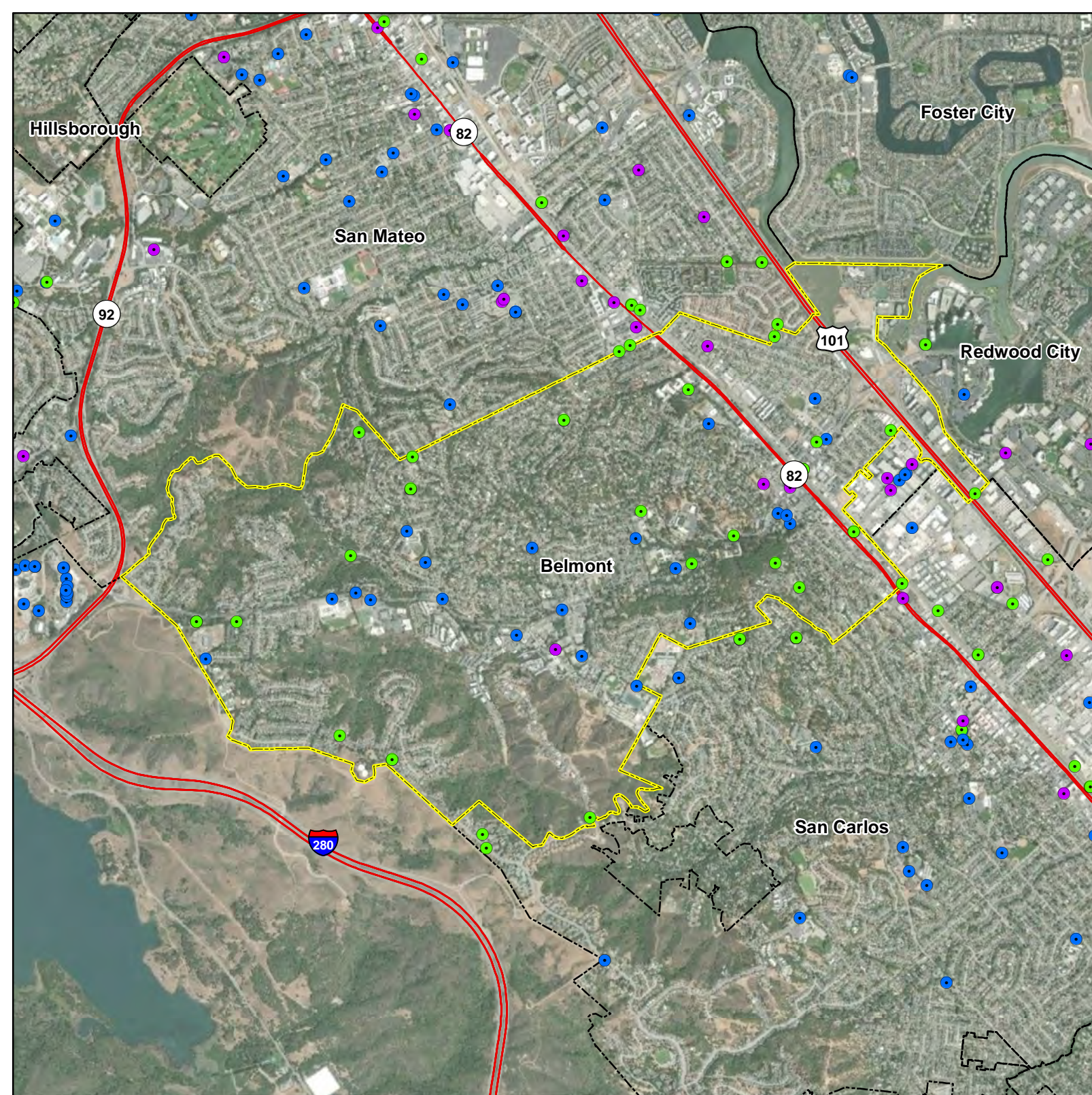
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



0 0.225 0.45 0.9  
Miles





# Belmont

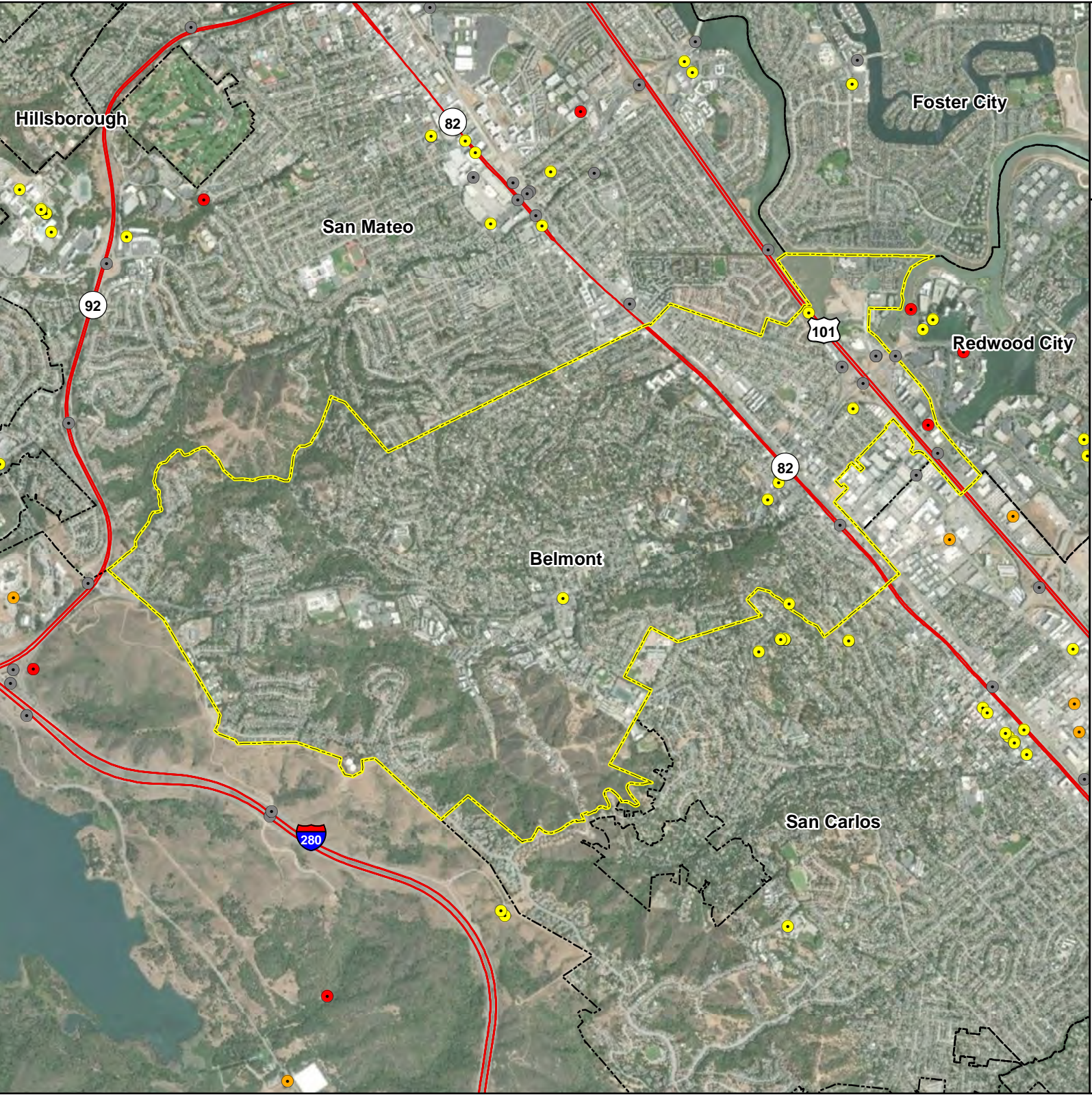
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.225 0.45 0.9 Miles





# Belmont

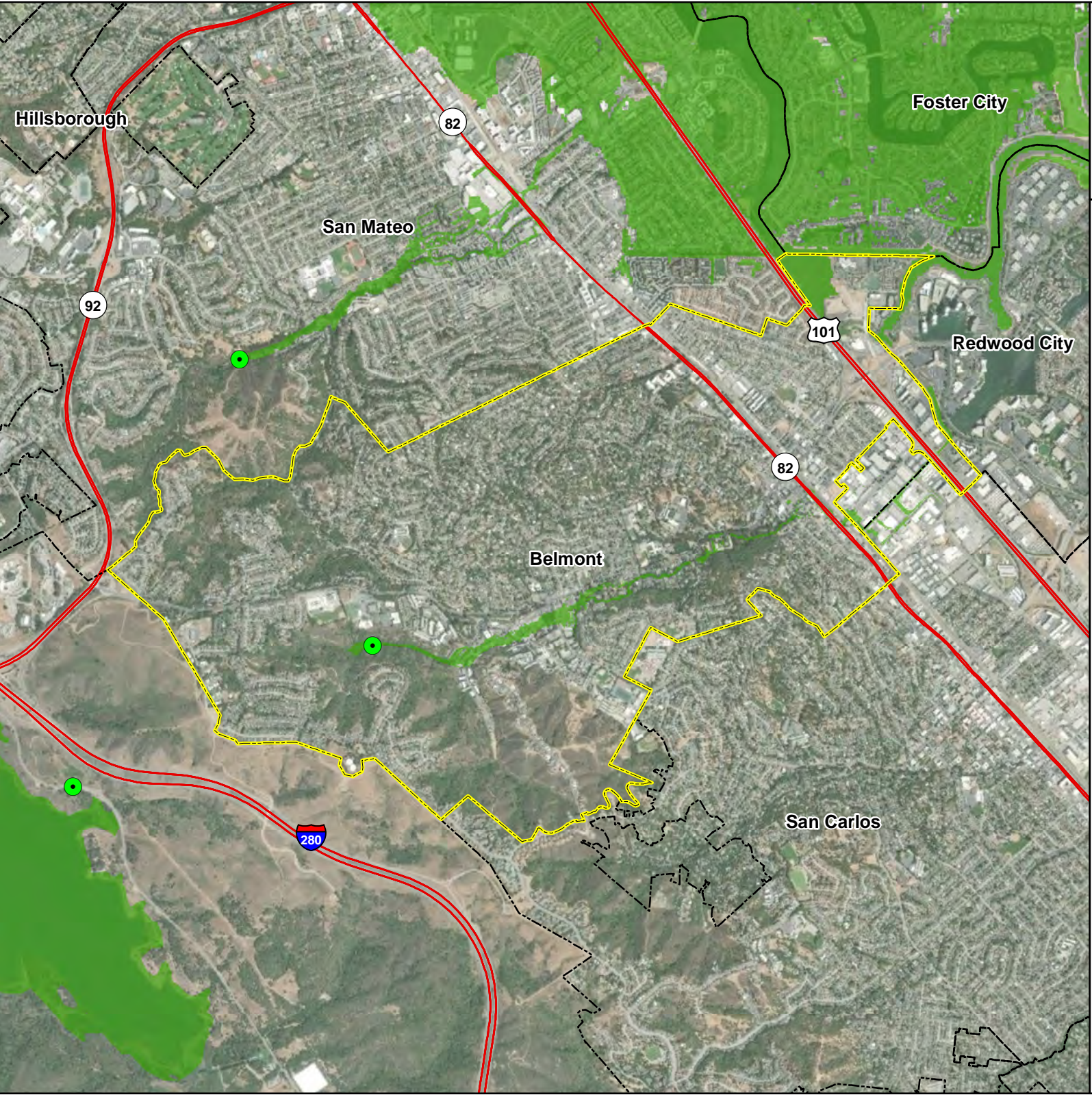
## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CA DWR










0 0.225 0.45 0.9 Miles





# Belmont

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.225 0.45 0.9  
Miles





# Belmont

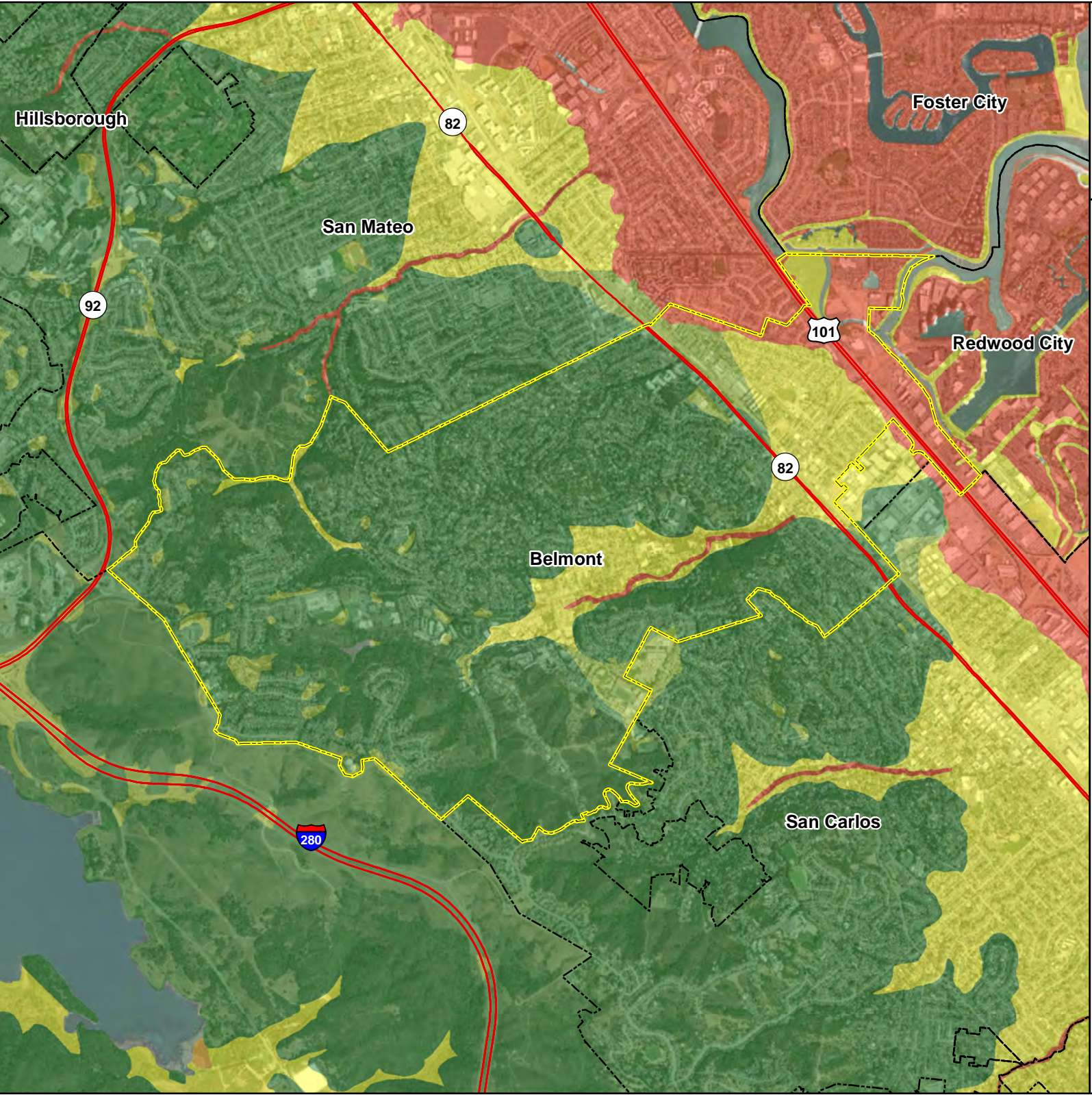
## Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)



0 0.225 0.45 0.9 Miles





# Belmont

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)

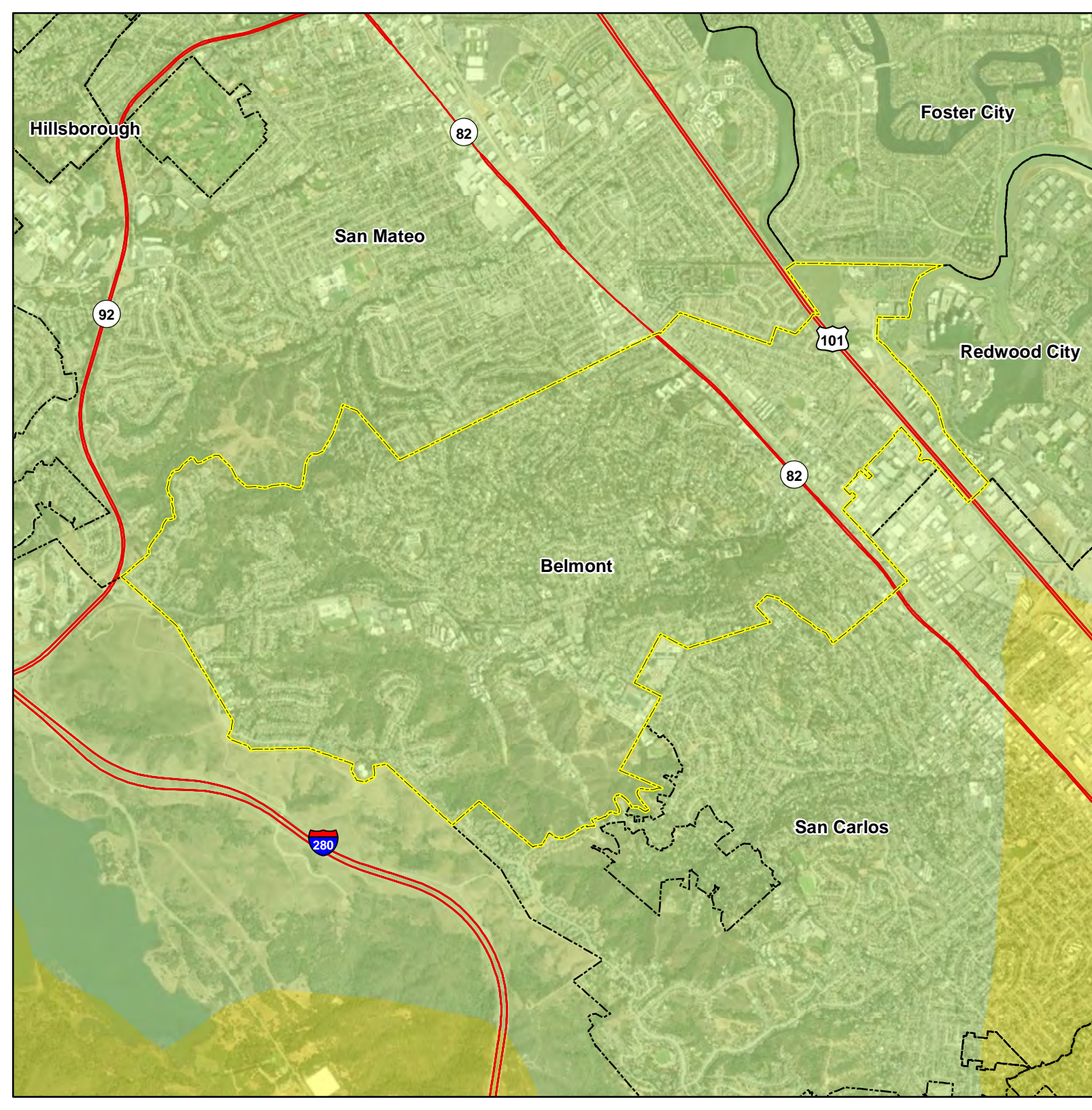
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
Miles





# Belmont

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

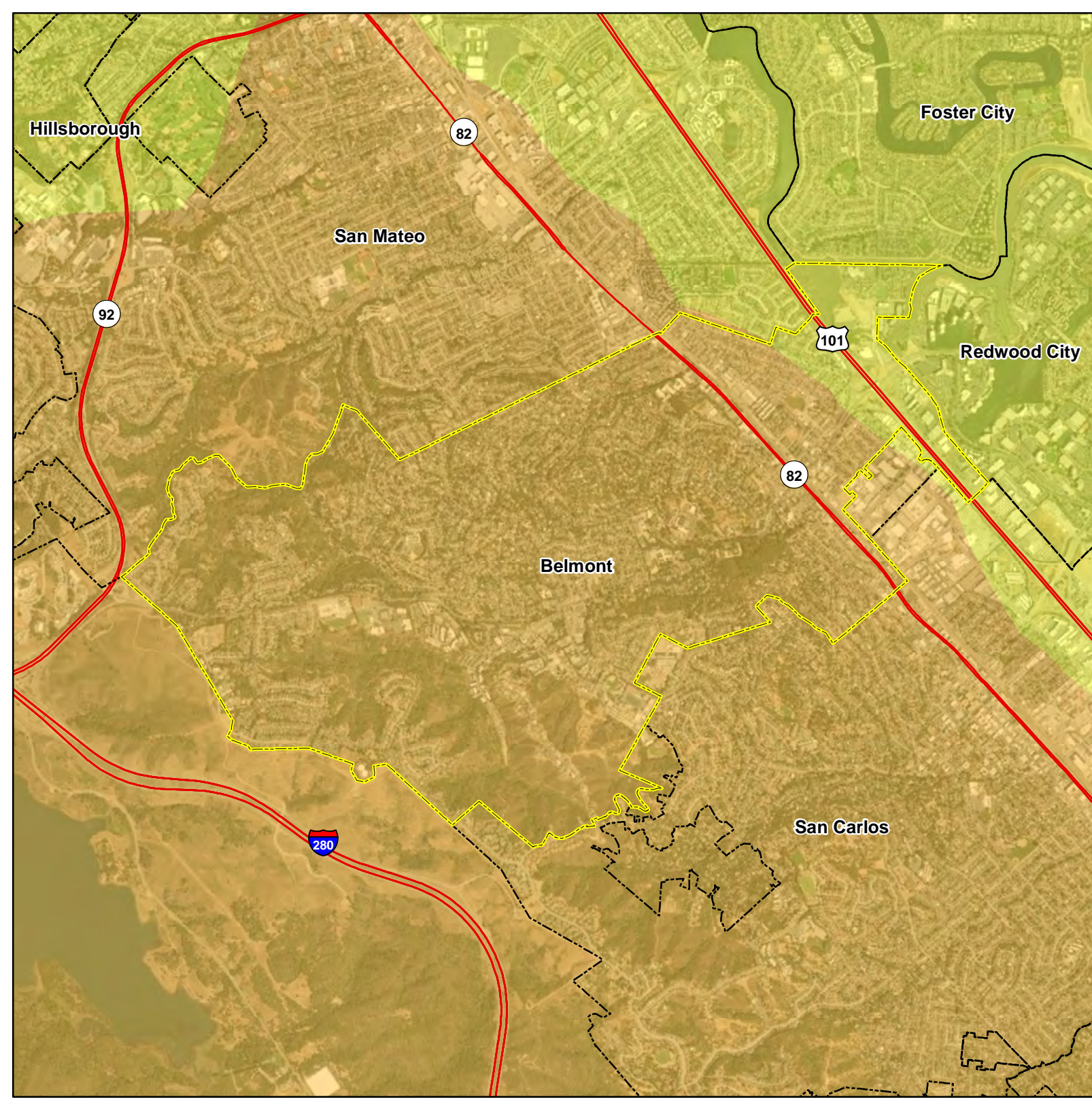
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
Miles





# Belmont

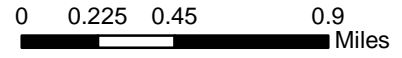
## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Belmont

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 VIII (Severe/Moderate-Heavy)

 Selected City

 Incorporated Cities


 County Boundary

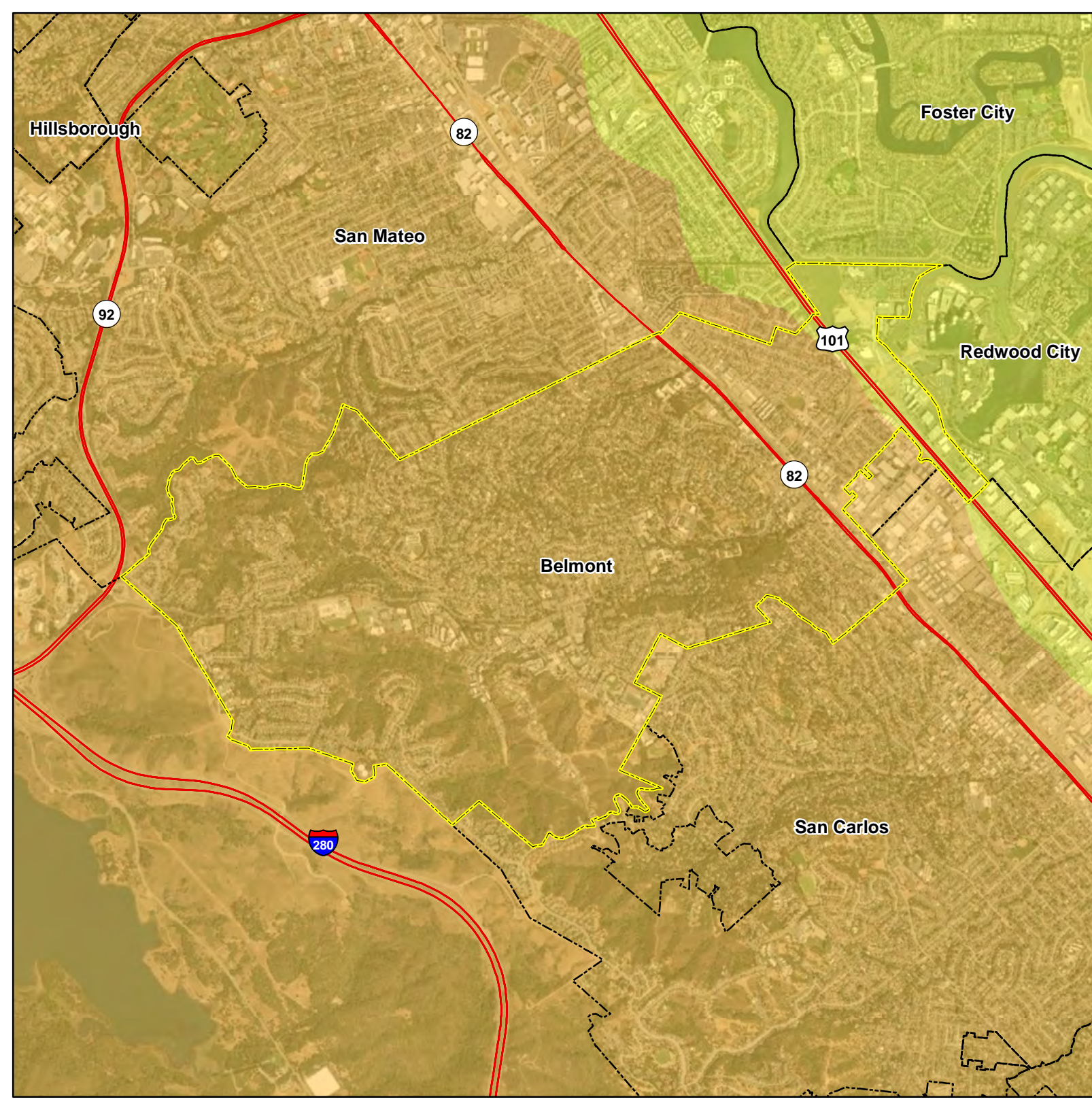
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
 Miles





# Belmont

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

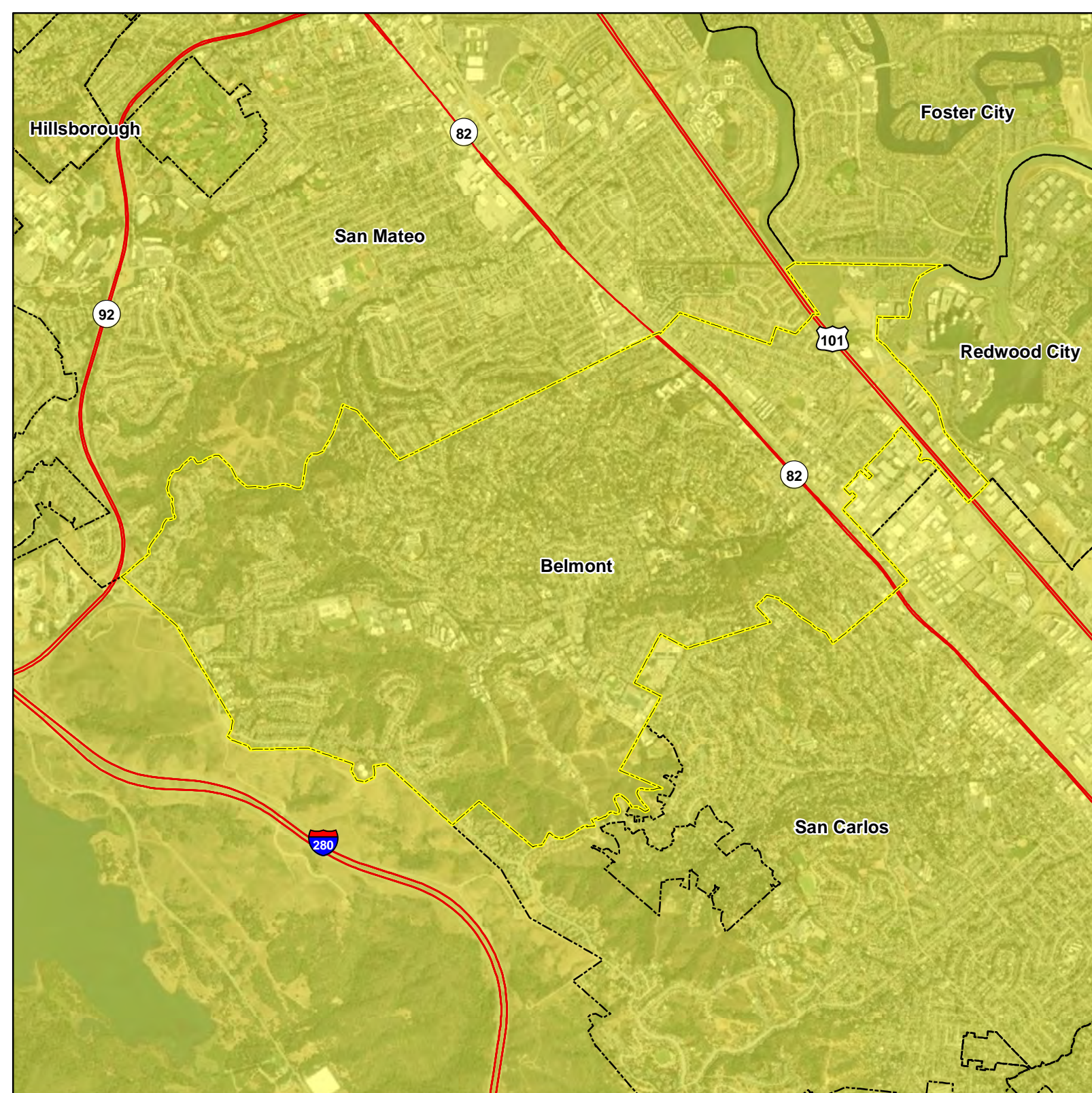
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.225 0.45 0.9  
Miles





# Belmont

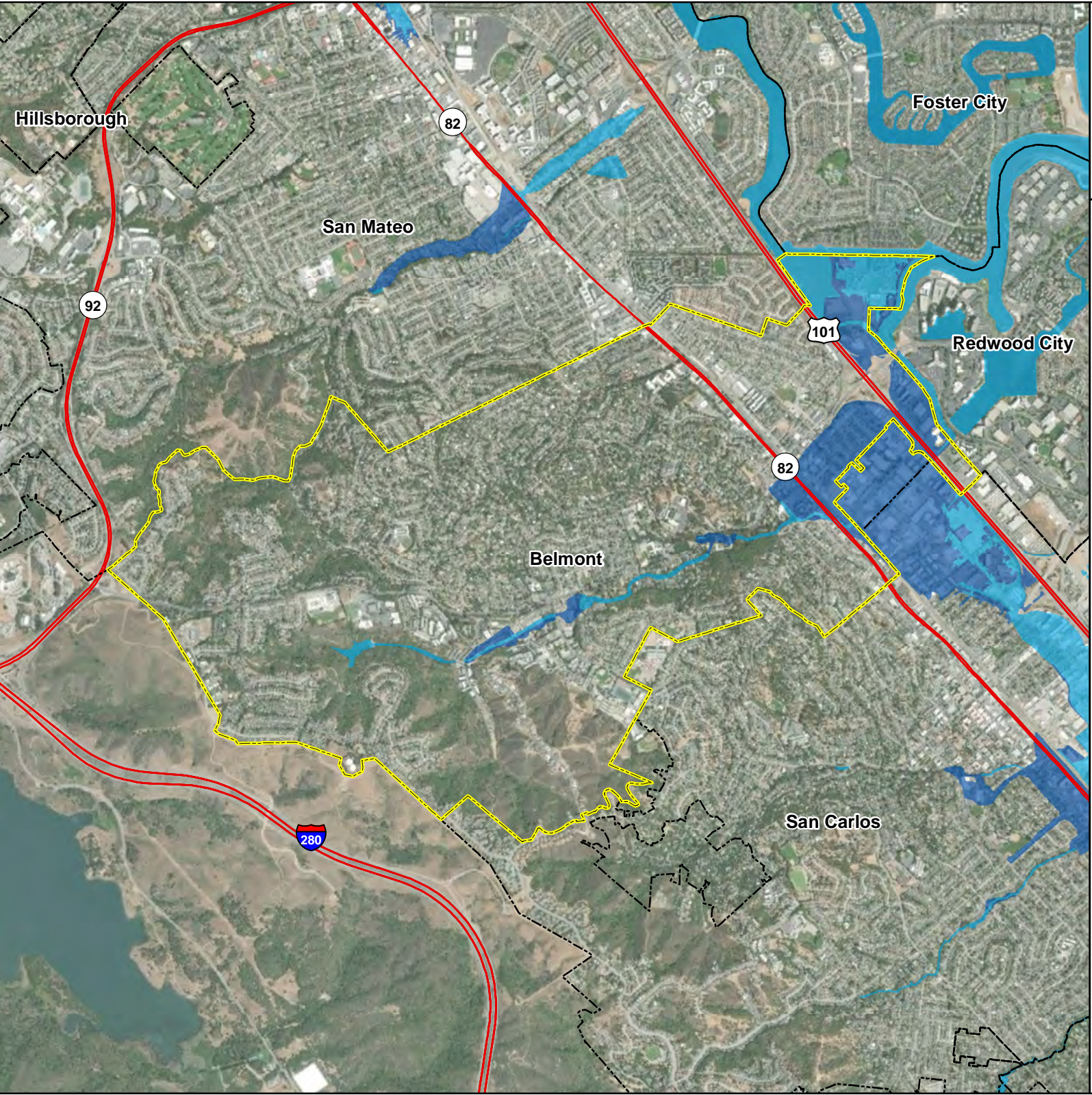
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.225 0.45 0.9 Miles





# Belmont

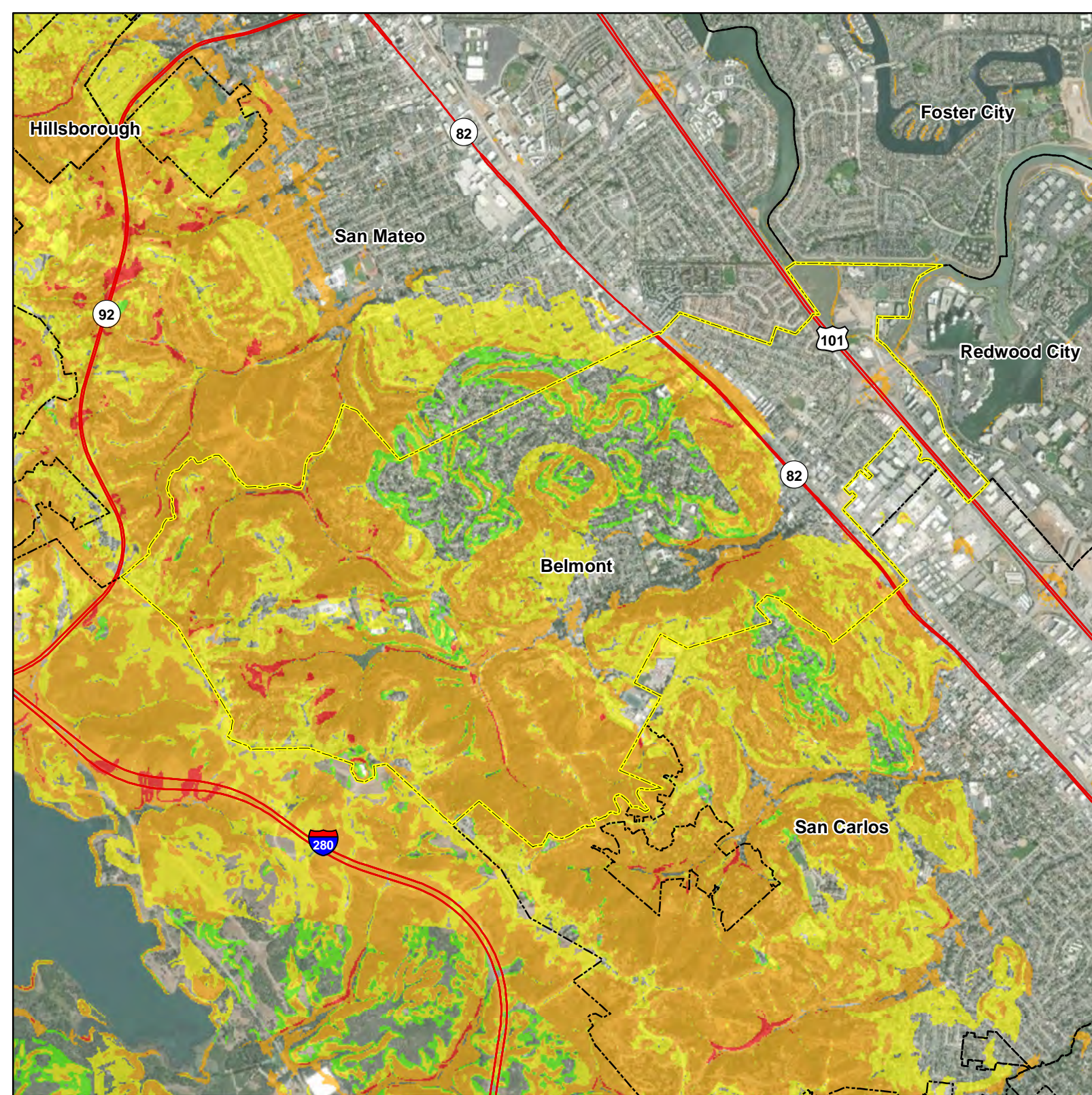
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








0 0.225 0.45 0.9  
Miles





# Belmont

## Sea Level Rise

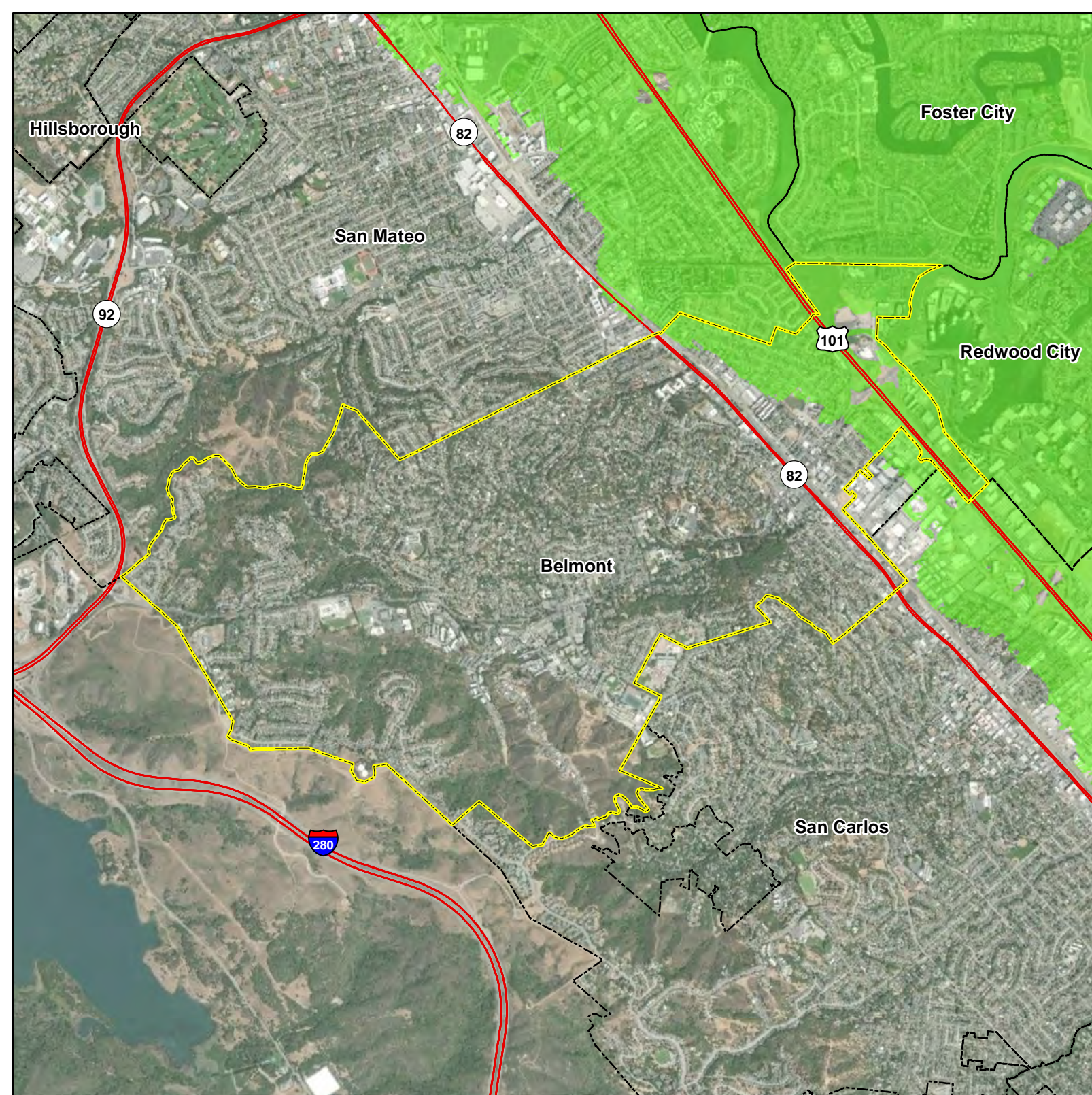
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.225 0.45 0.9 Miles





# Belmont

## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS



0 0.225 0.45 0.9 Miles





# Belmont

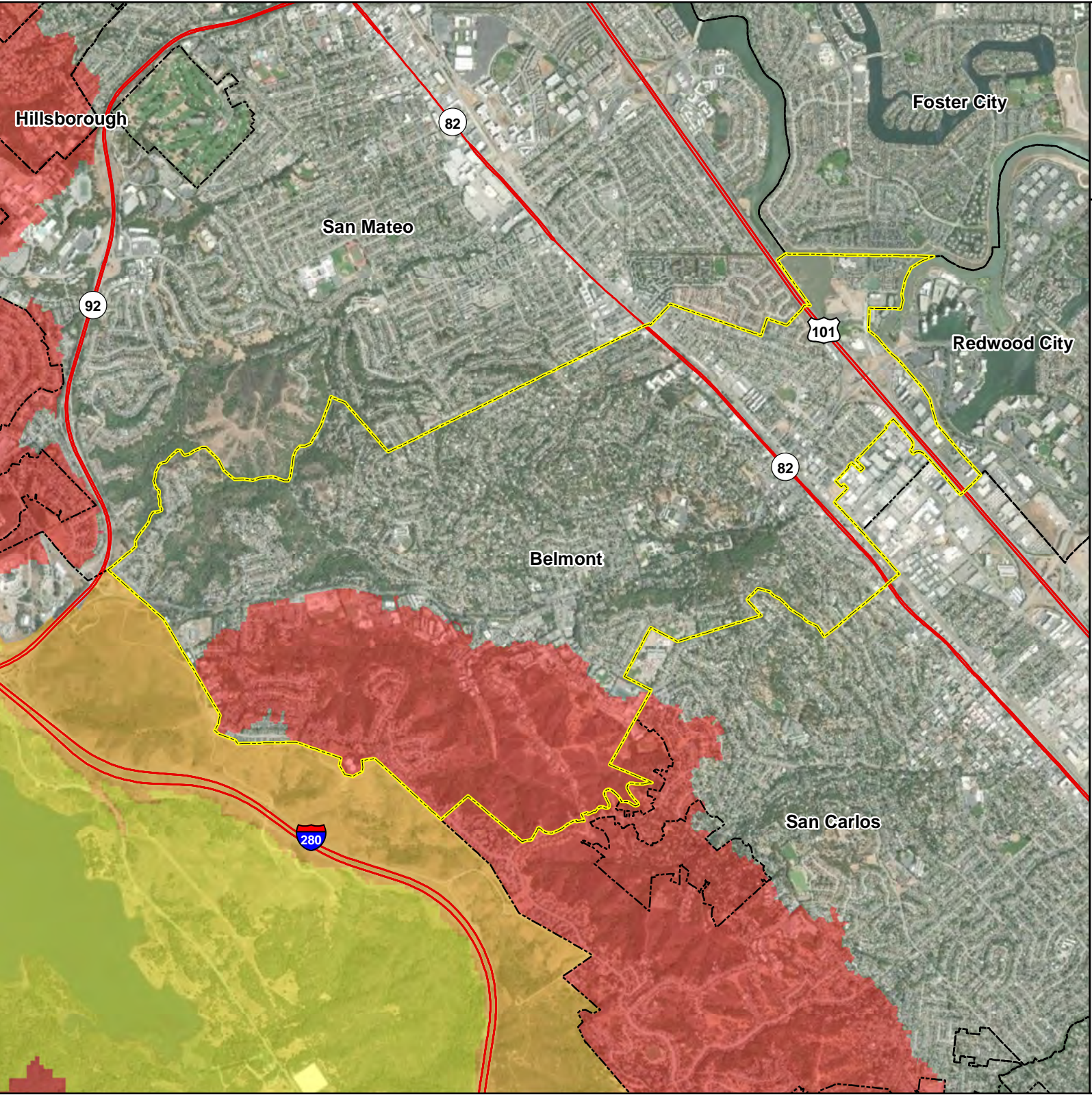
## Wildfire Hazard Severity Zones

- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.225 0.45 0.9 Miles





## 4. CITY OF BRISBANE

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### 4.1 HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Randy Breault, Director - Public Works & OES  
50 Park Place Brisbane, CA 94005  
415-508-2131  
e-mail address: rbreault@brisbaneca.org

#### Alternate Point of Contact

Jeremiah Robbins, Associate Planner  
50 Park Place Brisbane, CA 94005  
415-508-2122  
e-mail address: jrobbins@brisbaneca.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 4-1.

**Table 4-1. Local Mitigation Planning Team Members**

Name	Title
Randy Breault	Director Public Works & OES
John Swiecki	Community Development Director
Ken Johnson	Senior Planner
Julia Ayres	Senior Planner
Jeremiah Robbins	Associate Planner
Adrienne Etherton	Sustainability Manger

### 4.2 JURISDICTION PROFILE

#### 4.2.1 Location and Features

The city is located on the western edge of San Francisco Bay, with a western boundary generally delineated by San Bruno Mountain. Neighboring agencies to the north include Daly City and the City & County of San Francisco. South San Francisco is at the city's southern limit. Although the city's total land base is listed as 20.44 sq. miles, 17 sq. miles of this amount is covered by the San Francisco Bay; the city's eastern boundary with Contra Costa County is located in the Bay. The city is commonly identified as being located at latitude 37.69°N longitude 122.39°W.

Brisbane's climate is mild during the summer when temperatures tend to be in the 60's and cool during the winter when temperatures tend to be in the 50's. Summers are long, arid, and mostly clear while winters are short, cold, and wet. Over the course of the year, the temperature typically varies from 46 to 72 degrees Fahrenheit but is rarely below 39 degrees Fahrenheit or above 82 degrees Fahrenheit. The warmest month of the year is September with an average high temperature of 72.6 degrees Fahrenheit, while the coldest month of the year is January and an average low temperature of 45.4 degrees Fahrenheit.

The annual average precipitation at Brisbane is 21.7 inches. Winter months tend to be wetter than summer months with January being the wettest month of the year with an average rainfall of 4.3 inches. Brisbane’s relative location to San Bruno Mountain tends to deflect seasonal fog to the north and south, away from the city.

## 4.2.2 History

Brisbane was originally part of the Rancho Canada de Guadalupe la Visitacion y Rodeo Viejo, a large tract of land that included Guadalupe Valley, the Bayshore District of Daly City, the Visitacion Valley District of San Francisco, and San Bruno Mountain. Visitacion City, as Brisbane was originally known, was surveyed in 1908, adjacent to a new Southern Pacific Railroad line that offered a faster and more direct route to San Francisco. The town site remained largely undeveloped for many years, largely due to the “Panic of 1907,” a nationwide financial banking crisis/economic recession. During the 1920s, the area’s name was changed to Brisbane. Growth occurred slowly – by 1940, the town had grown to a population of just 2,500. The subject of home rule and city formation was a controversial subject among Brisbane residents during the 1940s and 1950s with some residents desiring a stronger voice in local politics, while others were concerned about losing their town’s close-knit charm to another layer of government. Finally, an incorporation committee was formed in 1960, and after six months of study, recommended that the town vote to incorporate a 2.5 square mile area. On September 12, 1961, the residents of Brisbane supported the incorporation committee’s recommendations, with 710 residents voting in favor of incorporation and 296 opposed.

## 4.2.3 Governing Body Format

The City of Brisbane is governed by a five member City Council elected at large. A Mayor is chosen every year by the Council and the City Manager is appointed by the Council as Chief Administrator. The City has two standing commissions and three committees whose members are appointed by the City Council. The City consist of eight departments: Administrative Services, Community Development, Fire, Marina, Police, Public Works, Parks and Recreation, and the City Manager’s Office. A full description of the Council, Commissions, and Departments can be found under the “Government” tab at [www.brisbaneca.org](http://www.brisbaneca.org).

The City Council will by Resolution adopt the final approved version of the Brisbane Annex to the San Mateo County LHMP; Brisbane Office of Emergency Services will oversee its implementation.

## 4.3 CURRENT TRENDS

### 4.3.1 Population

According to the California Department of Finance, the population of Brisbane as of January 2020 was 4,633. Since 2016, the population has declined at an average annual rate of 0.35 percent.

### 4.3.2 Development

Anticipated development levels are low to moderate for the 5-year plan period, and such development would primarily occur as infill. A total of 389 potential infill housing sites were identified through either current zoning or rezoning in the City’s 2015-2022 Housing Element, enough to meet the City’s Regional Housing Needs Allocation (RHNA) for the current eight-year Housing Element cycle. The City developed and approved a precise plan (Parkside at Brisbane Village Precise Plan) in 2018 to establish a residential overlay zoning district near the



City's center adjacent to the Community Park and the existing downtown neighborhood commercial districts. The Parkside Precise Plan allows for redevelopment of industrial warehouse sites to residential and could accommodate a minimum of 228 of the 389 units identified in the Housing Element, but interest in redeveloping these sites has been low.

Similarly, there are a limited number of commercial sites that are unutilized and may potentially be developed as infill over the next 5 years. These primarily consist of three sites within the Sierra Point subarea, east of U.S. Highway 101. Two of the three sites are currently under construction and are expected to be completed within the next five years. Combined, the two sites under construction would include approximately 1 million square feet of research and development and commercial office. In addition, along Bayshore Boulevard, there are a number of smaller sites that could potentially accommodate commercial development, but due to site constraints, interest in development of these sites has been historically low.

Planning for the next Housing Element cycle, 2023-2031, is now underway and the City is projecting a RHNA of at least 1,600 units. The primary opportunity for new housing is within the City's most northern area known as the Baylands, a roughly 684-acre former railyard and landfill site located between U.S. 101 and Bayshore Boulevard. The City amended its General Plan in 2020, following passage of Measure JJ in 2018, to allow up to 2,200 residential units and 7 million square feet of commercial development on the Baylands. The City is currently preparing an Environmental Impact Report (EIR) for the Brisbane Baylands Specific Plan, where the applicant's is proposing development of 1,800 to 2,200 residential units and approximately 7 million square feet of commercial use, along with an acquisition of an annual water supply from the Oakdale Irrigation District. However, the EIR has not yet been certified and entitlements have not been granted by the City. Given the scale of the development and the stage in the entitlement process, it is not anticipated that development of the Baylands will begin within this plan period.

Table 4-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 4-2. Recent and Expected Future Development Trends**

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses.</i>  <i>If yes, who currently has permitting authority over these areas?</i>	Yes  Four parcels collectively referred to as the Brisbane or Guadalupe Quarry on the northern slope of the Southeast Ridge of the San Bruno Mountain, consisting of open space and a quarry.  San Mateo County
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes  The 145-acre Guadalupe Valley Quarry is located within a "Moderate to High" fire severity zone. It falls within the boundaries of the San Bruno Mountain Habitat Conservation Plan and is also within a State Designated Mineral Resources Area; 80 acres are within the active mining area, while 60 acres are open space and habitat lands.

Criterion	Response					
	2016	2017	2018	2019	2020	
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	Single Family	4	2	5	1	1
	Multi-Family	0	0	0	1	0
	Other (commercial, mixed use, etc.)	0	0	4	1	5
	<b>Total</b>	<b>4</b>	<b>2</b>	<b>9</b>	<b>3</b>	<b>6</b>
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 1</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 9</li> <li>• Tsunami Inundation Area: 0</li> <li>• Wildfire Risk Areas: 0</li> </ul>					
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	<p>Brisbane currently has approximately 2,500 parcels, but only a limited number of vacant, buildable sites outside of the Baylands. Our Housing Element identifies over fifty vacant sites currently zoned for residential, with another half dozen vacant sites in mixed-use zoning districts, but it also identifies sites that could accommodate up to 389 additional residential units. The limited number of commercial sites that remain vacant are primarily located within the Sierra Point subarea, which is currently seeing increased construction activities. The City's largest commercial zoning district, a 365-acre business park, has almost no vacant land remaining but there is potential for existing structures to enlarge and businesses to intensify. And once a Specific Plan is adopted for the Baylands, the 684-acre site would have the potential for up to 2,200 residential units and approximately 7 million square feet of commercial space.</p>					

### 4.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of legal and regulatory capabilities is presented in Table 4-3.
- Development and permitting capabilities are presented in Table 4-4.
- An assessment of fiscal capabilities is presented in Table 4-5.
- An assessment of administrative and technical capabilities is presented in Table 4-6.
- An assessment of education and outreach capabilities is presented in Table 4-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 4-8.
- Classifications under various community mitigation programs are presented in Table 4-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 4-10.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions.

Table 4-3. Legal and Regulatory Capability

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b> <i>Comment: Title 15 of Brisbane Municipal Code (BMC), first adopted 1989 with regular revisions thereafter (latest 10/15/20)</i>	Yes	No	Yes	No
<b>Zoning Code</b> <i>Comment: Title 17 BMC first adopted 1998 with regular revisions thereafter (latest revision 10/15/20)</i>	Yes	No	Yes	No
<b>Subdivisions</b> <i>Comment: Title 16 BMC first adopted 1982 with regular revisions thereafter (latest revision 10/7/13)</i>	Yes	No	Yes	No
<b>Stormwater Management</b> <i>Comment: Local Authority: Chapter 13.06 BMC first adopted 1998 with regular revisions thereafter 1994 (latest revision 3/19/02) Other Jurisdiction Authority: Brisbane complies with the latest California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit requirements and utilizes countywide resources found on flowstobay.org</i>	Yes	Yes	Yes	No
<b>Post-Disaster Recovery</b> <i>Comment: Chapter 2.28 BMC first adopted 1975 with regular revisions thereafter (latest revision 1/18/11)</i>	Yes	No	Yes	No
<b>Real Estate Disclosure</b> <i>Comment: CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of all real property.</i>	No	No	Yes	No
<b>Growth Management</b> <i>Comment: General Plan, 1994</i>	Yes	No	Yes	Yes
<b>Site Plan Review</b> <i>Comment: multiple chapters in Title 15 and Title 17 of the BMC provide site plan review requirements</i>	Yes	No	Yes	No
<b>Environmental Protection</b> <i>Comment: the city complies with state (CEQA) and federal requirements (NEPA)</i>	Yes	No	Yes	No
<b>Flood Damage Prevention</b> <i>Comment: Chapter 15.56 BMC first adopted 1988 with regular revisions thereafter (latest revision 2/23/15)</i>	Yes	No	Yes	No
<b>Emergency Management</b> <i>Comment: Chapter 2.28 BMC first adopted 1975 with regular revisions thereafter (latest revision 1/18/11)</i>	Yes	No	Yes	No
<b>Climate Change</b> <i>Comment: SB 97 requires that California Environmental Quality Act (CEQA) Guidelines address greenhouse gas emissions. Other state policies include AB 32 and SB 375 and regulations of the Climate Action Plan</i>	Yes	No	Yes	No
<b>Other</b> <i>Comment: 2018 County of San Mateo Sea Level Rise Vulnerability Assessment</i>	No	Yes	No	Yes
<b>Planning Documents</b>				
<b>General Plan</b> <i>Is the plan compliant with Assembly Bill 2140? Yes Comment: The Conservation Element, Housing Element, and the Safety Element of the General Plan provide appropriate linkage to the MJLHMP</i>	Yes	No	Yes	Yes
<b>Capital Improvement Plan</b> <i>How often is the plan updated? Annually Comment: The CIP covers all public facilities under the city's jurisdiction</i>	Yes	No	No	Yes
<b>Disaster Debris Management Plan</b> <i>Comment: The City is pending completion of the county's initiative before completing the city specific disaster debris management plan</i>	Yes	Yes	No	Yes
<b>Floodplain or Watershed Plan</b> <i>Comment: 2003 Storm Drainage Master Plan, Flood Insurance Rate Maps effective 4/5/19</i>	Yes	Yes	No	Yes
<b>Stormwater Plan</b> <i>Comment: 2003 Storm Drainage Master Plan</i>	Yes	No	No	Yes



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Urban Water Management Plan</b> <i>Comment: At present, neither of Brisbane's two water districts have enough water connections to require completion of a UWMP</i>	Yes	No	No	No
<b>Habitat Conservation Plan</b> <i>Comment: Significant portions of Brisbane fall within the San Bruno Mountain HCP established in 1982, last updated in 2015</i>	No	Yes	No	No
<b>Economic Development Plan</b> <i>Comment: Chapter 4 "Local Economic Development" of the 1994 General Plan</i>	Yes	No	Yes	Yes
<b>Shoreline Management Plan</b> <i>Comment: Managed by the San Francisco Bay Conservation and Development Commission, created in 1965, revised in 2019</i>	No	Yes	No	Yes/No
<b>Community Wildfire Protection Plan</b> <i>Comment: North County Fire Authority 2004 Wildland Pre-Fire Attack Plan</i>	No	Yes	No	No
<b>Forest Management Plan</b> <i>Comment: 2007 Vegetation Management Strategic Plan and Street Tree Inventory Summary Report</i>	Yes	No	No	No
<b>Climate Action Plan</b> <i>Comment: Climate Action Plan adopted 2015</i>	Yes	No	No	Yes
<b>Emergency Operations Plan</b> <i>Comment: 2018 Emergency Operations Plan (EOP)</i>	Yes	No	No	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment: 2015 County of San Mateo Hazard Vulnerability Assessment, Appendix to 2015 EOP; Bay Area UASI THIRA</i>	No	Yes	No	No
<b>Post-Disaster Recovery Plan</b> <i>Comment: 2018 Emergency Operations Plan (EOP). The Recovery Plan actions do not lend themselves to implementation via CIP</i>	Yes	No	No	No
<b>Continuity of Operations Plan</b> <i>Comment: 2018 Emergency Operations Plan (EOP), Section 14 addresses Continuity of Government</i>	No	No	No	Yes
<b>Public Health Plan</b> <i>Comment: San Mateo County Public Health has countywide responsibility for development of this plan</i>	No	Yes	No	No
<b>Other</b> <i>Comment: 2015 Sustainability Framework for the Baylands</i>	Yes	No	No	Yes

**Table 4-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? • If no, who does? If yes, which department?	Yes Community Development
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	No

**Table 4-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes - per requirements of CA Prop 218
User Fees for Water, Sewer, Gas or Electric Service	Yes - various fees across the utilities
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes, but no withholdings enacted
State-Sponsored Grant Programs	Yes (e.g., Cal OES HMGP)
Development Impact Fees for Homebuyers or Developers	Yes
Other	No

**Table 4-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Public Works - Director Community Development - Director
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works Director Community Development - Building Official
Planners or engineers with an understanding of natural hazards	Yes	Public Works - Director Community Development - Director
Staff with training in benefit/cost analysis	Yes	Public Works - Senior Civil Engineer
Surveyors	Yes	All surveying provided under contract
Personnel skilled or trained in GIS applications	Yes	Public Works - Engineering Technician
Scientist familiar with natural hazards in local area	Yes	Utilize resources of local USGS staff
Emergency manager	Yes	City Office of Emergency Services
Grant writers	Yes	Administrative Services - Management Analyst
Other	No	N/A

**Table 4-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes - Communications Manager in City Manager's Office
Do you have personnel skilled or trained in website development?	Yes - Communications Manager in City Manager's Office
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	Yes On OES department site
Do you use social media for hazard mitigation education and outreach? If yes, briefly describe.	Yes Regular updates are provided in our weekly blog with links to the main website. The city's website hosted the community survey for this LHMP update.

Criterion	Response
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	Yes County's Emergency Services Council
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	Yes Weekly blog and website
Do you have any established warning systems for hazard events? • If yes, briefly describe.	No N/A

**Table 4-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works & Community Development
Who is your floodplain administrator? (department/position)	Community Development/Building Official
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	Latest revision 2/21/19
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	4/25/14
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	32 \$16,353,300 \$181,576
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	6 \$5,818

a. According to FEMA statistics as of March 31, 2021



**Table 4-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608108310	N/A
DUNS#	Yes	967492711	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
NWS Weather Ready Nation Ambassador	Yes	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 4-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: The City has a Sustainability Manager, an Open Space &amp; Ecology Committee, and works closely with San Mateo County Office of Sustainability staff and their efforts.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: Following regional, state, and other reporting on impacts, but little direct monitoring happening at the local level</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	High
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: City partners with County Office of Sustainability whose staff &amp;/or consultants compile GHG inventories; city staff has input and reviews</i>	Medium
Capital planning and land use decisions informed by potential climate impacts <i>Comment:</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: Active participants in County RICAPS and Climate Ready Collaborative, BayREN, CA Climate &amp; Energy Forum, and others</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Adopted CAP and continually evaluating/refining strategies</i>	High
Identified strategies for adaptation to impacts <i>Comment: Most local focus to date has been on mitigation, with participation in countywide adaptation discussions</i>	Medium
Champions for climate action in local government departments <i>Comment: City priority</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: City Council priority</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Some financial resources devoted to mitigation on a per-project basis, none to adaptation to date</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Medium

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents' knowledge of and understanding of climate risk <i>Comment: A mix of highly aware and knowledgeable residents as well as others that are less informed</i>	Medium
Local residents support of adaptation efforts <i>Comment: No significant adaptation efforts have been taken; thus, it is unclear the level of public support</i>	Unsure
Local residents' capacity to adapt to climate impacts <i>Comment: Concern for lower-income residents and/or seniors - unconditioned homes facing increasing temps/heat waves, need for improvements to avoid/withstand wildfires and/or power shutoffs</i>	Medium
Local economy current capacity to adapt to climate impacts	Medium
Local ecosystems capacity to adapt to climate impacts <i>Comment: Rare and endangered plants and animals (butterflies) in the area</i>	Medium

- a. High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 4.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 4.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **General Plan, Chapter X, “Community Health and Safety”**—State law requires a General Plan to address protection of a community from the risks of natural hazards. Brisbane’s plan exceeds this requirement by also speaking to human-caused hazards that are a part of urban life. The introduction to the safety element notes, “The underlying assumption of preparing the safety policy is that the City can reduce hazards if the probability of hazardous conditions is known in advance and plans for dealing with such conditions have been prepared.” The requirements of this section align with the LHMP’s goal of identifying natural hazards and of identifying strategies to mitigate them. The city’s Safety Element was last updated in 2019 and incorporates the LHMP by reference, pursuant to AB 2140 (Hancock, 2006).
- **Brisbane Municipal Code - Chapter 2.28, “Disaster Services Council”** - This section of the municipal code creates a disaster services council and the positions of Director and Assistant Director of Emergency Services. The legislated purposes of this chapter are to “. . . provide for the preparation and carrying out of plans for the protection of persons and property within the city in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions of the city with all other public agencies, corporations, organizations, and affected private persons. Given that the local Office of Emergency Services has overall responsibility for implementing the LHMP, the creation of the Disaster Services Council and Office of Emergency Services is directly in alignment with the LHMP’s goal of establishing a coordinated approach to implementing the plan.

- California Environmental Quality Act, “Brisbane Baylands Final Environmental Impact Report”** - The Brisbane City Council certified the Final (Program) Environmental Impact Report on July 19, 2018 for a General Plan amendment to allow development on an approximately 684-acre project site that is directly connected to the San Francisco Bay by way of two primary drainage facilities. CEQA review is in line with the LHMP’s goal of identify natural hazards and identifying mitigation for it. For instance, there are specific chapters of the Final Environmental Impact Report that delve deeply into associated impacts of the project based on air quality, seismology, surface water hydrology, greenhouse gas emissions, etc. The City will prepare a project-level EIR for the forthcoming Brisbane Baylands Specific Plan which will identify project-specific potential impacts and appropriate mitigation measures addressing a range of potential hazard issue areas.
- North County Fire Authority 2004 Wildland Pre-Fire Attack Plan** - The cities of Daly City, Pacifica and Brisbane have entered into a JPA where administrative oversight and training of fire departments is provided by Daly City to the other cities. Two of the signatory cities are located in a potential urban wildland fire boundary on San Bruno Mountain. In response to this, North County Fire Authority developed and conducts an annual exercise plan that encompasses familiarization training with the boundary, integration of multiple fire responders (including CAL FIRE land and air crews), and citizen evacuation awareness. Extensive pre-planning to mitigate the effects of a fire on San Bruno Mountain is clearly consistent with the goals of the LHMP.
- City of Brisbane 2018 Emergency Operations Plan** - The City’s Emergency Operations Plan (EOP) outlines how Brisbane – its government, stakeholder agencies, community-based organizations (CBO), business community, and residents – coordinate a response to major emergencies and disasters. It was designed to be consistent with Homeland Security Presidential Directive (HSPS-5), the National Incident Management System (NIMS), the California Standardized Emergency Management System (SEMS), and Incident Command System (ICS) requirements. This plan, augmented by the LHMP, identifies operational strategies, and plans for managing inherently complex and potentially catastrophic events, and addresses preparedness, response, recovery, and mitigation.
- Capital Improvement Plan** - The City’s capital improvement plan (CIP), developed in 2004 and updated annually, includes projects that can help mitigate potential hazards. The City will act to ensure consistency between the LHMP and the current and future capital improvement plans. The LHMP may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment and may result in the addition of identified projects to the approved for funding category of the CIP.

## 4.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- General Plan** – The City of Brisbane’s last, comprehensive update of its General Plan occurred in 1994. While the General Plan has been selectively amended from time to time, a comprehensive update is planned for 2024 and the City has already kicked off the 2023-2030 Housing Element update. Sustainable development will be a key conceptual framework for updates to the General Plan and Housing Element, reflecting the City’s recognition of the serious threats from global warming and climate change, but also from local hazards such as landslides, fires, earthquakes, flooding, and sea-level rise. These major updates, along with a minor update to the Safety Element in 2021, provides Brisbane an opportunity to fully integrate the goals, risk assessment and/or recommendations of the LHMP, maintain compliance with AB 2140, and ensure compliance with SB 379; the City acknowledges that any planned updates to its General Plan would greatly benefit from the integration of elements of the LHMP.



- **Sea Change San Mateo County Initiative** – The city was an active participant in a coalition of governments that completed a sea level rise vulnerability assessment to test and plan for the future resilience of our community. The results of the report provided information on the hazard and potential mitigations for multiple sea level rise scenarios and identified applicable city and county planning and policy documents that could integrate or incorporate its findings, including the LHMP. This effort along with other planning initiatives from the County’s Office of Sustainability, with the San Mateo County Flood Control District Flood Resiliency Program, with a Grand Jury report on Sea Level Rise, and with final impetus from the C/CAG Countywide Water Coordination Committee resulted in the creation of the Flood and Sea Level Rise Resiliency District. The City of Brisbane along with the County of San Mateo and the 20 other cities in SMC are all signatory to the MOU associated with creation of this District. City staff will coordinate proposed projects with the District as their projects and ours become known.
- **Capital Improvement Projects** – Capital improvement project proposals may take into consideration hazard mitigation potential as a means of evaluating project prioritization under the CIP.
- **2003 Storm Drainage Master Plan** – The largest dollar amount of structural projects identified in this plan are located in the planning application area known as the Baylands (see third bulleted item above in “Existing Integration”). If and when that project successfully completes the myriad planning processes and results in a development, the majority of the SD improvements necessary to mitigate flooding in this area have already been pre-studied. Pre-identification of natural hazards (i.e., flooding) and requiring mitigation of same while a land area is being developed from its current status as a brownfield is clearly consistent with the LHMP.
- **2015 Climate Action Plan** – Brisbane’s holistic approach to addressing climate change was recognized when we became the first California city to win a Gold Beacon Award from the Institute for Local Government. The continuing implementation of the CAP is consistent with the LHMP’s goal of mitigating natural hazards, in that it works to slow the impacts of climate change, and the associated risks of increased sea levels, higher summer temperatures, prevalence, and strength of storms, etc.
- **City of Brisbane Emergency Operations Plan** – The City’s EOP is regularly updated by staff and will build on the goals and objectives identified in the LHMP. This includes potential updates to the EOP’s chapter on Continuity of Government and Recovery Planning section. The City has already identified two standby generator projects necessary for the Continuity of Operations Plan, one of which was previously completed under a FEMA grant.
- **Brisbane Baylands Specific Plan Environmental Impact Report** – The City has determined that a new EIR needs to be prepared to evaluate the environmental effects of the proposed Brisbane Baylands Specific Plan because of the age of the studies prepared for the Program EIR, substantial differences between the development currently proposed for the Brisbane Baylands and the development that was evaluated in the Program EIR, and changes in CEQA guidelines that went into effect in 2019. The EIR being prepared by the City of Brisbane will build on the information and analyses set forth in the earlier certified Program EIR with new and updated environmental impact analyses, including identification and mitigation of natural hazards, and would clearly benefit from incorporation of elements of the LHMP.
- **Baylands Sustainability Framework** – Brisbane’s City Council approved a sustainability framework for the Baylands in 2015. The framework, which is organized around the ten One Planet Living principles developed by BioRegional, identifies key sustainability principles to be addressed in future Baylands development and creates an approach to implement these principles. The document is expected to continually evolve over the course of the Baylands project to reflect new information, new funding mechanisms, new policies and technologies, and improvements to the project design and presents an opportunity for the City to incorporate or implement the goals and objectives of the LHMP.

## 4.6 RISK ASSESSMENT

### 4.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 4-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 4-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Severe Winter Storms	DR 4308	April 1, 2017	None submitted - \$153,750 FEMA grant received for fire station standby genset
Severe Storm	N/A	February 6, 2015	none submitted
Severe Storm	N/A	December 2015	none submitted
Drought	N/A	January 17, 2014 – ?	none submitted
Drought	N/A	February 27, 2009	none submitted
Severe Storms	DR 1646	Spring 2006	\$340,000
Severe Storms	DR 1628	December 2005 – January 2006	\$350,000 (includes Emergency Relief Funds from FHWA)
Wildfire (San Bruno Mountain)	-	Late Summer 2002	Not available
El Niño (Severe Storms)	DR 1203	February 2, 1998	not available
Loma Prieta Earthquake	845-DR-CA	October 17, 1989	not available
Severe Storms	651-DR-CA	January 1982	not available
Landslide	N/A	Winter 1980	not available - 12 homes damaged
Flood and Storms	not available	Fall 1962	not available

### 4.6.2 Hazard Risk Ranking

Table 4-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 4-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	42	High
2	Wildfire	0	High*
3	Flood	24	Medium
4	Severe weather	24	Medium
5	Sea Level Rise / Climate Change	9	Low
6	Drought	9	Low
7	Dam Failure	0	Low
8	Tsunami	0	Low
9	Landslide/Mass Movements	51	Low**

\* Changed due to proximity to San Bruno Mountain WUI area

\*\* No history of landslides

The following changes were made to Table 4-12 based on local knowledge:

- Earthquake was re-ranked from 2 to 1, as the older non-retrofitted homes in Central Brisbane are at risk during strong shaking events.
- Wildfire was re-ranked from 9 to 2, and changed to High, based on the city’s adjacency to the San Bruno Mountain Urban Wildland Interface.
- Landslide/Mass Movements was re-ranked from 1 to 9 and changed to Low. (Note the change to 9 was only meant to place it in Low category, without having to renumber the remaining low hazards.). This change is based on local knowledge that the areas subject to landslide have only a small number of buildings existing on them; any new buildings would include geotechnical engineering designs to avoid landslides once developed.
- Flood was assumed to include the expected impact to the land area known a Sierra Point based on rising tides and subsequent access concerns for this area.

### **4.6.3 Jurisdiction-Specific Vulnerabilities**

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

Due to the city limits being contiguous with the State & County Park of San Bruno Mountain, most of our southern and western city limit is a wildland urban interface potential fire area. The adjacent State parkland has been designated a State Responsibility Area, where the State of California is financially responsible for the prevention and suppression of wildfires. Fires have periodically occurred in this area since recorded time prior to the city’s incorporation in 1961, with the most recent major event occurring in 2006. Although these events have fortunately not expanded to require a state proclamation or federal declaration of disaster, the potential impact of fires originating in the wildland and impacting the urban area of Brisbane is an ongoing focus of concern.

The city’s mountainous topography and older roadway network has created at least one location that is exceptionally difficult to access by emergency equipment (specifically, fire engines & ladder trucks are unable to utilize this roadway). This roadway also adjoins an area that experienced a significant mudslide in 1980. A reconfiguration of Glen Park Way at its intersection with Humboldt Road is necessary to ensure ingress for emergency responders and egress for evacuees, particularly in the event of an urban wildland interface fire.



The scientific community is in a majority consensus that sea-level rise (SLR) is an upcoming vulnerability that will have to be addressed. The largest question as we prepare for SLR is to determine the timeframe and a most probable upper boundary of SLR that needs to be accommodated. Brisbane is participating in a San Mateo County led effort, “Sea Change San Mateo County”, which has produced preliminary model results indicating that portions of our land mass known as “Sierra Point” (housing an office park and the city’s 580-slip marina) could be overtopped under certain scenarios. One, and possibly two, pump stations are in potential SLR induced flooding zones.

City Hall needs a new/upgraded standby generator to accommodate the relocation of the city’s primary Emergency Operations Center to this location, especially in light of FEMA’s pending NIMS update that proposes to create “Center Management Systems” that are expected to be supported primarily by day-to-day staff working from their traditional assigned workspace (i.e., City Hall).

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 4.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 4-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
BB-1—Where appropriate, support retrofitting structures against earthquake. <b>Comment:</b> This is an ongoing action item			✓	BRS-1
BB-2—Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions within the community. <b>Comment:</b> Completed 2/7/19 by Reso 2019-05 including the LHMP to the Health and Safety Element of the city’s General Plan.	✓			N/A
BB-3—Develop and implement a program to capture perishable data after significant events (e.g. high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan. Additionally, develop a cost tracking system that will ensure maximum FEMA/CDAA reimbursement from recovery through response phases of disasters. <b>Comment:</b> No action completed on this item due to a lack of resources.			✓	BRS-3
BB-4—Support the Countywide initiatives identified in Volume I of the hazard mitigation plan. <b>Comment:</b> This is an ongoing action item.			✓	BRS-4
BB-5—Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan. <b>Comment:</b> This is an ongoing action item.			✓	BRS-5

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>BB-6</b>— Continue to maintain good standing and compliance under the National Flood Insurance Program (NFIP). This will be accomplished through the implementation of floodplain management programs that will, at a minimum, meet the requirements of the NFIP:                      Enforcement of the flood damage prevention ordinance                      Participate in floodplain identification and mapping updates                      Provide public assistance/information on floodplain requirements and impacts.  <b>Comment:</b> This is an ongoing action item.</p>			✓	BRS-6
<p><b>BB-7</b>—Continue to update local building codes with IBC and state building code revisions, and apply these standards to public and private renovation, replacement, and development.  <b>Comment:</b> This is an ongoing action item.</p>			✓	BRS-7
<p><b>BB-8</b>—Continue to refine a post-disaster recovery plan and a debris management plan.  <b>Comment:</b> Recovery plan is in a draft format. Debris management plan will be developed after completion of the current countywide effort.</p>			✓	BRS-8
<p><b>BB-9</b>—Critical Facility Upgrade. Provide new standby generator for Fire Station 81 and provide upgraded standby generator at City Hall to accommodate relocation of EOC to that facility.  <b>Comment:</b> Station 81 genset project was completed 8/27/20 with partial funds from FEMA grant DR-4308-229. The city continues to pursue opportunities/options for upgrading city hall standby power.</p>	✓		✓	BRS-9
<p><b>BB-10</b>—Critical Fuel Supply. Provide local fuel supply (none presently exists in the community) capable of supporting 3-5 days of fuel needs for emergency responders and standby generators (including those at water &amp; sewer pump stations).  <b>Comment:</b> While this item remains in the list of candidate projects in the staff’s biannual CIP proposals, it is yet to be funded.</p>			✓	BRS-10
<p><b>BB-11</b>—Emergency responder ingress/egress. Design and construct a new intersection at Glen Park Way/Humboldt Road that will allow emergency responders access from the southern portion of the community, which is adjacent to an urban wildland interface.  <b>Comment:</b> Preliminary layout/design of the alternatives indicate there are challenges with impact to an existing protected canyon.</p>			✓	BRS-11
<p><b>BB-12</b>—Mutual Aid. Continue to participate in the San Mateo County Operational Area Emergency Services Organization, the San Mateo County Emergency Managers Association, and the San Mateo County Public Works Mutual Aid Agreement to leverage the city’s ability to respond to emergencies.  <b>Comment:</b> This is an ongoing action item.</p>			✓	BRS-12
<p><b>BB-13</b>-Disaster Response Staff Training. Continue to identify and provide training for response personnel.  <b>Comment:</b> A significant amount of staff training was conducted late 2019, which served the city well during the response to COVID.</p>			✓	BRS-13
<p><b>BB-14</b>—Sea Level Rise Vulnerability Assessment. Continue participation in the San Mateo County led effort, “Sea Change San Mateo County”, to develop an understanding of future vulnerability.  <b>Comment:</b> This is an ongoing action item. Also note that San Mateo County has formed a Flood and Sea Level Rise Resiliency District (FSLRRD) as a direct result of this earlier, initial assessment.</p>			✓	BRS-14
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.  <b>Comment:</b> Reworded as there were no current record of properties with repetitive losses from natural hazards when this action item was first placed in the LHMP in 2016, and there have been no occurrences since that time..</p>				BRS-1

## 4.8 HAZARD MITIGATION ACTION PLAN

Table 4-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 4-15 identifies the priority for each action. Table 4-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 4-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BRS-1</b> — Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Flood, Severe Weather, Landslide, Climate Change, Drought, Tsunami						
Existing	2, 6, 7, 10, 13, 14	Planning & Community Development (PCD)	N/A	High	HMGP, BRIC, FMA	Ongoing
<b>Action BRS-2</b> — Advance the long-term resilience of the development of the Brisbane Baylands to sea level rise and extreme storms, as well as provide environmental, recreation, and community/connectivity enhancements where possible.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe Weather						
Existing & New	6, 7, 8, 10, 14	Public Works, PCD	SMC Flood & Sea Level Rise District	High	Private Developer, State Grants (Caltrans, Prop 68, SFBRA Measure AA), Federal Grants (FEMA BRIC/HMGP, HUD)	Long-term
<b>Action BRS-3</b> — Develop and implement a program to capture perishable data after significant events (e.g. high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan. Additionally, develop a cost tracking system that will ensure maximum FEMA/CDAA reimbursement from recovery through response phases of disasters.						
<i>Hazards Mitigated:</i> All Hazards						
New & Existing	1, 2, 4, 5	BRS Office of Emergency Services (OES)	N/A	Low	Staff Time, General Funds	Short-term
<b>Action BRS-4</b> — Support the Countywide initiatives identified in Volume I of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Flood, Severe Weather, Landslide, Climate Change, Drought, Tsunami						
New & Existing	1-14	OES	PCD	Low	Staff Time, General Funds	Ongoing
<b>Action BRS-5</b> — Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Flood, Severe Weather, Landslide, Climate Change, Drought, Tsunami						
New & Existing	1-14	OES	PCD	Low	Staff Time, General Funds	Short-term
<b>Action BRS-6</b> — Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>Enforce the flood damage prevention ordinance.</li> <li>Participate in floodplain identification and mapping updates.</li> <li>Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<i>Hazards Mitigated:</i> Flood						
New & Existing	1, 2, 5, 8, 10, 13	Public Works	PCD	Low	Staff Time, General Funds	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BRS-7</b> — Continue to update local building codes with IBC and state building code revisions, and apply these standards to public and private renovation, replacement, and development.						
<i>Hazards Mitigated:</i> Earthquake, Flood, Landslide, Severe Weather, Wildfire						
New	1, 2, 6	PCD	OES	Low	Staff Time, General Funds	Short-term
<b>Action BRS-8</b> — Continue to refine a post-disaster recovery plan and a debris management plan.						
<i>Hazards Mitigated:</i> All Hazards						
Existing	1, 2, 6	OES	N/A	Low	Staff Time, General Funds	Long-Term
<b>Action BRS-9</b> — Critical Facility Upgrade. Provide upgraded standby generator at City Hall to accommodate relocation of EOC to that facility.						
<i>Hazards Mitigated:</i> Earthquake, Flood, Landslide, Severe Weather, Wildfire						
Existing	1, 4, 6	OES	Public Works	Medium	HMA Grant, General Funds	Short-term
<b>Action BRS-10</b> — Critical Fuel Supply. Provide local fuel supply (none presently exists in the community) capable of supporting 3-5 days of fuel needs for emergency responders and standby generators (including those at water & sewer pump stations).						
<i>Hazards Mitigated:</i> Earthquake, Severe Weather, Wildfire						
Existing	1, 4, 6	Public Works	OES	Medium	HMA Grant, General Funds	Long-Term
<b>Action BRS-11</b> — Emergency responder ingress/egress. Design and construct a new intersection at Glen Park Way/Humboldt Road that will allow emergency responders access from the southern portion of the community, which is adjacent to an urban wildland interface.						
<i>Hazards Mitigated:</i> Earthquake, Landslide, Severe Weather, Wildfire						
Existing	1, 4, 5, 7	OES	Public Works	High	HMA Grant, General Funds	Long-Term
<b>Action BRS-12</b> — Mutual Aid. Continue to participate in the San Mateo County Operational Area Emergency Services Organization, the San Mateo County Emergency Managers Association, and the San Mateo County Public Works Mutual Aid Agreement to leverage the city's ability to respond to emergencies.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Flood, Severe Weather, Landslide, Climate Change, Drought, Tsunami						
Existing	1, 2, 3, 4, 5, 6, 8, 9, 12	OES	Public Works	Low	Staff Time, General Funds	Ongoing
<b>Action BRS-13</b> — Disaster Response Staff Training. Continue to identify and provide training for response personnel.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Flood, Severe Weather, Landslide, Climate Change, Drought, Tsunami						
Existing	1, 2, 3, 4, 5, 6, 7, 10, 12	OES	All city staff as participants	Low	Staff Time, General Funds	Ongoing
<b>Action BRS-14</b> — Sea Level Rise Vulnerability Assessment. Continue participation in the San Mateo County led effort, "Sea Change San Mateo County", to develop an understanding of future vulnerability. This participation will also include city-specific efforts to identify and pursue strategies to increase adaptive capacity to climate change						
<i>Hazards Mitigated:</i> Flood, Extreme Weather, Climate Change						
Existing & New	1, 2, 3, 4, 5, 6, 7, 10, 12	Public Works	PCD	Low	FSLRRD and city staff time	Long-term
<b>Action BRS-15</b> — Identify, pursue, and support SMC Flood & Sea Level Rise Dist. strategies and infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects, where feasible, including assets identified in the Caltrans District 4 Adaptation Priorities Report.						
<i>Hazards Mitigated:</i> Flood, Severe Weather, Climate Change, Drought, Landslide, Tsunami						
Existing & New	1, 2, 4, 5, 6, 7, 8, 9, 13, 14	Public Works	SMC Flood & Sea Level Rise Dist.	Medium	Staff Time, General Funds	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BRS-16</b> — Consider the hazard mitigation plan in future updates to the City's General Plan Land Use, Circulation, and Housing Elements, and other plans, ordinances, and programs that dictate land use decisions in the community, where feasible.						
<i>Hazards Mitigated:</i> All Hazards						
New & Existing	1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14	PCD	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action BRS-17</b> — Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe Weather						
New & Existing	1, 2, 5, 6, 7, 8, 9, 13, 14	PCD	SMC Flood & Sea Level Rise Dist.	Low	Staff Time, General Funds	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 4-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	6	High	High	Yes	Yes	No	Low	Medium	Medium
2	5	High	High	Yes	Yes	No	Low	High	Medium
3	4	Low	Low	Yes	No	Yes	High	Low	Medium
4	14	Medium	Low	Yes	No	Yes	High	Low	Medium
5	14	Medium	Low	Yes	No	Yes	High	Low	Medium
6	6	High	Low	Yes	No	Yes	High	Low	Medium
7	3	Medium	Low	Yes	No	Yes	High	Low	Low
8	3	Medium	Low	Yes	No	Yes	Low	Low	High
9	3	High	Medium	Yes	Yes	No	Medium	High	High
10	3	High	Medium	Yes	Yes	No	Low	High	High
11	4	High	High	Yes	Yes	No	Low	High	Medium
12	9	Medium	Low	Yes	No	Yes	High	Low	High
13	9	Medium	Low	Yes	No	Yes	High	Low	High
14	9	Medium	Low	Yes	No	Yes	Low	Low	Medium
15	10	Medium	Medium	Yes	Yes	No	Medium	Medium	Medium
16	11	Medium	Low	Yes	No	Yes	High	Low	High
17	9	High	Low	Yes	No	Yes	High	Low	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 4-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	BRS-7,16	BRS-1,7	BRS-4, 5, 12		BRS-9,10	BRS-11		BRS-3, 8, 11, 13, 16
Wildfire	BRS-7,16	BRS-1	BRS-4, 5, 12		BRS-9,10	BRS-11		BRS-3, 8, 11, 13, 16
<b>Medium-Risk Hazards</b>								
Flood	BRS-6, 7, 14, 16, 17	BRS-1, 7, 17	BRS-4, 5, 12, 14	BRS-2,15	BRS-9		BRS-14,17	BRS-2, 3, 8, 13, 15, 16, 17
Severe/Ext. Weather	BRS-6, 7, 14, 16, 17	BRS-1, 7, 17	BRS-4, 5, 12, 14	BRS-2,15	BRS-9,10	BRS-11	BRS-14,17	BRS-2, 3, 8, 11, 13, 15, 16, 17
<b>Low-Risk Hazards*</b>								
Landslide	BRS-7,16	BRS-1,7	BRS-4, 5, 12	BRS-15	BRS-9	BRS-11		BRS-3, 8, 11, 13, 15, 16
Sea Level Rise / Climate Change	BRS-2, 14, 16, 17	BRS-1,17	BRS-4, 5, 12, 14	BRS-2,15			BRS-14,17	BRS-2, 3, 8, 13, 15, 16, 17
Drought	BRS-16	BRS-1	BRS-4, 5, 12	BRS-15				BRS-3, 8, 13, 15, 16
Tsunami	BRS-16	BRS-1	BRS-4, 5, 12	BRS-15				BRS-3, 8, 13, 15, 16

\*NOTE: Dam Failure not included in this matrix as there are no dams within or adjacent to the City of Brisbane.

a. See the introduction to this volume for explanation of mitigation types.

## 4.9 PUBLIC OUTREACH

Table 4-17 lists public outreach activities for this jurisdiction.

**Table 4-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
The Survey Prepared for This Effort Was Distributed to The Following Social Media Platforms:		
Nextdoor	6/22/21	1,754
Instagram	6/22/21	1,359
Facebook	6/22/21	1,215
Twitter	6/22/21	1,824

## 4.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.



- **City of Brisbane Municipal Code (BMC)**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **City of Brisbane BMC Chapter 15.56 Floodplain Management**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **City of Burlingame Emergency Operations Plan**
- **Please also refer to the documents listed in Table 4-3.**

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

#### **4.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY**

- Ongoing and future studies by the San Mateo County Flood and Sea Level Rise Resiliency District, coupled with ongoing efforts by FEMA are necessary to fully understand the risk posed by sea level rise and climate change.

# Brisbane

## Critical Facilities, 1 of 2

- Food, Water, Shelter
- Health and Medical
- Safety and Security
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD



0 0.5 1 2 Miles





# Brisbane

## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.5 1 2 Miles





# Brisbane

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










0 0.5 1 2  
Miles





# Brisbane

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS












0 0.5 1 2 Miles





# Brisbane

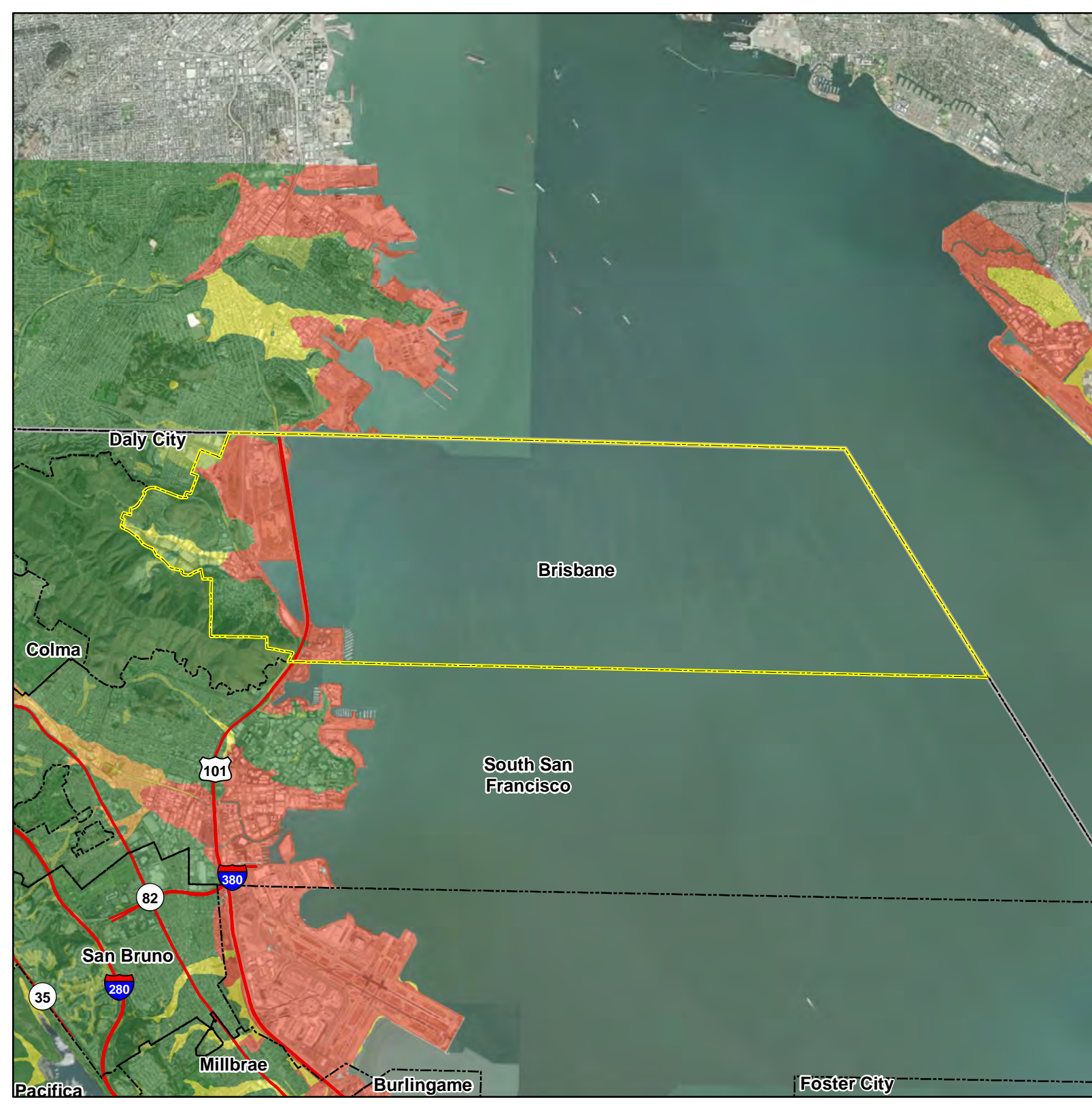
## Liquefaction Susceptibility

-  Very Low
-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)



0 0.5 1 2 Miles






# Brisbane

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

 V (Moderate/Very Light)

 VI (Strong/Light)

 Selected City

 Incorporated Cities


 County Boundary

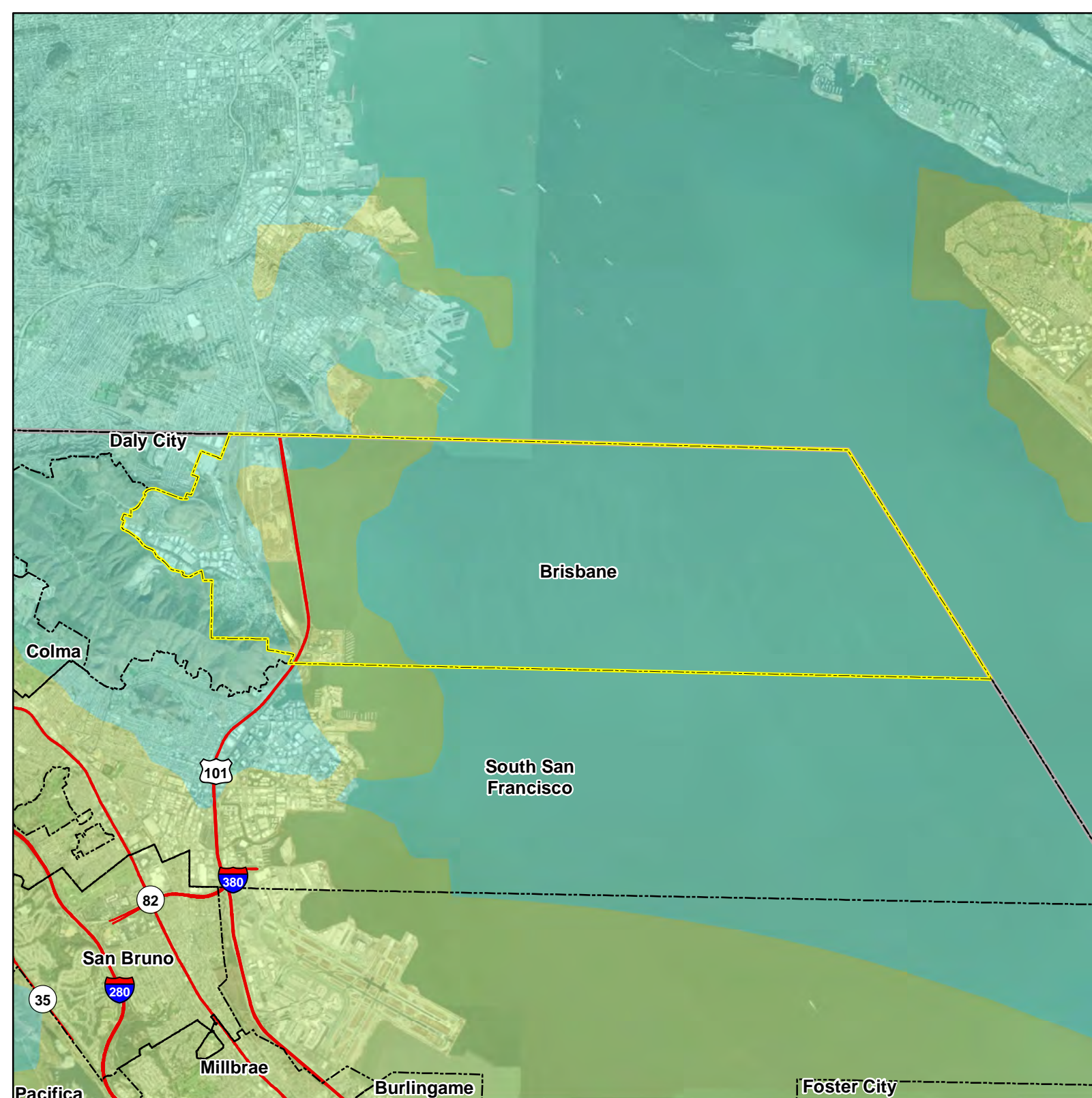
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.5 1 2  
 Miles



# Brisbane

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

- V (Moderate/Very Light)
- VI (Strong/Light)
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.5 1 2 Miles





# Brisbane

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.5 1 2 Miles







# Brisbane

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.5 1 2 Miles



# Brisbane

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

 VI (Strong/Light)

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.5 1 2  
Miles





# Brisbane

## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.5 1 2 Miles





# Brisbane

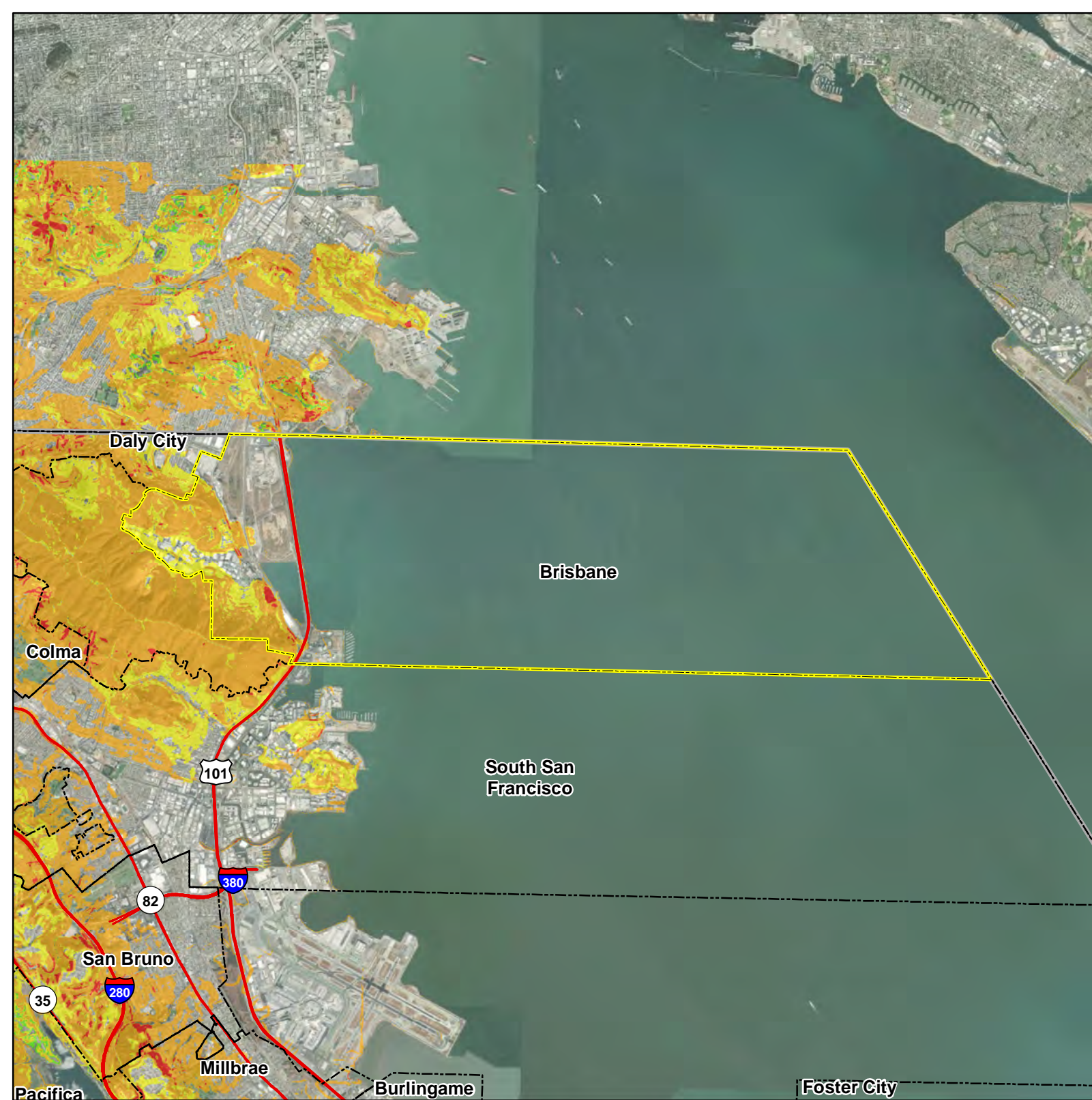
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








0 0.5 1 2  
Miles





# Brisbane

## Sea Level Rise

-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.5 1 2 Miles





# Brisbane

## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.5 1 2  
Miles





# Brisbane

## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.5 1 2 Miles



# 5. CITY OF BURLINGAME

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## 5.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Martin Quan, Senior Civil Engineer  
501 Primrose Road  
Burlingame, CA 94010  
650-558-7245  
mquan@burlingame.org

### Alternate Point of Contact

Dena Gunning  
Community Risk & Resiliency Specialist  
1399 Rollins Road  
Burlingame, CA 94010  
650-558-7609  
dgunning@ccfd.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 5-1.

**Table 5-1. Local Mitigation Planning Team Members**

Name	Title
Syed Murtuza	Public Works Director
Kevin Gardiner	Community Development Director
Christine Reed	Fire Marshal
Rick Caro	Building Official
Margaret Glomstad	Parks and Recreation Director

## 5.2 JURISDICTION PROFILE

### 5.2.1 Location and Features

The City of Burlingame is on the San Francisco Peninsula, located 16 miles south of San Francisco. The City covers approximately 5.8 square miles and three-quarters of the land is developable and the remaining consist of the San Francisco Bay and Mills Canyon Preserve. The City is mature and largely built-out community with well-established residential neighborhoods. The City borders the City of Millbrae to the North, the Town of Hillsborough to the West, and the City of San Mateo to the South.

The City of Burlingame is sheltered by hills from strong winds and heavy fog. The city temperatures range from a low 54 degrees to a high of 82 degrees in the July and a low of 39 degrees and a high of 57 degrees in January. The average annual precipitation is 20 inches.

## 5.2.2 History

Burlingame is located on the Mexican land grant Rancho San Mateo. The City was named after Anson Burlingame, an US Ambassador to China that was a friend of William C. Ralston, the owner of the land. After the 1906 San Francisco Earthquake, many people looking to escape the hardships of a city in ruins flocked south. Hundreds of lots in Burlingame were sold in 1906 and 1907. The town of Burlingame was incorporated June 6, 1908. Burlingame is known as the “City of Trees” due to the 18,000 public trees that were planted throughout the City including along El Camino Real, city streets, parks, and groves that were once part of larger estates.

## 5.2.3 Governing Body Format

The City of Burlingame is governed by a five-member city council. The City consists of twelve departments: Administration, City Clerk, City Council, Community Development, Engineering, Finance/Utility Billing, Fire, Human Resources, Library, Parks and Recreation, Police, and Public Works. The City has ten committees and commissions, which report to the City Council.

The City Council assumes responsibility for the adoption of this plan; the City Manager will oversee its implementation.

## 5.3 CURRENT TRENDS

### 5.3.1 Population

According to the California Department of Finance the population of Burlingame as of January 2020 was 30,118. Since 2016, the population has grown at an average annual rate of 0.33 percent.

### 5.3.2 Development

The City of Burlingame has experienced strong interest in both residential and commercial development. The level of development has increased compared to past years. Indicators are that the increased level of development will continue, as applications for both residential and commercial projects continue to be received.

Identifying previous and future development trends is achieved through a comprehensive review of permitting since completion of the previous plan and in anticipation of future development. Tracking previous and future growth in potential hazard areas provides an overview of increased exposure to a hazard within a community.

Table 5-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 5-2. Recent and Expected Future Development Trends**

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No



Criterion	Response																														
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No																														
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes Areas planned for redevelopment may be subject to threats from flooding and sea level rise																														
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	<table border="1"> <thead> <tr> <th></th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Single Family</td> <td>9</td> <td>13</td> <td>12</td> <td>20</td> <td>16</td> </tr> <tr> <td>Multi-Family</td> <td>2</td> <td>1</td> <td>2</td> <td>1</td> <td>2</td> </tr> <tr> <td>Other (commercial, mixed use, etc.)</td> <td>1</td> <td>2</td> <td>1</td> <td>0</td> <td>3</td> </tr> <tr> <td><b>Total</b></td> <td><b>12</b></td> <td><b>16</b></td> <td><b>15</b></td> <td><b>21</b></td> <td><b>21</b></td> </tr> </tbody> </table>		2016	2017	2018	2019	2020	Single Family	9	13	12	20	16	Multi-Family	2	1	2	1	2	Other (commercial, mixed use, etc.)	1	2	1	0	3	<b>Total</b>	<b>12</b>	<b>16</b>	<b>15</b>	<b>21</b>	<b>21</b>
	2016	2017	2018	2019	2020																										
Single Family	9	13	12	20	16																										
Multi-Family	2	1	2	1	2																										
Other (commercial, mixed use, etc.)	1	2	1	0	3																										
<b>Total</b>	<b>12</b>	<b>16</b>	<b>15</b>	<b>21</b>	<b>21</b>																										
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 1</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 8</li> <li>• Tsunami Inundation Area: 0</li> <li>• Wildfire Risk Areas: 0</li> </ul>																														
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	There is very little vacant, developable land within the city limits. The city does not maintain a developable lands inventory. Most development projects involve redeveloping previously developed sites with more intensive new development.																														

## 5.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning and regulatory capabilities is presented in Table 5-3.
- Development and permitting capabilities are presented in Table 5-4.
- An assessment of fiscal capabilities is presented in Table 5-5.
- An assessment of administrative and technical capabilities is presented in Table 5-6.
- An assessment of education and outreach capabilities is presented in Table 5-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 5-8.
- Classifications under various community mitigation programs are presented in Table 5-9.
- The community's adaptive capacity for the impacts of climate change is presented in Table 5-10.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The "Analysis of Mitigation Actions" table in this annex identifies these as community capacity building mitigation actions.

Table 5-3. Planning and Regulatory Capability

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
Building Code	Yes	No	Yes	Yes
<i>Comment: Municipal Code Title 18, adoption of 2019 California Building Code with amendments</i>				
Zoning Code	Yes	No	Yes	Yes
<i>Comment: Municipal Code Title 25, currently being updated, estimate Fall 2021 adoption</i>				
Subdivisions	Yes	No	Yes	No
<i>Comment: Municipal Code Title 26, adopted 1941 with amendments</i>				
Stormwater Management	Yes	No	Yes	Yes
<i>Comment: Municipal Code Title 15, adopted 1994 (Ordinance 1503)</i>				
Post-Disaster Recovery	Yes	No	No	Yes
<i>Comment: Managed by Central Fire Department In process of developing and integrating Recovery Plan Annex to EOP</i>				
Real Estate Disclosure	No	No	Yes	No
<i>Comment: CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.</i>				
Growth Management	Yes	No	Yes	No
<i>Comment: General Plan, adopted 1969 with amendments</i>				
Site Plan Review	Yes	No	Yes	No
<i>Comment: Municipal Code Title 25.57, currently being updated, estimate Fall 2021 adoption</i>				
Environmental Protection	Yes	No	Yes	Yes
<i>Comment: California Environmental Quality Act (CEQA)</i>				
Flood Damage Prevention	Yes	No	Yes	Yes
<i>Comment: Municipal Code Title 18, adopted 1981 with amendments</i>				
Emergency Management	Ch. 3.36, BMC	Yes	§2407, Title 19, CCR	Yes
<i>Comment: Managed by Central County Fire Department EOP revision adopted by Council 9/2019</i>				
Climate Change	Yes	Yes	Yes	Yes
<i>Comment: Climate Action Plan, adopted 2019. Coordination with Bay Area Air Quality Management District</i>				
Other	Yes	No	No	No
<i>Comment: Title 17.04 (Fire Code), Chapter 8.08 (Environmental Health), Chapter 8.16 (Solid Waste)</i>				
<b>Planning Documents</b>				
General Plan	Yes	No	Yes	Yes
<i>Is the plan compliant with Assembly Bill 2140? Yes</i>				
<i>Comment: General Plan Safety Element adopted in 2019, aligned with the local hazard mitigation plan.</i>				
Capital Improvement Plan	Yes	No	No	No
<i>How often is the plan updated? Annually</i>				
<i>Comment: CIP is outlined in the annual adopted budget</i>				
Disaster Debris Management Plan	No	No	No	No
<i>Comment:</i>				
Floodplain or Watershed Plan	Yes	No	No	Yes
<i>Comment: Storm Drain Improvement Report 2004</i>				
Stormwater Plan	Yes	No	No	Yes
<i>Comment: Stormwater Management and Discharge Control Program 2011</i>				
Urban Water Management Plan	Yes	No	Yes	No
<i>Comment: 2015 Urban Water Management</i>				
Habitat Conservation Plan	Yes	No	Yes	Yes
<i>Comment: General Plan Conservation Element, adopted 1973. Updated in 2019 as part of General Plan Update.</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Economic Development Plan</b> <i>Comment: General Plan Economic Development Element adopted 2019</i>	Yes	No	No	Yes
<b>Shoreline Management Plan</b> <i>Comment: Bayfront Specific Plan adopted 2014 with amendments. Coordination with Bay Conservation Development Commission</i>	Yes	Yes	Yes	Yes
<b>Community Wildfire Protection Plan</b> <i>Comment: Managed by Central County Fire Department In 2010, a collaborative group consisting of CAL FIRE, Resource Conservation District of Santa Cruz County, San Mateo Resource Conservation District, and the US Fish and Wildlife Service worked together to create a draft Community Wildfire Protection Plan (CWPP). The Plan identifies fire protection agencies with jurisdiction, volunteer organizations, large landowners, communities, neighborhoods, open spaces, and other environmental resources in the planning area that may be at risk of fire hazards. Community Risk Assessment In August 2018, the Central County Fire Department (CCFD) contracted with Anchor Point Group to perform a wildfire risk assessment for the three cities in its jurisdiction. As a result, a number of properties located along the northern border of Burlingame were found to be in a high interface risk level. CCFD currently addresses vegetation management through a complaint-based enforcement program to reduce vegetative fire risks throughout the City.</i>	No	Yes	No	Yes
<b>Forest Management Plan</b> <i>Comment: Municipal Code Title 11, adopted 1971 with amendments</i>	Yes	No	No	Yes
<b>Climate Action Plan</b> <i>Comment: Climate Action Plan, initially adopted 2009, comprehensively updated in 2019. Coordination with Bay Area Air Quality Management District CCFD Emergency Management integrating Climate Adaptation Planning for EOP completed training 06/2019.</i>	Yes	No	Yes	Yes
<b>Emergency Operations Plan</b> <i>Comment: Managed by Central County Fire Department CCFD hired a full time Community Risk &amp; Resiliency Specialist to manage all aspects of the Emergency Management Plan for Burlingame/Hillsborough in January 2019.</i>	Yes	Yes	No	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment: Managed by Central County Fire Department CCFD continues to assess all threats, hazards and risks including those that have climate change impacts such as severe weather and drought. CCFD continues to participate in the Northern California Regional Intelligence Center to stay informed of trends and local threats. CCFD also utilizes Haystax (Cal COP) to maintain current critical infrastructure inventory and provide a common operating picture. Established a Soft Story Buildings Study - Ad Hoc Committee for assessing earthquake impacts and review the possibility of structural reinforcement of multi-unit buildings and funding to support a potential mandated retrofit program.</i>	Yes	Yes	No	Yes
<b>Post-Disaster Recovery Plan</b> <i>Comment: Managed by Central County Fire Department In process. Due to COVID-19 will look at establishing Disaster Recovery Planning Team in early 2022.</i>	Yes	Yes	No	Yes
<b>Continuity of Operations Plan</b> <i>Comment: Managed by Central County Fire Department Updating current plan and compiling department continuity plans from the last 18 months of COVID-19 response. In progress of updating Critical Transportation and Supply chain information based on the current regional trainings and exercise coming up in November.</i>	Yes	Yes	No	Yes
<b>Public Health Plan</b> <i>Comment: Managed by San Mateo County Health Agency</i>	No	Yes	No	Yes
<b>Other</b> <i>Comment: Downtown, Bayfront, and North Burlingame/Rollins Road Specific Plans (2010, 2004/2012, 2004/2007), Bicycle Transportation Plan (2004)</i>	Yes	No	No	No



**Table 5-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Community Development Department
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	No

**Table 5-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	Yes – water and sewer
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State-Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	Yes
Other	Yes – Storm Drainage Fees for Capital Improvements in the Storm Drainage System

**Table 5-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Planning Division has two Senior Planners, two Associate Planners, an Assistant Planner, a Manager, and a Director. Fire Prevention Division for Wildland Urban Interface issues
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building Division and Fire Prevention Division
Planners or engineers with an understanding of natural hazards	Yes	Engineering Division
Staff with training in benefit/cost analysis	No	City uses consultants
Surveyors	No	Public Works Engineering/Outsource
Personnel skilled or trained in GIS applications	Yes	Public Works Corporation Yard/Management Analyst
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Central County Fire Department – Community Risk & Resiliency Specialist
Grant writers	Yes	Public Works Engineering/CCFD CERT
Other	Yes	Economic Development & Housing Specialist

**Table 5-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes, Assistant City Manager
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Information available on City's website (Police, Fire, and Public Works/El Niño Pages)
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes City website through the use of "e-news," Burlingame PD social media accounts
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	No
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes CERT Program Community Advisory Committee (CAC)
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes SMC Alert, Social media sites, e-news, Twitter, Nextdoor, Facebook, Zonehaven

**Table 5-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works Engineering
Who is your floodplain administrator? (department/position)	Public Works Engineering/Senior Engineer
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	1981 (updated 2015)
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meets
When was the most recent Community Assistance Visit or Community Assistance Contact?	8/17/17
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	Yes, Bay level rise, DAM for Crystal Springs, Crocker, and Spencer
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	Yes No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup>	322
• What is the insurance in force?	\$110,823,600
• What is the premium in force?	\$439,543
How many total loss claims have been filed in your jurisdiction? <sup>a</sup>	82
• What were the total payments for losses?	774,302

a. According to FEMA statistics as of March 31, 2021

**Table 5-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608109066	N/A
DUNS#	Yes	083859579	N/A
Community Rating System	Yes	9	7/31/2020
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 5-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Climate Action Plan prepared in 2019. Sea Level Rise study prepared in 2019.</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment: Climate Action Plan includes monitoring component.</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Sustainability Coordinator has limited expertise.</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Consultants prepared the GHG emissions inventory for the Climate Action Plan</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: General Plan land use strategy prepared in response to potential climate impacts.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: Staff participates in County-level climate initiatives.</i>	Medium
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Required as part of environmental review of plans and projects.</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Strategies outlined in Climate Action Plan. Reach Code adopted 2020.</i>	High
Identified strategies for adaptation to impacts <i>Comment: Preliminary Sea Level Rise adaptation has been studied. Currently evaluating possibilities for development projects.</i>	Medium
Champions for climate action in local government departments <i>Comment: Sustainability Coordinator in the City Manager's Office, and Green Building Specialist in the Building Division.</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: Climate Action Plan adopted in 2019, Reach Code adopted in 2020.</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Permanent funding has yet to be established.</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment: Authority is limited to local land use decisions.</i>	Medium



Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Local Citizens Environmental Council has been active in developing awareness.</i>	Medium
Local residents support of adaptation efforts <i>Comment: Support for some measures, as adopted in Climate Action Plan and Reach Code.</i>	Medium
Local residents' capacity to adapt to climate impacts <i>Comment: Dwellings in flood zones may need to be adapted/raised over time.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment: Unclear, but adaptation could be considered an investment-protection strategy.</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment: May require habitat restoration projects in some instances.</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 5.5 INTEGRATION WITH OTHER PLANNING INITIATIVES

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 5.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Burlingame General Plan** – The existing Healthy People & Healthy Places and Community Safety Elements of the General Plan offer some integration with the hazard mitigation plan.
- **Retroactive Fire Sprinkler Program** – This plan has a retroactive requirement for commercial and residential occupancies to be retroactively equipped with fire sprinklers.
- **SAFER Smoke Alarm Program** – Our fire department engine companies retroactively install fire smoke alarms in existing dwelling units as needed upon discovery during incident calls.
- **Storm Drainage Capital Improvements Program** — This citizen approved storm measure plan in 2009 accelerates projects that reduce local street flooding caused by natural storm runoff that can impede traffic and emergency access.
- **Climate Action Plan** — The plan outlines a strategy to reduce greenhouse gas emissions in Burlingame.

### 5.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Zoning Ordinance Update** — There may be opportunities to integrate goals, risk assessment and/or recommendations of the hazard mitigation plan into development regulations contained in the Zoning Ordinance. The ordinance is being comprehensively updated, with adoption anticipated in late 2021.
- **Housing Element Update** —Siting and types of housing may be influenced by hazard mitigation strategies. Update to commence in 2021 and be adopted by the end of 2022.

## 5.6 RISK ASSESSMENT

### 5.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 5-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan. 3/17/2011 3/24/2011

**Table 5-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Severe Storms	NA	November 26, 2019	\$25K
Hail	N/A	January 22, 2018	Not Available
Severe Storms	NA	January 20, 2017	\$100K
Severe Storms	NA	December 21, 2012	Not Available
Severe Storms	NA	November 30, 2012	Not Available
Severe Storms	NA	March 24, 2011	Not Available
Severe Storms	NA	March 17, 2011	Not Available
Severe Storms	N/A	January 1, 2011	Not enough information to ascertain
Severe Storms	NA	January 4, 2008	Not enough information to ascertain
Severe Storms	N/A	February 27, 2006	Not enough information to ascertain
Severe Storms	N/A	December 30, 2005	Not enough information to ascertain
Severe Storms	N/A	January 1, 2004	Not enough information to ascertain
Severe Storms	N/A	December 16, 2002	Not enough information to ascertain
Severe Storms	N/A	November 7, 2002	Not enough information to ascertain
Loma Prieta Earthquake	DR-845	October 17, 1989	Not enough information to ascertain

### 5.6.2 Hazard Risk Ranking

Table 5-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 5-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea Level Rise / Climate Change	45	High
2	Earthquake	36	High
3	Landslide/Mass Movements	33	High
4	Flood	30	Medium
5	Severe weather	24	Medium
6	Dam Failure	22	Medium
7	Drought	9	Low
8	Tsunami	8	Low
9	Wildfire	0	Low

### 5.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 1 (1669 Old Bayshore Highway – FEMA Repetitive Loss Number: 0034263)
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Stormwater pump station failures that can exacerbate localized flooding in low areas.
- Combination of heavy storms, high winds, and high tide events that reduces our open channel capacity to accept upstream stormwater flows.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 5.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 5-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.



**Table 5-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>BG-1</b> – Continue to educate and provide resources for property owners and developers to retrofit and construct structures that are earthquake resilient.</p> <p><b>Comment:</b> Soft story buildings study Ad Hoc Committee has been established and will begin meeting in March 2021.</p>			✓	BRL-7
<p><b>BG-2</b> – Complete all projects outlined in the Storm Drainage Capital Improvement Program</p> <p><b>Comment:</b> Continuation of identified projects underway.</p>			✓	BRL-15
<p><b>BG-3</b> – Develop a map that identifies at-risk areas and properties based on Topography and Geotech Information from new developments.</p> <p><b>Comment:</b> GIS mapping is still in progress.</p>			✓	BRL-9
<p><b>BG-4</b> – Participate in programs such as Firewise, and StormReady</p> <p><b>Comment:</b> Ongoing work with CCFD Fire Prevention and Community Risk and Resilience staff.</p>		✓		
<p><b>BG-5</b> – Insure early warning system for evacuation of areas susceptible to natural flooding, and tsunami inundation.</p> <p><b>Comment:</b> Securing funding source for this project.</p>			✓	BRL-8
<p><b>BG-6</b> – Create a Citywide asset management database to better assess our risk/vulnerabilities.</p> <p><b>Comment:</b> Continuing this program.</p>			✓	BRL-9
<p><b>BG-7</b> – Provide a reliable fire and domestic water supply that meets long term needs while insuring protection of public health and safety with the implementation of the water shortage contingency plan.</p> <p><b>Comment:</b> The City has an ongoing robust capital improvement projects to ensure the water system pipeline and infrastructure are in good conditions to deliver safe and high quality water. Additionally, the City is part of BAWSCA and regional SFPUC water system and have adopted policies to ensure there is water contingency plan for drought conditions.</p>			✓	BRL-10
<p><b>BG-8</b> – Educate and inform the community about emergency preparedness options in the event of a hazard event</p> <p><b>Comment:</b> CCFD continues to sponsor the CERT Program for the City in collaboration with the Burlingame Neighbor Network volunteers and CERT Program Coordinators to provide ongoing training opportunities for residents virtually. The program secured funding from Cal OES for FY 2019/2020 for training equipment. In June, the program will shift to a Cal OES hybrid CERT online curriculum.</p>			✓	BRL-11
<p><b>BG-9</b> – Periodically inspect and assess the structural integrity of bridges and culvert crossings connecting the City’s transportation routes. Based on assessment, develop plan to rehabilitate critical deficient structures.</p> <p><b>Comment:</b> Completed citywide assessment of all bridges and culvert crossings.</p>	✓			
<p><b>BG-10</b> – Encourage property owners, potential buyers, and residents living in floodplains to participate in the Federal Flood Insurance Program.</p> <p><b>Comment:</b> Property owners in the special flood hazard areas are notified when they apply for building permits.</p>			✓	BRL-12
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> There is one (1) repetitive loss parcel. Structure is currently vacant and primed for redevelopment</p>			✓	BRL-1

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action G-2</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.</p> <p><b>Comment:</b> City of Burlingame is Class 9 and is in good standings with FEMA</p>			✓	BRL-4
<p><b>Action G-3</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> Trying to secure funding for program.</p>		✓		
<p><b>Action G-4</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Hazard mitigation plan is reflected in the General Plan Safety Element adopted in 2019. Further update of the Safety Element is anticipated in conjunction with the update of the Housing Element in 2021-22.</p>			✓	BRL-2
<p><b>Action G-5</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> No identified funding source and private redevelopment has replaced/retrofitted old structures.</p>		✓		
<p><b>Action G-6</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Participation in MJLHMP virtual steering committee meeting February 22, 2021</p>			✓	BRL-3
<p><b>Action G-7</b>—Consider the development and implementation of a Capital Improvements Program (CIP) to increase regulatory, financial, and technical capability to implement mitigation actions.</p> <p><b>Comment:</b> Individual departments are addressing their respective mitigation actions, so no need for a central CIP. No longer LHMP item.</p>		✓		

## 5.8 HAZARD MITIGATION ACTION PLAN

Table 5-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 5-15 identifies the priority for each action. Table 5-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 5-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BRL-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Earthquake, Landslide, Flood, Dam Failure, Wildfire						
Existing	1-7, 10, 11	Planning Department	Building Department	High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action BRL-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including General Plan Update, Urban Water Management Plan, Climate Action Plan						
<i>Hazards Mitigated:</i> Climate Change, Earthquake, Landslide, Flood, Severe Weather, Dam, Drought, Tsunami, Wildfire, Sea Level Rise						
New & Existing	1-8,10	Fire, Public Works, Planning, Building		Low	Staff Time, General Funds.	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BRL-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Climate Change, Earthquake, Landslide, Flood, Severe Weather, Dam, Drought, Tsunami, Wildfire, Sea Level Rise						
New & Existing	1-11	Fire, Public Works, Planning, Building		Low	Staff Time, General Funds	Ongoing
<b>Action BRL-4</b> —Continue to maintain good standing and compliance under the NFIP and maintain Class 9 for the Community Rating System through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>Enforce the flood damage prevention ordinance.</li> <li>Participate in floodplain identification and mapping updates.</li> <li>Provide public assistance/information on floodplain requirements and impacts.</li> <li>Upgrade and expand flood early warning system(s).</li> </ul>						
<u>Hazards Mitigated:</u> Flooding, Dam Failure, Sea Level Rise						
Existing	2, 3, 6, 7, 8,9	Public Works	Building Department	Low	Staff Time, General Funds	Ongoing
<b>Action BRL-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
<ul style="list-style-type: none"> <li>Sea level rise, extreme storms, coastal erosion for culverts, roadways, bridges, defensible space awareness</li> </ul>						
<u>Hazards Mitigated:</u> Climate change, Flood, Severe weather, Wildfire, Sea Level Rise						
New & Existing	1-10	Fire, Planning, Public Works	Building	Medium	Staff Time, Grants, General Funds	Long-term
<b>Action BRL-6</b> — Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development.						
<u>Hazards Mitigated:</u> Climate change, Flood, Severe weather, Tsunami, Sea Level Rise						
New & Existing	1-5, 7, 8,10	Public Works	San Mateo County Flood & Sea Level Rise Resiliency District (FSLRRD)	Low	General Funds, Grant Funding-BRIC (C&CB)	Ongoing
<b>Action BRL-7</b> — Continue to educate and provide resources for property owners and developers to retrofit and construct structures that are earthquake resilient.						
<u>Hazards Mitigated:</u> Earthquake						
Existing	2, 3, 4, 5, 7	Building		Low	Staff Time, General Funds,	Ongoing
<b>Action BRL-8</b> —Insure early warning system for evacuation of areas susceptible to natural flooding, and tsunami inundation.						
<u>Hazards Mitigated:</u> Climate change, Flood, Severe weather, Tsunami, Sea Level Rise						
Existing	2, 3, 6, 7, 9	Public Works		Medium	Grants-EMBG, HSGP. National Weather Service grants for flood warning systems.	Long-term
<b>Action BRL-9</b> —Create a Citywide asset management database to better assess our risk/vulnerabilities.						
<u>Hazards Mitigated:</u> Earthquake, Landslide, Flood, Dam failure, Wildfire						
Existing	1, 3, 8	Public Works	N/A	Medium	Staff Time, General Funds	Long-term
<b>Action BRL-10</b> —Provide a reliable fire and domestic water supply that meets long term needs while ensuring protection of public health and safety with the implementation of the water shortage contingency plan.						
<u>Hazards Mitigated:</u> Drought, Wildfire						
Existing	2, 3, 4, 5, 6, 7, 8,10	Public Works	Fire	High	Ratepayers	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action BRL-11</b> —Educate and inform the community about emergency preparedness options in the event of a hazard event.						
<i>Hazards Mitigated:</i> Climate Change, Earthquake, Landslide, Flood, Severe Weather, Dam, Drought, Tsunami, Wildfire						
New & Existing	1, 2, 3, 6, 7, 8, 10	Public Works	Fire	Low	Staff Time, General Funds	Short-term
<b>Action BRL-12</b> —Encourage property owners, potential buyers, and residents living in floodplains to participate in the Federal Flood Insurance Program.						
<i>Hazards Mitigated:</i> Flooding						
Existing	2, 3, 4, 5, 6, 7, 8, 10, 11	Public Works	Building	Low	Staff Time, General Funds	Ongoing
<b>Action BRL-13</b> —Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Climate Change, Earthquake, Landslide, Flood, Severe Weather, Dam, Drought, Tsunami, Wildfire						
New & Existing	1, 2, 3, 5, 6, 7, 8	FSLRRD	Public Works	Medium	General Funds, Grant Funding- FEMA Public Assistance post event	Short-term
<b>Action BRL-14</b> —Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.						
<i>Hazards Mitigated:</i> Climate change, Flood, Severe weather, Drought, Wildfire, Sea Level Rise						
New & Existing	4, 5, 6, 7, 8	Public Works	FSLRRD	Medium	Grants/- FEMA HMA (BRIC, FMA and HMGP) Private Development	Ongoing
<b>Action BRL-15</b> —Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to FSLRRD Flood Zone channels and infrastructure.						
<i>Hazards Mitigated:</i> Climate change, Flood, Severe weather, Sea Level Rise						
New & Existing	1, 4, 5, 6, 7, 8	Public Works	FSLRRD	Medium	Storm Drain Fee/Grants- FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action BRL-16</b> —Identify and pursue strategies to enhance recycled water infrastructure planning/implementation for large in-fill projects and in the vicinity of FSLRRD projects.						
<i>Hazards Mitigated:</i> Drought						
New	1, 3, 4, 5, 6, 7, 8	Public Works	FSLRRD	Medium	Grants/- FEMA HMA (BRIC, FMA and HMGP) Private Development	Ongoing
<b>Action BRL-17</b> —Complete planning, early design, and benefit-cost analysis of a shoreline protection project (raise shoreline/creek banks) to provide resilience to sea level rise and extreme storms.						
<i>Hazards Mitigated:</i> Climate change, Flood, Severe weather, Sea Level Rise						
New	2, 3, 6, 7, 8	FSLRRD	Public Works, Millbrae, SFO	Low	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short term
<b>Action BRL-18</b> —Complete design, environmental clearance, and construction of a shoreline protection project.						
<i>Hazards Mitigated:</i> Climate change, Flood, Severe Weather, Sea Level Rise						
New	6, 7, 8	FSLRRD	Public Works, Millbrae, SFO	High	Grants- FEMA HMA (BRIC, FMA and HMGP)/Private Development	Long term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 5-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	9	High	High	Yes	Yes	No	Medium	High
2	9	Medium	Low	Yes	Yes	Yes	High	Medium
3	11	High	Low	Yes	Yes	Yes	High	High
4	6	Medium	Low	Yes	No	Yes	Medium	Low
5	10	Medium	Medium	Yes	Yes	Yes	High	Medium
6	8	High	Low	Yes	Yes	Yes	High	High
7	5	High	Low	Yes	Yes	Yes	Medium	High
8	5	Low	Medium	No	Yes	No	Low	Low
9	3	High	Medium	Yes	No	No	Medium	Low
10	8	High	High	Yes	No	No	Medium	Low
11	8	High	Low	Yes	No	No	Medium	Low
12	9	High	Low	Yes	No	Yes	Medium	Low
13	7	Medium	Low	Yes	Yes	Yes	High	Medium
14	5	Medium	Medium	Yes	Yes	Yes	High	Medium
15	6	High	Medium	Yes	Yes	Yes	High	High
16	7	Medium	Medium	Yes	Yes	Yes	Medium	Medium
17	5	High	Low	Yes	Yes	Yes	High	High
18	3	High	High	Yes	Yes	No	Medium	High

a. See the introduction to this volume for explanation of priorities.

**Table 5-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea Level Rise / Climate Change	BRL-2, 3, 5, 6, 8, 11, 13	BRL-4, 6, 14, 15, 18	BRL-2, 5, 6		BRL-8, 11	BRL-14,18	BRL-5,17	BRL-2, 3, 5,17
Earthquake	BRL-1, 2, 3, 7, 9,13	BRL-1,7	BRL-2, 7, 11		BRL-11	BRL-1,7		BRL-2, 3, 7
Landslide/Mass Movement	BRL-1, 2, 3, 9, 13		BRL-2,9		BRL-11			BRL-2,3
<b>Medium-Risk Hazards</b>								
Flood	BRL-1, 2, 3, 4, 5, 9, 12, 13, 14, 15	BRL-1, 4, 6, 12, 14, 15, 18	BRL-2, 4, 5, 6, 9,12		BRL-8,11	BRL-1, 4, 6,12	BRL-5, 14, 17, 18	BRL-2, 3, 5, 6, 12, 14
Severe weather	BRL-2, 3, 4, 5, 9, 13, 14	BRL-6,18	BRL-2, 5, 6,9		BRL-8,11	BRL-6	BRL-5, 17, 18	BRL-2, 3, 5, 6, 14
Dam Failure	BRL-1, 2, 3, 4, 9	BRL-4	BRL-2, 9, 11		BRL-11	BRL-1		BRL-2,3

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>Low-Risk Hazards</b>								
Drought	BRL-2, 3, 10, 11, 13, 14, 16	BRL-11	BRL-2	BRL-10,16	BRL-11	BRL-10	BRL-3,16	BRL-2,3
Tsunami	BRL-2,3		BRL-2		BRL-8,11			BRL-2,3
Wildfire	BRL-1, 2, 3, 5, 9,10,13,14	BRL-1	BRL-2,9	BRL-10	BRL-11	BRL-1,10	BRL-5	BRL-2, 3, 5

a. See the introduction to this volume for explanation of mitigation types.

## 5.9 PUBLIC OUTREACH

Table 5-17 lists public outreach activities for this jurisdiction.

**Table 5-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
CERT Skills day	06/26/2021	45
Storing Critical Documents Safely	03/20/2021	67
Assemblyman Mullin's wildfire preparedness Facebook live event	05/26/2021	433
Assemblyman Mullin's Are You Ready? preparedness Facebook live event	10/29/2020	424
Burlingame 2020 Disaster Survival Drill	10/10/2020	333
CERT Winter Session 2020	01/23/2020	47
Burl/Hills Neighborhood Club Preparedness Training	08/07/2019	39
Get Ready Class	08/14/19	31
CERT Skills Day	08/18/2019	19
Burlingame Disaster Drill Workshop	09/24/2020	70
Burlingame Disaster Survival Drill 2019	10/12/2019	462
Bay Area Earthquake Alliance Abilities Expo	10/25/2019	300
San Mateo County Preparedness Day	09/21/2019	120
San Mateo County Flood Exercise	11/21/2019	200+
CERT Monthly Newsletter	Monthly	641
CCFD Twitter Account	ongoing	
CCFD CERT Facebook page	ongoing	

## 5.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City of Burlingame Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **City of Burlingame Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.










- **Burlingame General Plan** – The City approved the updated general plan on January 7, 2019 which drives the redevelopment efforts and infrastructure needs for the next 25 years.
- **North Rollins Road Specific Plan** – In Progress, but evaluates the capacity of the existing roadway network, traffic circulation needs, parking needs, water, wastewater, and stormwater systems requirements in order to meet the needs of the proposed developments.
- **2020 Urban Water Management Plan** – under public review and scheduled adoption by Council on August 16<sup>th</sup>. Presents supply and demand projection through 2040, available supplies to meet existing and future demands as well as a recycled water infrastructure component to reduce fresh water demands.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **San Mateo County Sea Level Rise Vulnerability Assessment** – Study using FEMA and local data to determine areas of vulnerability and how best to mitigate/prepare our community and stakeholders.

# Burlingame

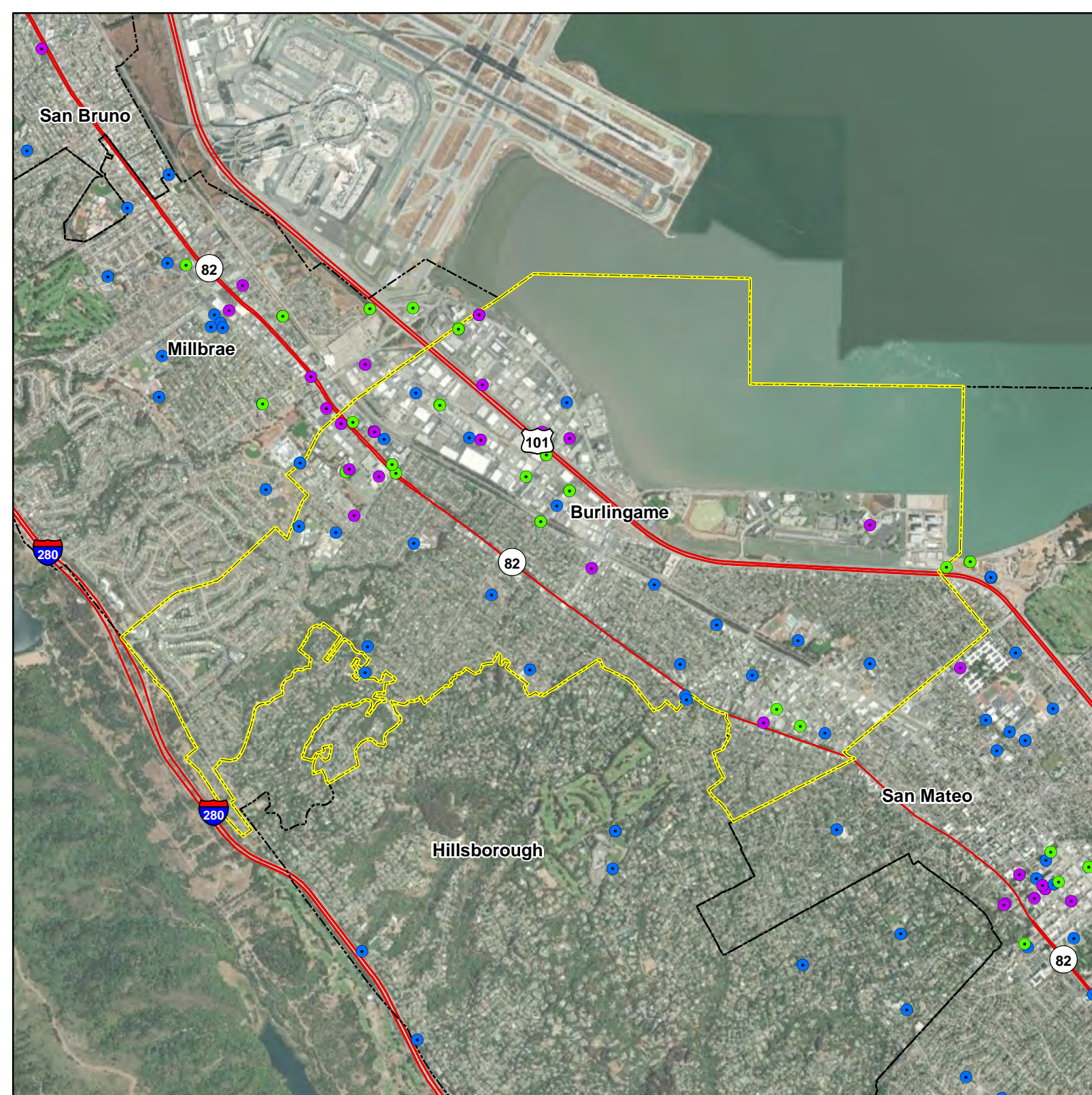
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD



0 0.225 0.45 0.9 Miles





# Burlingame

## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









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# Burlingame

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










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# Burlingame

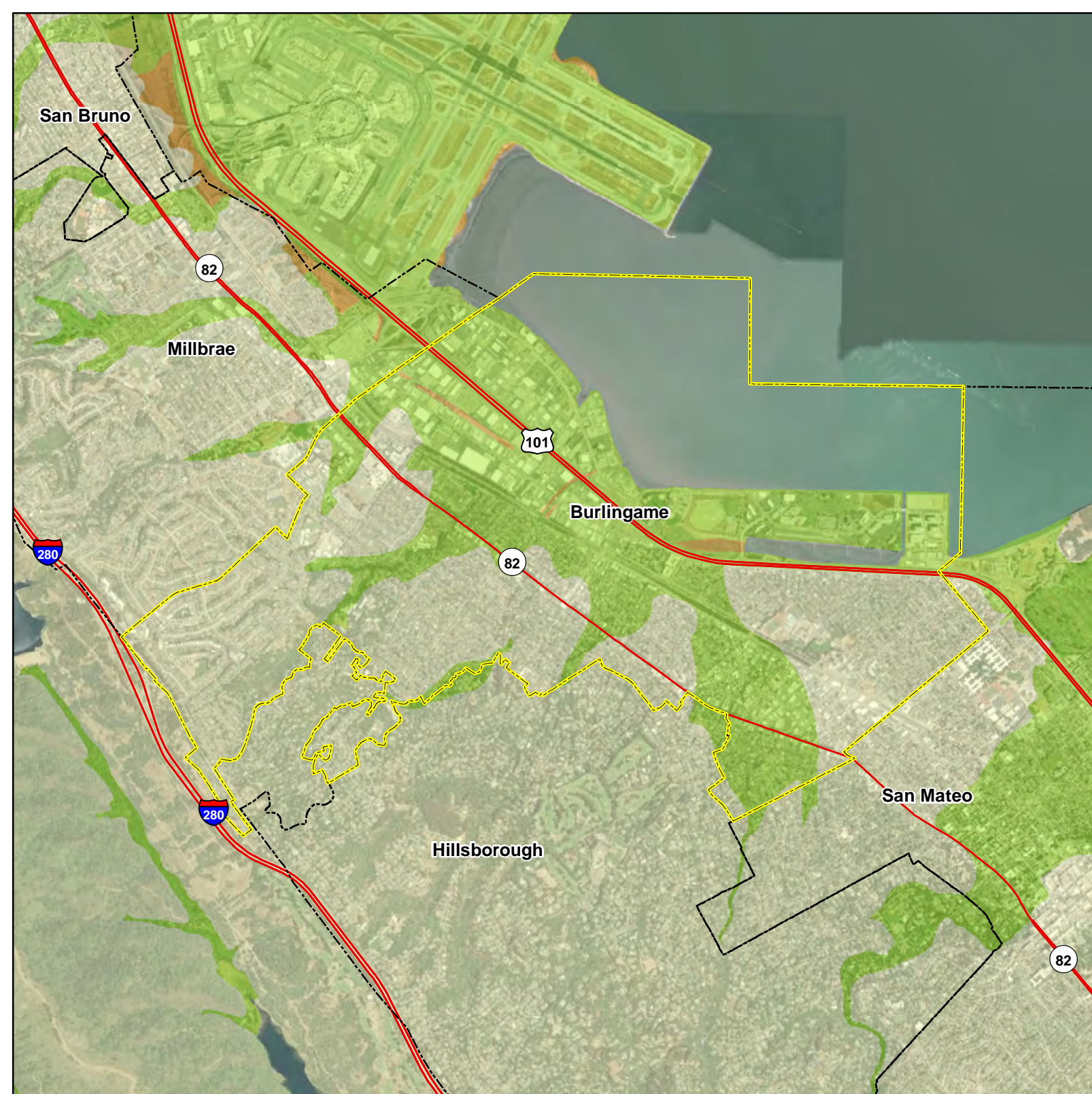
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS












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# Burlingame

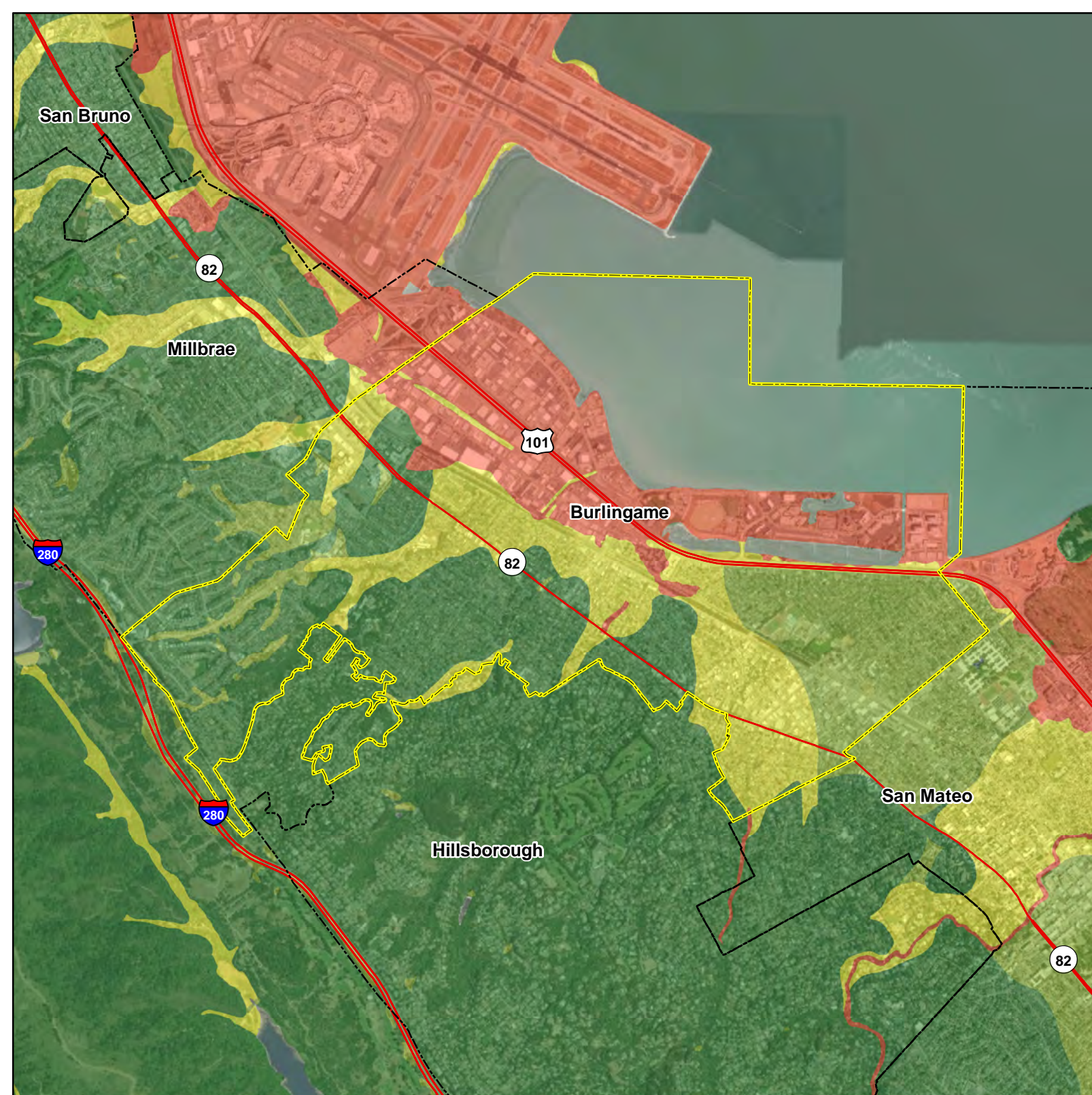
## Liquefaction Susceptibility

-  Very Low
-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., ABAG (USGS)



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Miles





# Burlingame

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

VI (Strong/Light)

Selected City

Incorporated Cities

County Boundary

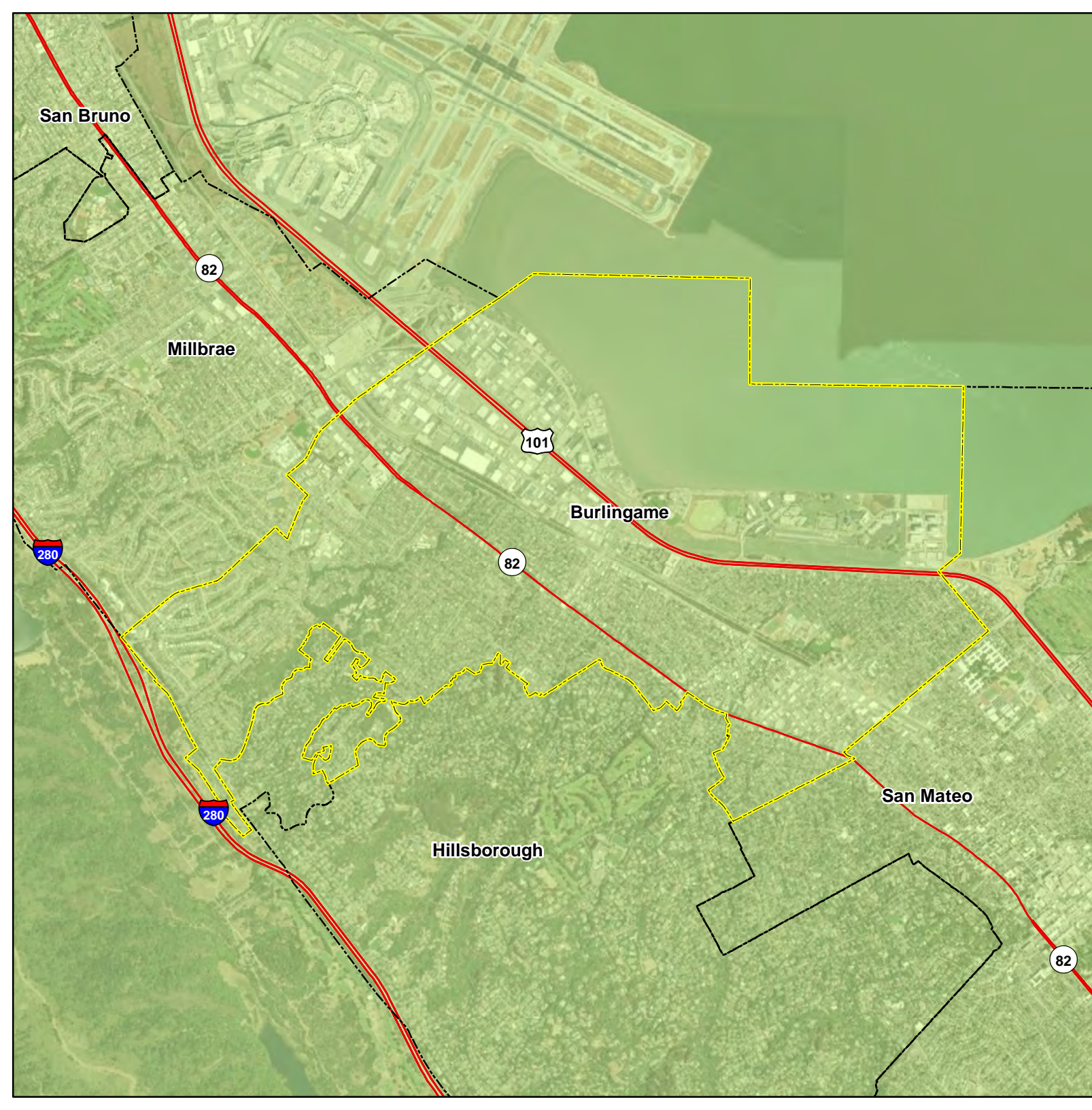
Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
Miles





# Burlingame

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities


 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
 Miles





# Burlingame

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

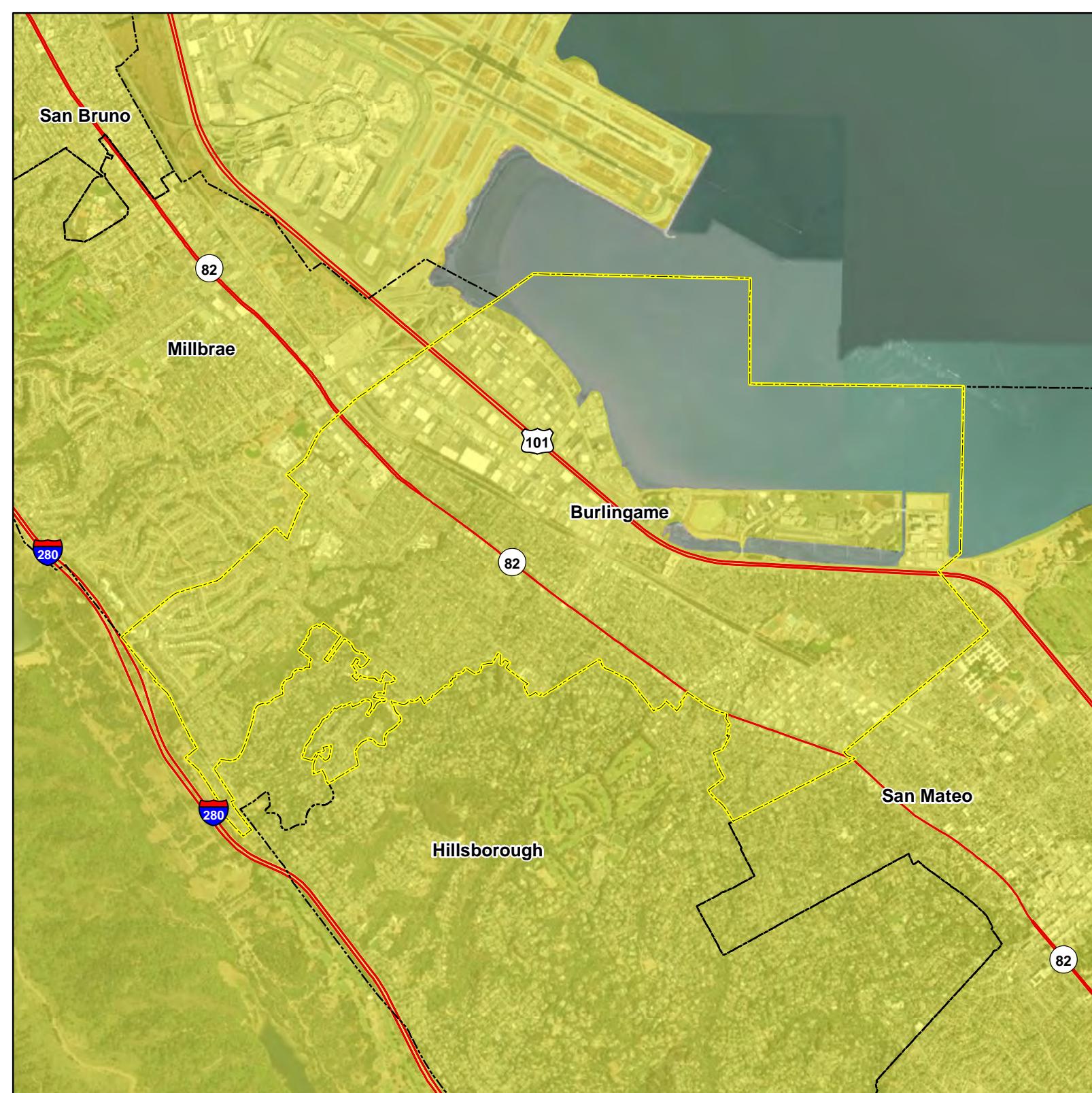
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



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# Burlingame

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

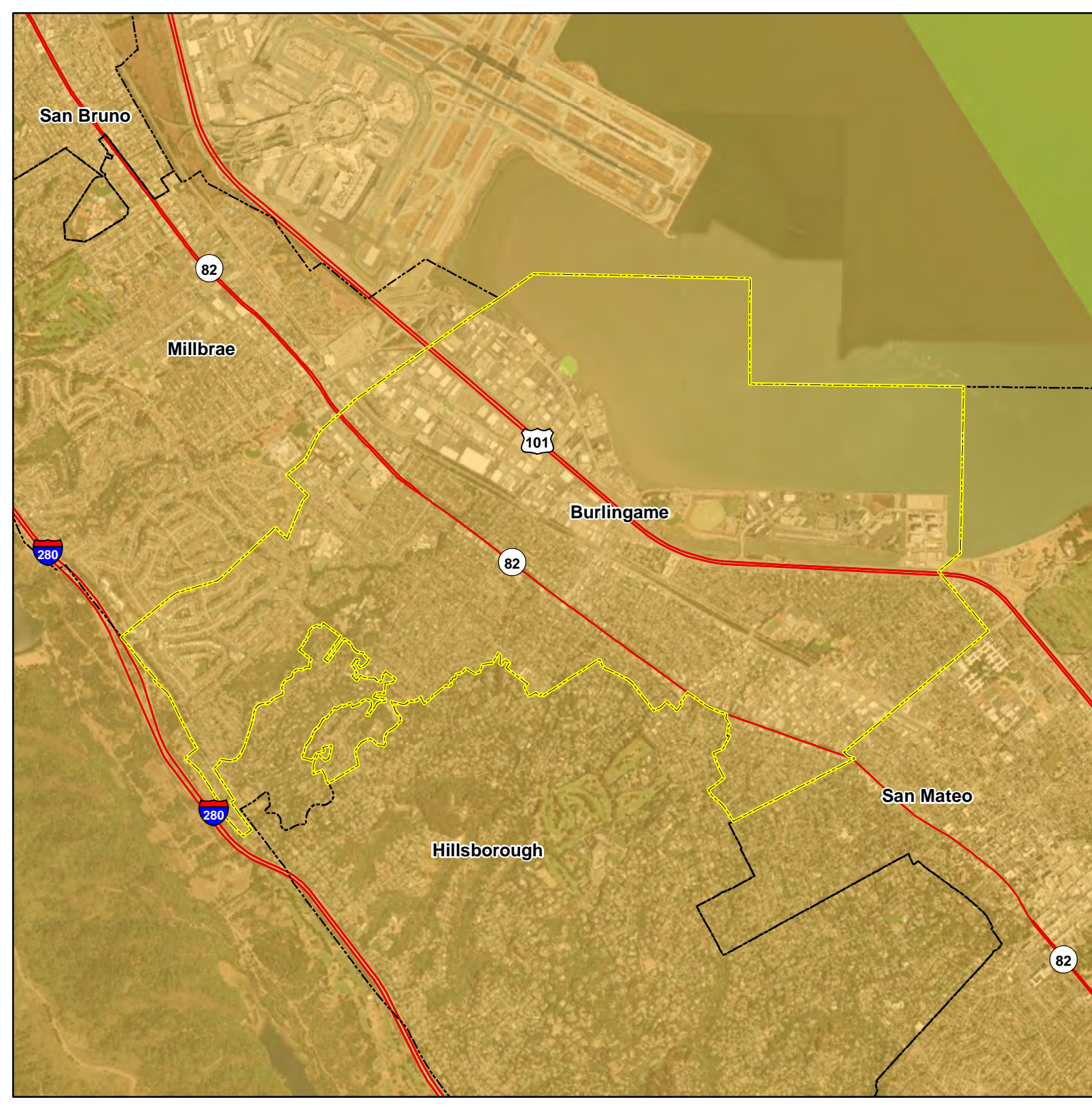
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



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Miles





# Burlingame

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities


 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









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 Miles





# Burlingame

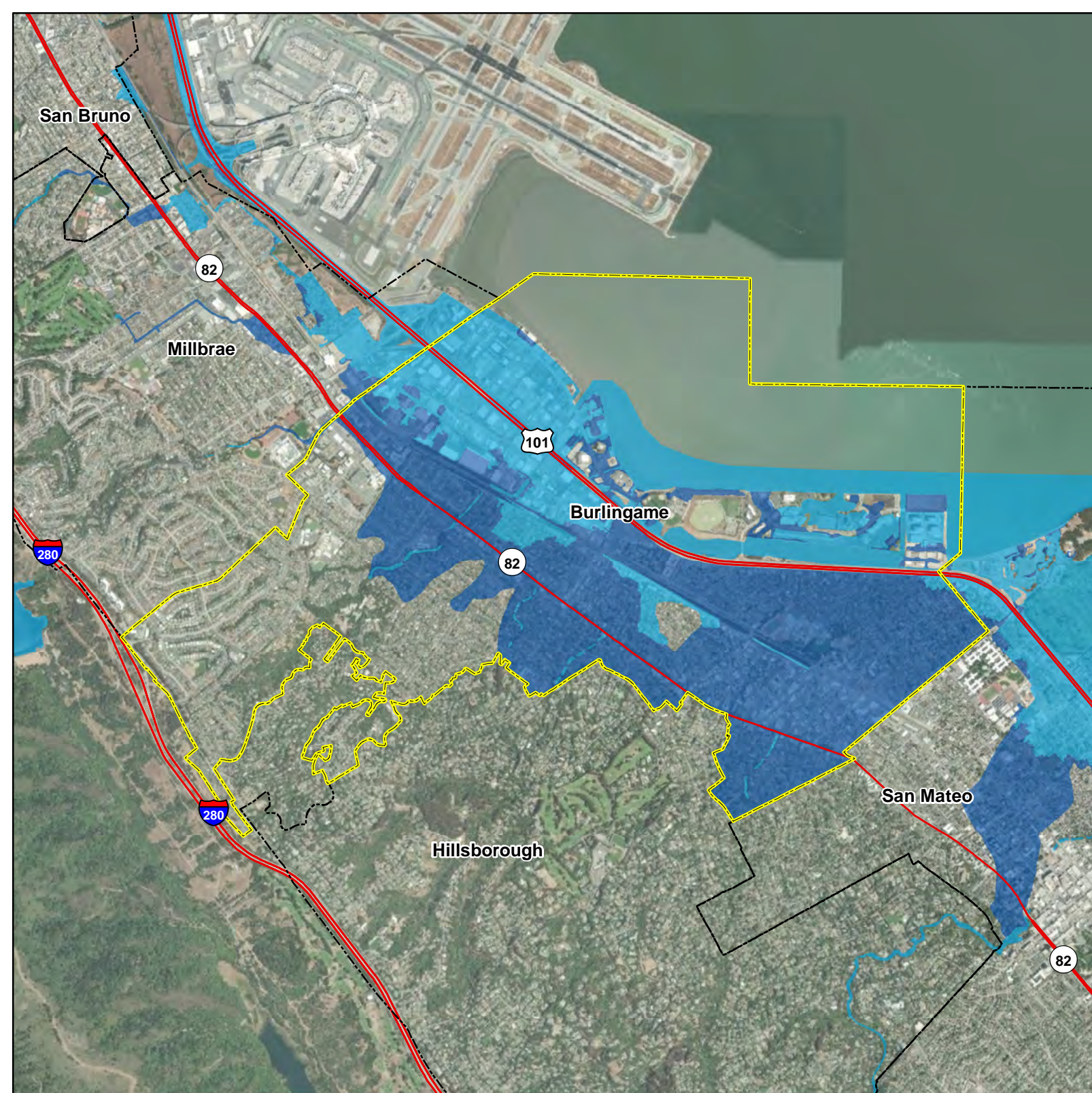
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











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# Burlingame

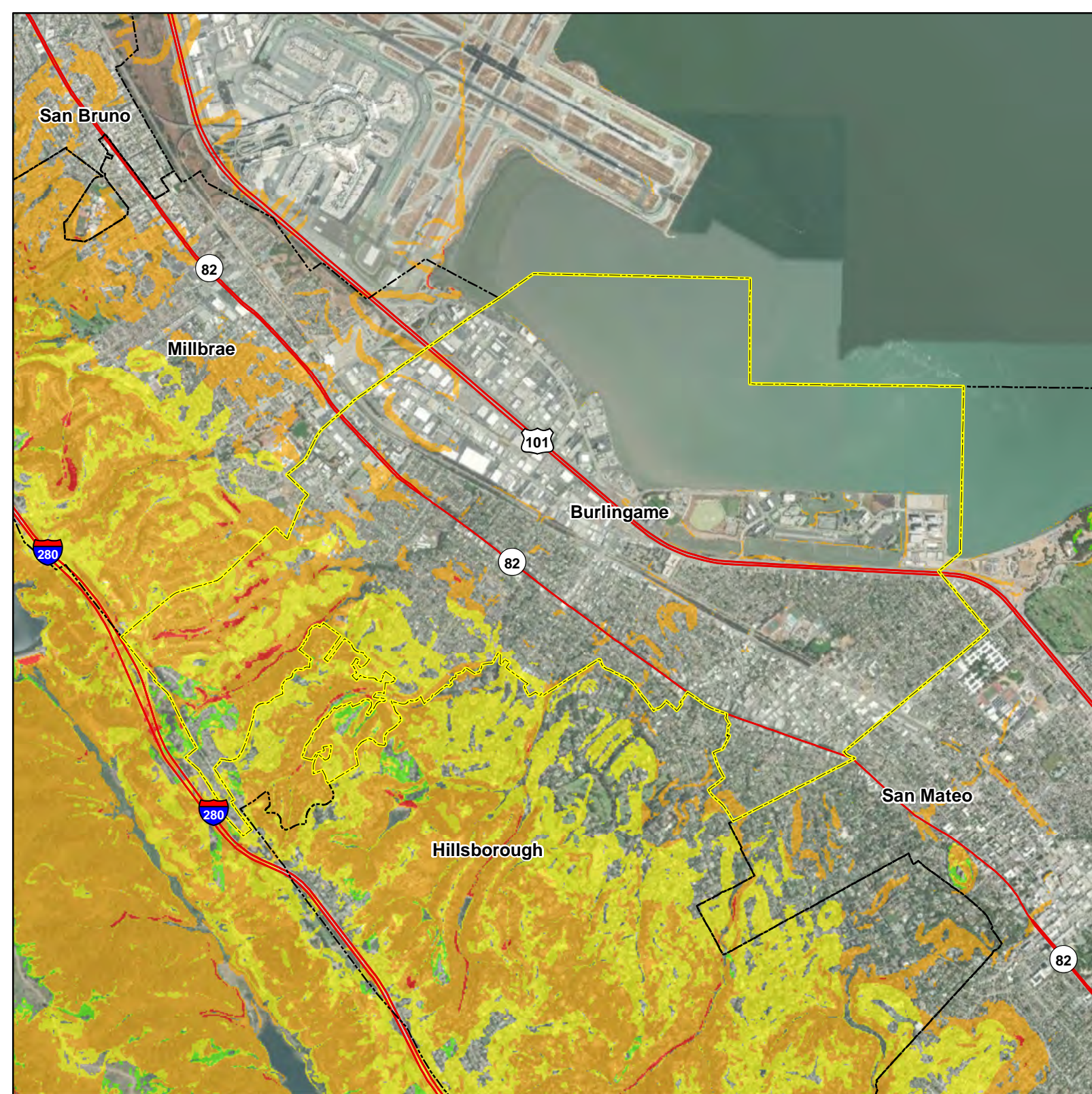
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








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# Burlingame

## Sea Level Rise

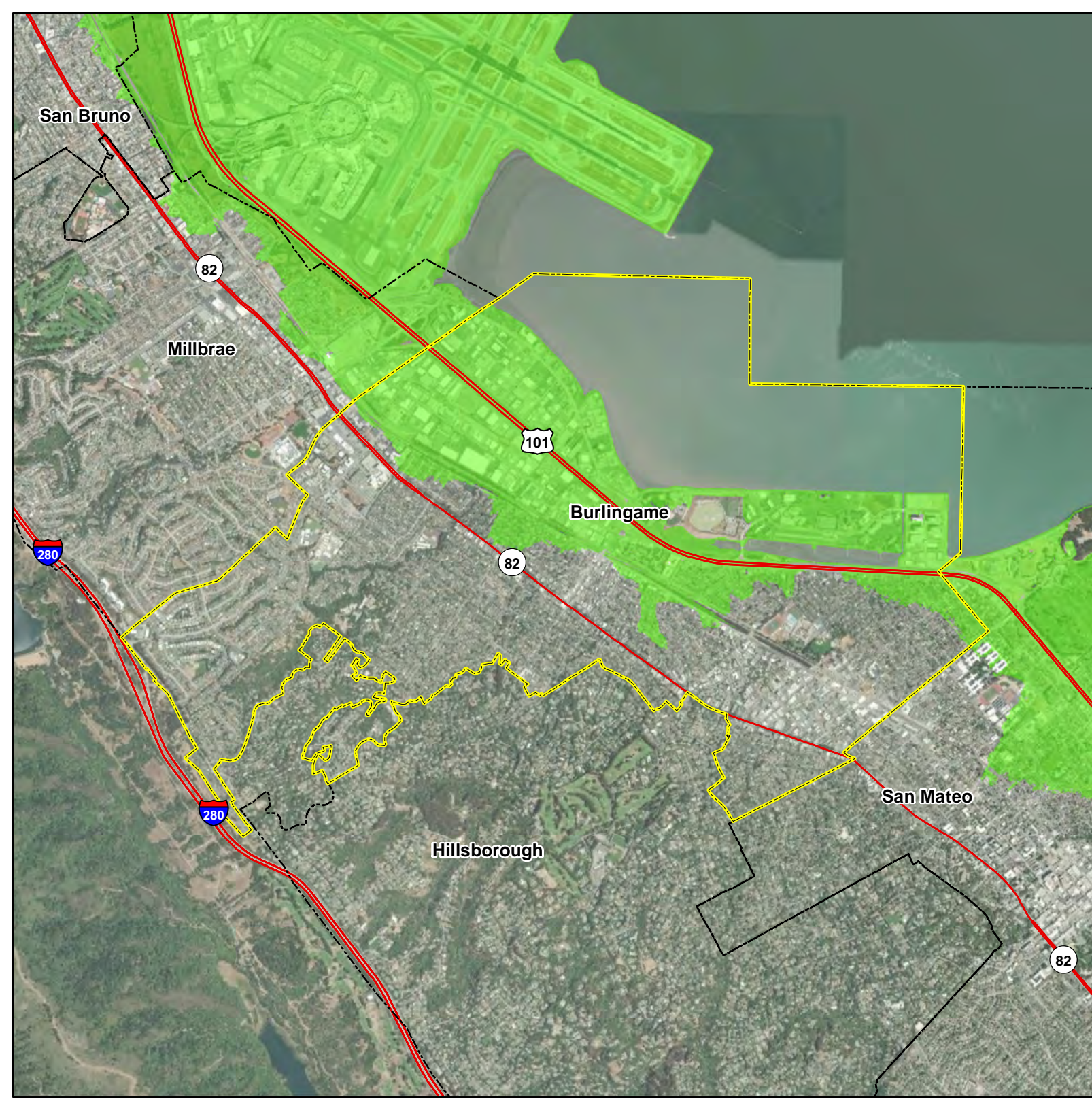
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








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# Burlingame

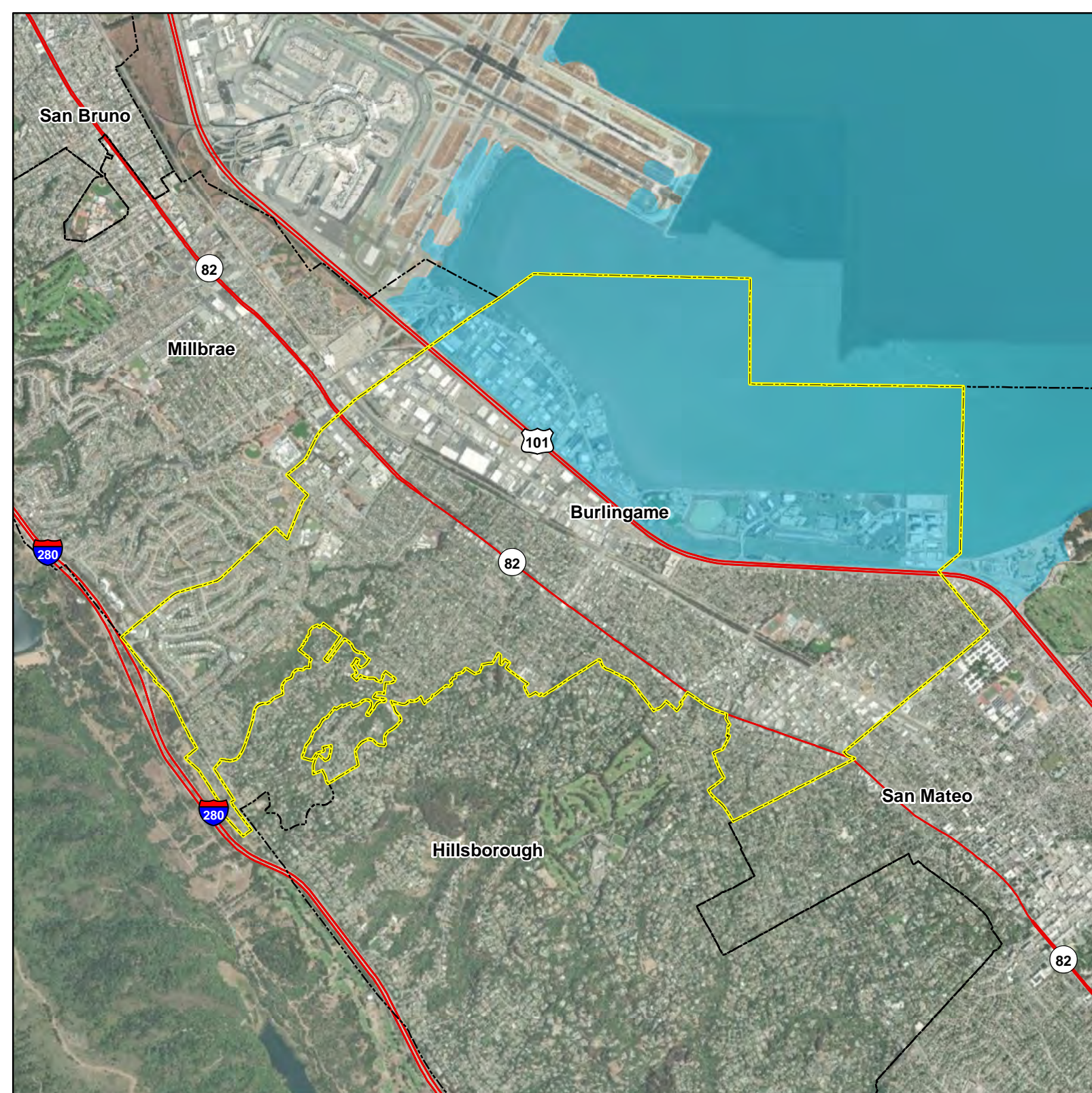
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










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Miles





# Burlingame

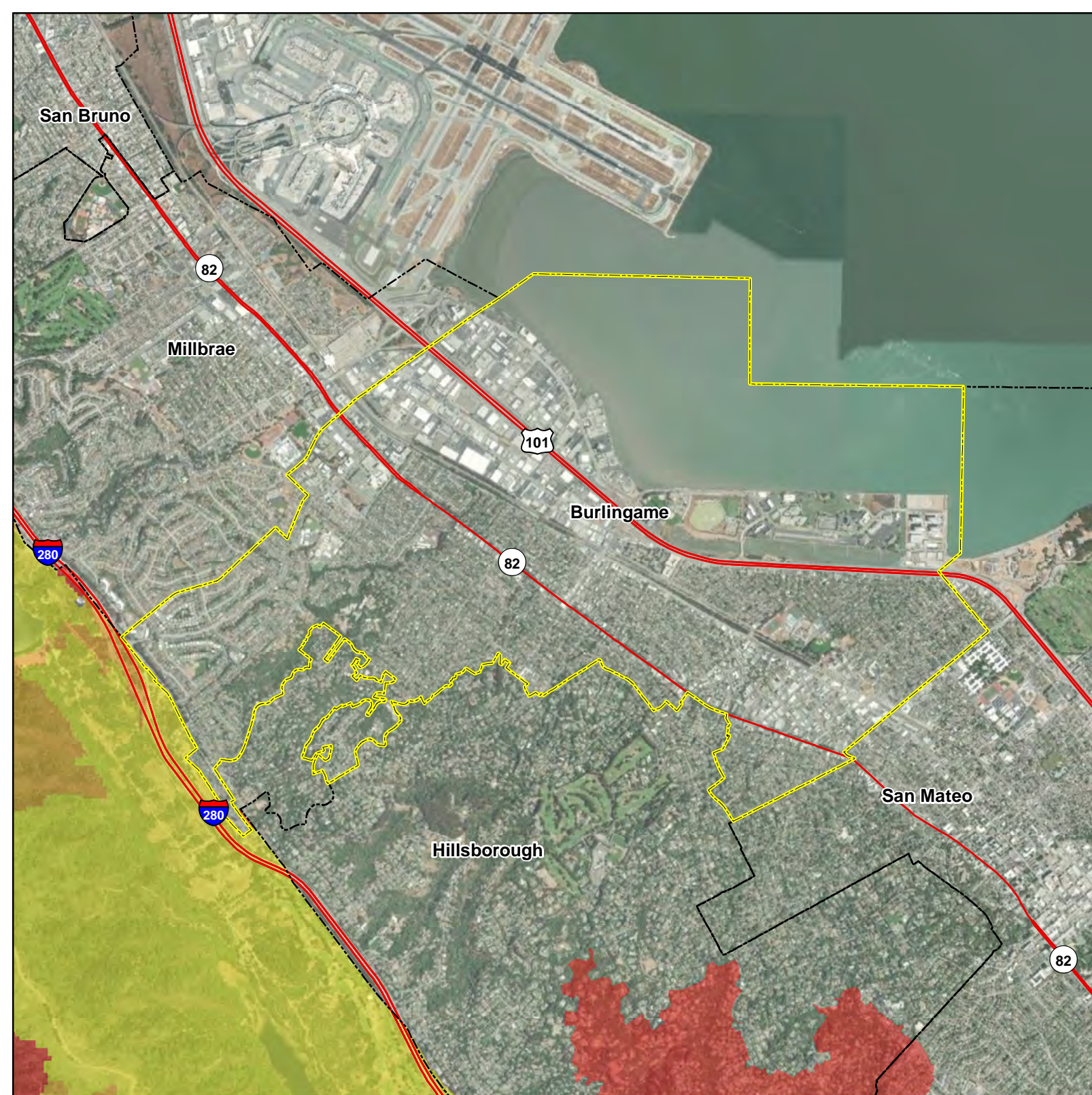
## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.225 0.45 0.9 Miles





## 6. TOWN OF COLMA

### 6.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

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#### Alternate Point of Contact

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 e-mail: suzannea@csgengr.com

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 6-1.

**Table 6-1. Local Mitigation Planning Team Members**

Name	Title
Brian Dossey	City Manager
Michael P. Laughlin	City Planner
Suzanne Avila	Deputy City Planner
Chai Lor	Interim Building Official
Brad Donohue	Public Works Director
Sherwin Lum	Police Commander
John Munsey	Police Chief
Bill Pardini	Captain/Deputy Fire Marshal, Colma Fire District
Geoff Balton	Fire Chief, Colma Fire District

### 6.2 JURISDICTION PROFILE

#### 6.2.1 Location and Features

The Town of Colma is a small town located in the northern portion of San Mateo County, approximately 5 miles south of San Francisco. Colma is 1.98 square miles in size and is bordered by Daly City to the north and west; San Bruno Mountain to the east; and South San Francisco to the south. Highway 280 is the western boundary for the town and provides primary north/south access to and from the town. Highway 82, the El Camino Real, another north/south route, extends through the center of the town. The Town of Colma serves a regional need for cemeteries along the San Francisco Peninsula with 16 active cemeteries and 2 closed cemeteries that occupy 72 percent of the land area. Much of the remaining land in Colma not in cemetery use is commercial (including two regional shopping centers, an auto row and cardroom). The small amount of remaining land is in residential use.



Colma’s climate is highly influenced by its proximity to the Northern California coast. As a result, temperatures remain moderate throughout the year, with periods of fog and wind during spring and summer months. The warmest time of the year is in the fall, with the average high temperature of 73°F occurring in September. December and January tend to be the coldest months, with average low temperatures in the mid-40s. A majority of the seasonal rains occur between November and March, with annual precipitation of approximately 20 inches.

## 6.2.2 History

Prior to incorporation, the Town of Colma was primarily agricultural in nature, with north/south access along the historic El Camino Real. In the late 1800s, the City of San Francisco began passing a series of laws to prevent new cemeteries and requiring that existing cemeteries be removed from within city limits. Religious, ethnic, and secular groups began purchasing land in Colma to establish cemeteries. Railroad lines extended through the town and brought grieving families with their loved ones to Colma for burial. The town was incorporated in 1924 to protect cemetery land use. As a result, the Town of Colma has a significant number of historic structures and resources. Commercial and residential development followed and has continued until the present time. In the late 1980s, the Town annexed several residential blocks in the Sterling Park residential neighborhood.

## 6.2.3 Governing Body Format

The Town of Colma is governed by a five-member City Council. Due to the Town’s small size, the City Council makes all policy and land use decisions in the Town. The Town employs approximately 58 people in administrative, recreation and police services. The Town has traditionally contracted its public works, building and planning services. Fire services are supplied by a Joint Powers Authority, the Colma Fire Protection District. The major government facilities include a newly expanded town hall, a police station, Sterling Park recreation center, a community center. The Town owns but does not operate the Historical Association Museum (operation is by the Colma Historical Association).

The City Council assumes responsibility for the adoption and implementation of this plan.

## 6.3 CURRENT TRENDS

### 6.3.1 Population

According to the California Department of Finance, the population of Colma as of January 2020 was 1,729. Since 2016, the population has grown at an average annual rate of 3.2 percent.

### 6.3.2 Development

The Town of Colma is constrained from further expansion as all remaining unincorporated land around its periphery is either in the City of Daly City or the City of South San Francisco Urban Service Area. Any land that is annexed would be incorporated into one of these two jurisdictions.

Table 6-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 6-2. Recent and Expected Future Development Trends**

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No					
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No					
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	No					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2016	2017	2018	2019	2020
	Single Family	0	8	0	0	0
	Multi-Family	0	0	1	0	0
	Other (commercial, mixed use, etc.)	0	1	0	3	0
	<b>Total</b>	<b>0</b>	<b>9</b>	<b>1</b>	<b>3</b>	<b>0</b>
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 0</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 2 (soil compaction and strengthening conducted)</li> <li>• Tsunami Inundation Area: 0</li> <li>• Wildfire Risk Areas: 0</li> </ul>					
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	Less than 1% of land in Colma is vacant (about 2.8 acres). Buildout from the 2040 General Plan is 332 residential units, 1,044,500 square feet of commercial space and 179,000 square feet of office space.					

## 6.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning and regulatory capabilities is presented in Table 6-3.
- Development and permitting capabilities are presented in Table 6-4.
- An assessment of fiscal capabilities is presented in Table 6-5.
- An assessment of administrative and technical capabilities is presented in Table 6-6.
- An assessment of education and outreach capabilities is presented in Table 6-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 6-8.
- Classifications under various community mitigation programs are presented in Table 6-9.
- The community's adaptive capacity for the impacts of climate change is presented in Table 6-10.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions.

**Table 6-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	No	Yes	Yes
<i>Comment: The 2019 California Building Residential, Electrical, Mechanical, Plumbing, Energy, Historical Building, Existing Building, and Green Building Standards Codes, as adopted by the California Building Standards Commission, were adopted by reference by the Town of Colma in January 2020. Town Municipal Code Subchapter 5.04.</i>				
<b>Zoning Code</b>	Yes	No	No	Yes
<i>Comment: No significant updates have been completed. The Zoning Code was most recently updated July 2020, Subchapter 5.03.</i>				
<b>Subdivisions</b>	Yes	No	No	No
<i>Comment: Town of Colma Subdivision Codes were most recently updated July 2020 (lot line adjustments), Subchapter 5.19. The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Stormwater Management</b>	Yes	No	Yes	Yes
<i>Comment: Town of Colma Stormwater Management Codes were most recently updated December 2015, Subchapter 5.11, and August 2019, Subchapter 3.10. Town complies with latest Regional Water Quality Control Board permit requirements and uses countywide resources found on flowstobay.org. A Green Infrastructure Plan was adopted in July 2019.</i>				
<b>Post-Disaster Recovery</b>	No	No	No	No
<i>Comment: Police Department promotes disaster preparedness. The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Real Estate Disclosure</b>	No	No	Yes	No
<i>Comment: CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property. The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Growth Management</b>	Yes	No	Yes	N/A
<i>Comment: The Housing Element of the Town of Colma General Plan contains information regarding growth management in Colma. The Housing Element was last updated and adopted in January 2015. The 2023 Housing Element update is in process. Growth management is not needed as there is very little vacant land in Colma and Town boundaries are finite.</i>				
<b>Site Plan Review</b>	Yes	No	No	Yes
<i>Comment: Town of Colma Design Review Procedures were most recently updated January 2015, Subchapter 5.3.300.(d).</i>				
<b>Environmental Protection</b>	Yes	No	Yes	Yes
<i>Comment: Town of Colma Environmental Protection Codes were most recently updated May 2012, Chapter 3</i>				
<b>Flood Damage Prevention</b>	Yes	No	No	Yes
<i>Comment: Town of Colma Flood Management Regulations were most recently updated January 2015, Subchapter 5.03.320 (F Zone regulations under the Zoning Subchapter)</i>				
<b>Emergency Management</b>	Yes	No	Yes	Yes
<i>Comment: Town of Colma Emergency Management Codes were most recently updated June 2007, Subchapter 1.17</i>				
<b>Climate Change</b>	Yes	No	Yes	Yes
<i>Comment: SB 97 directs California Environmental Quality Act (CEQA) Guidelines to address greenhouse gas emissions. Other state policies include AB 32 and SB 375 and regulations of the Climate Action Plan (updated for 2030; City Council reviewed and accepted revised plan in October 2020).</i>				
<b>Other</b>	Yes	No	Yes (Some)	Yes
<i>Comment: Subchapter 3.04 (Sewers and Water/Wastewater Discharge), 2018; Subchapter 1.16 (Police Training), January 2018</i>				



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
<b>General Plan</b>	Yes	No	Yes	Yes
<i>Is the plan compliant with Assembly Bill 2140? Yes</i>				
<i>Comment: The Town of Colma is in the process of updating its General Plan to develop a 2040 Vision. An Existing Conditions Report was completed in January 2020. Land Use, Mobility, Open Space and Conservation, Historic Preservation, Community Services and Safety Elements have been drafted (2020) and an EIR has been drafted (2021).</i>				
<b>Capital Improvement Plan</b>	Yes	Yes	No	Yes
<i>How often is the plan updated? Annual budget includes review of five years of CIP funding and activities planned for the current fiscal year.</i>				
<i>Comment:</i>				
<b>Disaster Debris Management Plan</b>	No	No	No	No
<i>Comment: The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Floodplain or Watershed Plan</b>	No	Yes	No	No
<i>Comment: Participates in the San Mateo County Flood and Sea Level Rise Resiliency District. As part of this initiative, Colma has participated in the development of multiple plans dedicated to various aspects of flood control and preservation of Colma Creek. The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Stormwater Plan</b>	No	No	No	Yes
<i>Comment: The Town is subject to the Countywide NPDES Permit and Countywide storm water requirements, which can be found on flowstobay.org. A Green Infrastructure Plan was adopted July 2019.</i>				
<b>Urban Water Management Plan</b>	No	Yes	No	No
<i>Comment: San Mateo County and the San Mateo Water Pollution Prevention Program enforces State requirements for stormwater quality control and provides resource guidance. The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Habitat Conservation Plan</b>	No	No	No	N/A
<i>Comment: There are no sensitive habitats in the Town limits.</i>				
<b>Economic Development Plan</b>	Yes	No	No	Yes
<i>Comment: The Town has a three-phase plan. Phase 3, the final phase of the Town's three-part Strategic Economic Development Plan, was completed in December 2012. Economic Development policies are being added to the General Plan.</i>				
<b>Shoreline Management Plan</b>	No	No	No	N/A
<i>Comment: The Town of Colma does not have any shoreline</i>				
<b>Community Wildfire Protection Plan</b>	No	Yes	No	No
<i>Comment: The Town of Colma is covered under the San Mateo County CWPP developed by CAL FIRE. The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Forest Management Plan</b>	No	No	No	N/A
<i>Comment: The Town of Colma does not have any forests.</i>				
<b>Climate Action Plan</b>	Yes	Yes	No	Yes
<i>Comment: Adopted on May 8, 2013. Developed in collaboration with Regionally Integrated Climate Action Planning Suite (RICAPS). City Council accepted the 2030 CAP update in October 2020.</i>				
<b>Emergency Operations Plan</b>	Yes	No	Yes	Yes
<i>Comment: The Police Department maintains the Town's Emergency Operations Plan.</i>				
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b>	Yes	No	No	No
<i>Comment: The Town has not formally prepared a THIRA. Hazard identification is included in the General Plan and General Plan Existing Conditions report.</i>				
<b>Post-Disaster Recovery Plan</b>	Yes	No	No	No
<i>Comment: The Town does not currently have a Post-Disaster Recovery Plan</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Continuity of Operations Plan</b>	Yes (Partial)	No	No	No
<i>Comment: An Executive Order on Succession of Powers was adopted in September 2012; however, the Town does not have a full Continuity of Operations Plan. Public Works maintains a MAA for assistance and continuity of public works related operations. The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Public Health Plan</b>	No	Yes	No	No
<i>Comment: The Town defers to San Mateo County Health Department. The Town does not plan to develop a code, ordinance, or plan during the performance period of the HMP.</i>				
<b>Other</b>	Yes	No	No	No
<i>Comment: A 2-page disaster preparedness guide was prepared in 2011 for Colma residents and businesses. The Town sponsored a Community Action Plan for Emergencies (CAPE) course for residents in 2019.</i>				

**Table 6-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Building Division
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	Yes

**Table 6-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes, Sewer Fees, Cal Water, PG&E
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes, Special Gas Tax Fund
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	N/A
State-Sponsored Grant Programs	Yes, Police Grants
Development Impact Fees for Homebuyers or Developers	No; however, this is being considered as a possible future source of funding

**Table 6-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Colma Public Works and Planning Departments
Engineers or professionals trained in building or infrastructure construction practices	Yes	Colma Building Department and Public Works Departments
Planners or engineers with an understanding of natural hazards	Yes	Colma Planning Department, Building Department and Public Works Departments
Staff with training in benefit/cost analysis	Yes	Available through municipal consulting firm
Surveyors	Yes	Available through municipal consulting firm
Personnel skilled or trained in GIS applications	Yes	Available through municipal consulting firm
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Police Department
Grant writers	Yes	Available through municipal consulting firm
Other	No	N/A

**Table 6-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes/City Manager
Do you have personnel skilled or trained in website development?	Yes/Multiple Departments
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Link to Local Hazard Mitigation Plan Annex and Strategies Master Spreadsheet. Also, a disaster preparedness page
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	No, but may do so in the future
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	No. City Council would address hazard mitigation.
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes Monthly newsletter to residents, quarterly newsletter to businesses or email blast to businesses. Reverse 911 capabilities and SMCAAlert for emerging threats.
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes San Mateo County Emergency Alert System, Reverse 911 calling.



**Table 6-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Colma Public Works Department
Who is your floodplain administrator? (department/position)	Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	January 2015 (as part of Zoning Ordinance – upholds current IBC standards)
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	No SFHA
When was the most recent Community Assistance Visit or Community Assistance Contact?	No SFHA
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup>	3
• What is the insurance in force?	\$6,454
• What is the premium in force?	\$2,350,000
How many total loss claims have been filed in your jurisdiction? <sup>a</sup>	2
• What were the total payments for losses?	\$1,796

a. According to FEMA statistics as of March 31, 2021

**Table 6-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608114736	N/A
DUNS#	Yes	962843496	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	Yes	4/9	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A

**Table 6-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Staff stays informed and participates in regional planning efforts.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: The Town relies on efforts of the County Office of Sustainability.</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: With consultant or RICAPS assistance.</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Yes.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: Yes, the Town participates in RICAPS and other regional efforts.</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Yes, all Council reports include a sustainability impact statement.</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Yes, in CAP and CAP update.</i>	High
Identified strategies for adaptation to impacts <i>Comment: Yes, included in General Plan and CAP. Also identified by SMCO Flood and Sea Level Rise Resiliency District.</i>	Medium
Champions for climate action in local government departments <i>Comment: All departments participate in CAP activities under City Council direction.</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: City Council oversight and adoption of and revision of CAP and GHG strategies.</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Not a high budget priority.</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment: The Town defers to County agencies in instances where there are no resources.</i>	Medium
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Information on Town website and included in quarterly newsletter to keep residents informed.</i>	Medium
Local residents support of adaptation efforts <i>Comment: Citizen participation in planning efforts tends to be low (small population factors in).</i>	Low
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	Low
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Low

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 6.5 INTEGRATION WITH OTHER PLANNING INITIATIVES

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 6.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Town of Colma General Plan, Housing Element**—The Town of Colma has integrated environmental conditions, including geotechnical hazards (geologic and seismic safety), noise level incompatibility, and flooding, into the General Plan Housing Element. Programs in this Element also tie back to hazard mitigation and safety, with relevant actions consisting of inclusive housing, emergency shelters.
- **Town of Colma Climate Action Plan**—The Town of Colma notes one of the benefits of its Climate Action Plan as increased public health. By building greener buildings, Colma residents will have improved air quality, which will benefit all residents, but especially children and those over 65. Additionally, the Climate Action Plan considers adaptation strategies for climate change impacts, including more frequent severe weather events, regional droughts, extreme heat events, and flooding from sea level rise.

### 6.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **General Plan, Safety Element**—The Town of Colma is in the process of updating the 1999 General Plan to account for current trends, statistics, and goals. A Community Services and Safety Element has been drafted (2021). The pending update of the Safety Element provides Colma a significant opportunity to incorporate the results of the hazard mitigation risk analysis and mitigation projects into their Safety Element in compliance with Assembly Bill 2140. Additionally, the update of the Safety Element in conjunction with this Hazard Mitigation Plan will position the Town of Colma for future compliance with SB 379.
- **Town of Colma Climate Action Plan** – The Climate Action Plan provides the Town with an opportunity to directly integrate hazard mitigation with existing goals and objectives. Since the Climate Action Plan already provides a strategic guide for minimizing the impact of human activity on the environment, integration of hazard mitigation is a fitting and strategic next step. Colma anticipates that future assessments to the Climate Action Plan will include hazard mitigation as it relates to air quality, land use, and other factors.
- **Capital Improvement Program (CIP) Planning**—The Town of Colma maintains a comprehensive CIP, which guides capital improvement projects over a five-year period. Many projects included in the current CIP relate, directly and indirectly, to hazard mitigation. The update of the Hazard Mitigation Plan and selection of necessary mitigation actions enable the Town to ensure consistency between the HMP, the



current CIP, and future versions of the CIP. The HMP update may also identify new possible funding sources for capital improvement projects.

- **Public Outreach** – Colma recognizes that there are currently public information opportunities available to facilitate public engagement regarding hazard mitigation. The Town has added a webpage for the 2021 LHMP update with links to outside resources.

## 6.6 RISK ASSESSMENT

### 6.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 6-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 6-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Drought	N/A	2020-2021	Not yet determined
Wildfires	DR-4558	August 14-September 26, 2020	Unknown
Flood	N/A	January 26, 2021	Unknown
Flood	N/A	January 16, 2021	Unknown
COVID-19 Pandemic	DR-4482	January 20, 2020 to present	Unknown
Flood	N/A	December 7, 2019	Unknown
Flood	N/A	March 1, 2018	Unknown
Severe Storm(s)	DR-4308	February 1-23, 2017	Unknown
Severe Storm(s)	DR-4305	January 18-23, 2017	Unknown
Flood	N/A	January 10, 2017	Unknown
Severe Storm	N/A	February 13, 2000	Unknown
Severe Storm	N/A	March 13, 2016	\$0 (Trees on private property lost)
Fire (San Bruno)	FM-2856	September 10, 2010	\$6,200.00 (Police Mutual Aid)
Severe Storm(s)	DR-1646	June 5, 2006	\$0
Severe Storm(s)	DR-1628	February 3, 2006	\$0
Severe Storm(s)	DR-1203	February 9, 1998	\$20,000 (Approx.) (30-40 street trees lost and additional damage)
Severe Storm(s)	DR-1155	January 4, 1997	Unknown
Severe Storm(s)	DR-1046	March 12, 1995	Unknown
Severe Storm(s)	DR-1044	January 10, 1995	Unknown
Freezing	DR-894	February 11, 1991	Unknown
Earthquake (Loma Prieta)	DR-845	October 18, 1989	Unknown
Coastal Storm	DR-677	February 9, 1983	Unknown
Drought	EM-3023	January 20, 1977	Unknown
Severe Storm(s)	DR-138	October 24, 1962	Unknown
Fire	DR-65	December 29, 1956	Unknown

### 6.6.2 Hazard Risk Ranking

Table 6-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the

likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 6-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	54	High
2	Earthquake	36	High
3	Severe weather	24	Medium
4	Drought	9	Low
5	Flood	6	Low
6	Sea Level Rise / Climate Change	0	Low
7	Dam Failure	0	Low
8	Tsunami	0	Low
9	Wildfire	0	Low

### 6.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### Other Noted Vulnerabilities

No jurisdiction-specific issues were identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources.

## 6.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 6-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 6-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action C-1</b>—Develop a full Continuity of Operations (COOP) Plan for Town government.</p> <p><b>Comment:</b> Sample agreements have been collected. Due to limited staff resources, compiling this document is not anticipated for several years.</p>			✓	COL-13
<p><b>Action C-2</b>—Coordinate and assist in the development of COOP plans for the Town's cemeteries.</p> <p><b>Comment:</b> The Town worked with cemeteries to do formal coordination with communications and equipment but was unable to make it a formal agreement. The Town meets regularly with cemeteries.</p>			✓	COL-14
<p><b>Action C-3</b>— Establish a Public Private Partnership program between the Town and the private owners of identified critical facilities, including the Town's cemeteries and large retailers.</p> <p><b>Comment:</b> Retailers were approached, but the Town was unable to secure formal agreements</p>			✓	COL-15
<p><b>Action C-4</b>— Develop a Debris Management Plan in coordination with jurisdictional partners.</p> <p><b>Comment:</b> The Town has more land available than surrounding jurisdictions, so partnerships with jurisdictional partners is not necessary, however, a partnership may be desired by adjoining jurisdictions. The Town would require the assistance of Republic Services to provide additional debris hauling services. A temporary debris staging area could occur at the Town's closed landfill or on vacant cemetery lands. Preliminary discussions with the franchised waste hauler regarding a Debris Management Plan are ongoing.</p>			✓	COL-16
<p><b>Action C-5</b>—Construct sewer bypass piping to provide redundancy and to prevent sewer siphon backup and overflow in emergency.</p> <p><b>Comment:</b> Hydraulic modeling has been completed. Has not moved into a design phase. Included in the CIP as a future project.</p>			✓	COL-17
<p><b>Action C-6</b>—Identify and equip an alternate EOC location in case of primary EOC disruption or destruction.</p> <p><b>Comment:</b> Town hall renovation completed in 2018. The new Town Hall is designated as an alternate EOC.</p>	✓			
<p><b>Action C-7</b>—Develop an outreach campaign for encouraging Colma residents and daily commuters to sign up for San Mateo County (SMC) alerts on their cell phones.</p> <p><b>Comment:</b> Ongoing. The Police Department will continue to participate in County-wide outreach campaigns and look for opportunities at National Night Out and other community events.</p>	✓			
<p><b>Action C-8</b>—Construct a bypass or overflow siphon to maintain culvert functionality along El Camino Real.</p> <p><b>Comment:</b> This action item is proposed to be deleted since there is a large stormwater culvert system in El Camino Real, and there is redundancy with Colma Creek and culverted portions of Colma Creek.</p>		✓		
<p><b>Action C-9</b>—Purchase portable generators and coordinate connection upgrades with Cemetery groundwater pumps to acquire groundwater resources in case of emergency.</p> <p><b>Comment:</b> Funding will be required to purchase generators. The Town has organized a cemetery stakeholder group to begin discussions on a plan and potential partnerships in the event of an emergency. The Town intends to research grants to purchase large generators.</p>			✓	COL-18
<p><b>Action C-10</b>—Assist North San Mateo County Sanitation District on a plan to possibly bring a reclaimed water system to Colma (currently in process).</p> <p><b>Comment:</b> An EIR and the 30% design of a reclaimed water system that would bring reclaimed water from Daly City to Colma has been completed. North San Mateo County Sanitation District and the SFPUC are the leads on this action item and are currently preparing a feasibility study.</p>			✓	COL-19



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action C-11</b>—Purchase equipment for use during emergency events, including light towers, smart boards, message boards, loudspeakers, and chainsaws.</p> <p><b>Comment:</b> Police Department is considering purchasing a smart board. Staff is working toward a memorandum of understanding with cemeteries and businesses such as Home Depot for use of equipment during emergency events.</p>			✓	COL-20
<p><b>Action C-12</b>—Develop a dangerous tree inventory by purchasing a mobile GPS unit for collecting tree coordinates.</p> <p><b>Comment:</b> Public Works Department is nearing completion on an inventory of trees in the public right-of-way and Town facilities (includes size of trees and tagging). Once inventory is complete, tree conditions can be assessed with the assistance of an arborist.</p>			✓	COL-21
<p><b>Action C-13</b>—Replace existing landscaping in Lawndale with drought-resistant landscaping.</p> <p><b>Comment:</b> A Landscape Masterplan is being developed for Lawndale and El Camino Real.</p>			✓	COL-22
<p><b>Action C-14</b>—Develop a standing Master Services Agreement with the Colma Fire Protection District to formalize existing administrative and technical services relationships.</p> <p><b>Comment:</b> City Council passed a Resolution approving a MOU with Colma Fire Protection District in December 2018</p>	✓			
<p><b>Action C-15</b>—Continue to maintain the minimum National Flood Insurance Program participation requirement for communities with no mapped Special Flood Hazard Area.</p> <p><b>Comment:</b> Ongoing. The Town maintains, and will continue to maintain, the minimum coverage required per NFIP requirements and guidelines.</p>			✓	COL-4
<p><b>Action C-16</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> The Town has not identified any structures that are in hazard prone areas (not including earthquake). The Town supports seismic retrofitting.</p>			✓	COL-1
<p><b>Action C-17</b>—Continue to support the countywide actions identified in this plan.</p> <p><b>Comment:</b> Ongoing. The Town will continue to support countywide actions through its involvement with San Mateo County OES and the consortium of cities that participated in the countywide HMP.</p>			✓	COL-7
<p><b>Action C-18</b>—Actively participate in the plan maintenance strategy identified in this plan.</p> <p><b>Comment:</b> Ongoing. The Town will continue to participate in the plan maintenance strategy through its involvement with San Mateo County OES and the consortium of cities that participated in the countywide HMP.</p>			✓	COL-3
<p><b>Action C-19</b>—Consider participation in incentive-based programs such as Tree City and StormReady.</p> <p><b>Comment:</b> The Town is designated a Tree City USA Community and will continue to apply annually. The Town has not applied to StormReady.</p>	✓			
<p><b>Action C-20</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> The Town is currently updating the General Plan and will include LHMP policies into the Community Safety Element.</p>	✓			

## 6.8 HAZARD MITIGATION ACTION PLAN

Table 6-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 6-15 identifies the priority for each action. Table 6-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 6-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action COL-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Flood, Wildfire						
New & Existing	6, 7, 9, 11, 13	Town of Colma	Colma Fire Protection District	High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action COL-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the General Plan and Green Infrastructure Plan.						
<u>Hazards Mitigated:</u> Landslide/mass movements, earthquake, severe weather, drought, flood, climate change, wildfire						
New & Existing	2, 4, 6, 7	Town of Colma		Low	General Fund	Ongoing
<b>Action COL-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Landslide/mass movements, earthquake, severe weather, drought, flood, climate change, wildfire						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Town of Colma	County	Low	General Fund	Short-term
<b>Action COL-4</b> —Continue to maintain good standing and compliance under the National Flood Insurance Program (NFIP) through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<u>Hazards Mitigated:</u> Flood						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14	Town of Colma		Low	General Fund	Ongoing
<b>Action COL-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
<ul style="list-style-type: none"> <li>• Implement the Climate Action Plan</li> <li>• Continue to reduce greenhouse gas (GHG) emissions</li> <li>• Promote sustainability, energy efficient and climate action planning</li> </ul>						
<u>Hazards Mitigated:</u> Severe weather, Flood, Drought, Climate Change, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 8, 10, 14	Town of Colma	ABAG	Low	Staff Time, General Fund	Short-term
<b>Action COL-6</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power.						
<u>Hazards Mitigated:</u> Earthquake, Flood, Landslide/Mass Movements, Severe weather, Wildfire						
New & Existing	1, 4, 8, 9	Town of Colma		High	Staff Time, General Fund, Grant Funding	Short-term
<b>Action COL-7</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Town of Colma	County, other SMC municipalities	Low	General Fund	Ongoing
<b>Action COL-8</b> — Incorporate consideration of the FEMA criteria for climate change-driven extreme storms into land use planning. This includes new policies and Town actions regarding General Plans, Climate-related Plans, and development applications.						
<u>Hazards Mitigated:</u> Climate Change, Severe weather, Flood						
New & Existing	1, 2, 5, 6, 7, 8, 9, 13, 14	FSLRRD	Colma, other SMC municipalities, County	Low	General Fund, Private Developers, CIP	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action COL-9</b> —Identify and pursue strategies to incorporate earthquake and wildfire hazards into project planning, design, and implementation.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire						
New	1, 5, 6, 7, 8	Town of Colma	Town of Colma, County, other SMC municipalities	High	Grant Funding-BRIC (C&CB)	Ongoing
<b>Action COL-10</b> — Update and enhance existing water-related climate hazard mapping (including flood, stormwater, and groundwater emergence) to better reflect current conditions and most current long-term future conditions.						
<i>Hazards Mitigated:</i> Climate Change, Landslide/Mass Movements, Flood, Severe weather, Drought						
New & Existing	1, 5, 6, 7, 8, 9	Town of Colma	County, C//CAG	Low	General Fund	Ongoing
<b>Action COL-11</b> —To the extent possible based on available resources, provide coordination and technical assistance in grant funding applications - including assistance in benefit versus cost analysis - and complete required grant management/close-out activities.						
<i>Hazards Mitigated:</i> Landslide/Mass Movements, Earthquake, Flood, Climate Change, Severe weather, Wildfire, Drought, Sea Level Rise						
New & Existing	2, 7, 8, 12	Town of Colma		Low	General Fund	Ongoing
<b>Action COL-12</b> —Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.						
<i>Hazards Mitigated:</i> Climate Change, Landslide/Mass Movements, Flood, Severe weather, Drought						
New & Existing	2, 6, 7, 8, 14	County	Colma, other SMC Municipalities, FSLRRD, SMRCD	Medium	Grant Funding- FEMA HMA (BRIC, FMA and HMGP), EPA Grants (Section 319 grants, CWSRF) Stormwater Fees	Ongoing
<b>Action COL-13</b> — Develop a full Continuity of Operations (COOP) Plan for Town government.						
<i>Hazards Mitigated:</i> Landslide/Mass Movements, Earthquake, Severe weather, Flood, Wildfire						
New & Existing	1, 5, 7	Town of Colma		Medium	General Fund	Short-term
<b>Action COL-14</b> — Coordinate and assist in the development of COOP plans for the Town's cemeteries.						
<i>Hazards Mitigated:</i> Earthquake, Severe weather, Drought, Wildfire						
New & Existing	1, 5, 7	Town of Colma		Medium	General Fund	Ongoing
<b>Action COL-15</b> — Establish a Public Private Partnership program between the Town and the private owners of identified critical facilities, including the Town's cemeteries and large retailers.						
<i>Hazards Mitigated:</i> Earthquake, Severe weather, Flood, Wildfire						
New & Existing	1, 2, 7	Town of Colma		Low	General Fund	Ongoing
<b>Action COL-16</b> — Develop a Debris Management Plan in coordination with jurisdictional partners.						
<i>Hazards Mitigated:</i> Landslide/Mass Movements, Earthquake, Severe weather, Flood, Wildfire						
New & Existing	2, 4, 7, 8	Town of Colma	Cal OES	Medium	General Fund	Ongoing
<b>Action COL-17</b> —Construct sewer bypass piping to provide redundancy and to prevent sewer siphon backup and overflow in emergency.						
<i>Hazards Mitigated:</i> Earthquake, Severe weather, Flood						
New & Existing	1, 7, 8, 9	Town of Colma	North SMC Sanitation District	Medium	CIP	Ongoing
<b>Action COL-18</b> —Purchase portable generators and coordinate connection upgrades with groundwater pumps to acquire groundwater resources in case of emergency.						
<i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire						
New & Existing	1, 4, 8, 9	Town of Colma		Medium	Grant Funding-, FEMA HMA (BRIC, FMA and HMGP) General Fund	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action COL-19</b> —Assist North San Mateo County Sanitation District on a plan to possibly bring reclaimed water to Colma.						
<i>Hazards Mitigated:</i> Drought, Wildfire						
New & Existing	1, 7	Town of Colma	North SMC Sanitation District	Medium	CIP	Ongoing
<b>Action COL-20</b> — Purchase equipment for use during emergency events, including light towers, smart boards, message boards, loudspeakers, and chainsaws.						
<i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements, Severe weather, Flood, Wildfire						
New & Existing	1, 4, 7, 8	Town of Colma		Medium	CIP	Short-term
<b>Action COL-21</b> — Develop a dangerous tree inventory by purchasing a mobile GPS unit for collecting tree coordinates.						
<i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements, Severe weather, Drought, Flood, Wildfire						
New & Existing	1, 5	Town of Colma		Low	General Fund	Short-term
<b>Action COL-22</b> — Replace existing landscaping in Lawndale with drought-resistant landscaping.						
<i>Hazards Mitigated:</i> Drought, Wildfire						
New & Existing	1, 7, 9	Town of Colma		Medium	CIP	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 6-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	5	High	High	Yes	Yes	No	Medium	High
2	4	Medium	Low	Yes	No	Yes	High	Low
3	14	Medium	Low	Yes	No	Yes	High	Low
4	13	Medium	Low	Yes	No	Yes	High	Low
5	8	Medium	Low	Yes	No	Yes	High	Low
6	4	High	Medium	No	Yes	No	Medium	Low
7	14	High	Low	Yes	No	Yes	Medium	Low
8	9	Medium	Low	Yes	No	Yes	Medium	Low
9	5	High	High	Yes	Yes	Yes	High	High
10	6	Low	Low	Yes	No	No	Low	Low
11	4	Low	Low	Yes	Yes	No	Medium	Medium
12	5	Medium	Medium	Yes	No	Yes	High	Low
13	3	Medium	Medium	Yes	No	No	Medium	Low
14	3	Low	Medium	No	No	No	Low	Low
15	3	Low	Low	Yes	No	No	Low	Low
16	4	Low	Medium	No	No	No	Low	Low
17	4	High	High	Yes	No	No	Low	Low

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
18	4	High	Medium	Yes	Yes	No	Medium	Medium
19	2	High	Medium	Yes	No	No	Low	Low
20	4	High	Medium	Yes	No	No	Low	Low
21	2	Medium	Low	Yes	No	Yes	High	Low
22	3	High	High	Yes	No	No	Low	Low

a. See the introduction to this volume for explanation of priorities.

**Table 6-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	2, 3, 9	1,17	3		6, 13, 14, 16, 18, 20		1, 2, 21	2, 3, 9, 11, 13, 14, 15, 16, 20
Landslide/Mass Movements	2, 3, 12	1,12	3	12	6, 13, 16, 18, 20	12	1, 2, 5, 8, 10, 12, 19, 21, 22	2, 3, 10, 11, 12, 13, 16, 20
<b>Medium-Risk Hazard</b>								
Severe weather	2, 3, 5, 7, 8,12	12,17	3, 5, 7	12	6, 13, 14, 16, 18, 20	12	2, 5, 8, 10, 12, 21	2, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15, 16, 20
<b>Low-Risk Hazards</b>								
Drought	2, 3, 5,12	12	3,5	12,22	14	12	2, 5, 10, 12, 19, 21, 22	2, 3, 5, 10, 11, 12, 14, 19
Sea Level Rise / Climate Change		12	3, 5, 7	12		12	2, 5, 8, 10, 12	2, 3, 5, 7, 8, 10, 11, 12
Wildfire	2, 3, 9	1	3	22	6, 13, 14, 16, 18, 20		1, 2, ,19, 21, 22	2, 3, 9, 11, 13, 14, 15, 16, 19, 20
Flood	2, 3, 4, 5, 7, 8, 9,12	1, 12, 17	3, 5, 7	12	6, 13, 16, 18, 20	12	2, 5, 8, 10, 12, 21	2, 3, 4, 5, 7, 8, 10, 11, 12, 13, 15, 16, 20

a. See the introduction to this volume for explanation of mitigation types.

## 6.9 PUBLIC OUTREACH

Table 6-17 lists public outreach activities for this jurisdiction.

Table 6-17. Local Public Outreach

Local Outreach Activity	Date	Number of People Involved
Town of Colma Website	March 2021	Unknown
San Mateo County Resident Survey	March 2021	66 Respondents
LHMP Public Workshop	March 25, 2021	Unknown
Town of Colma Newsletter	May 2021	Unknown
LHMP Public Workshop	August 12, 2021	TBD

## 6.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Colma Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **Town of Colma Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **Colma General Plan**—The General Plan Land Use and Community Services and Safety Elements were reviewed for goals and policies applicable to hazards, climate change and GHG reduction data.
- **Colma Green Infrastructure Plan**—The GI Plan was reviewed for consistency with stormwater requirements, green infrastructure policies and GI project funding options.








The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **County of San Mateo Multijurisdictional Local Hazard Mitigation Plan**—The County webpage for the LHMP update was reviewed for resources including the Local Mitigation Planning Handbook, the Homeowner’s Guide to Earthquake Safety and the 2016 MJLHMP.



# Colma

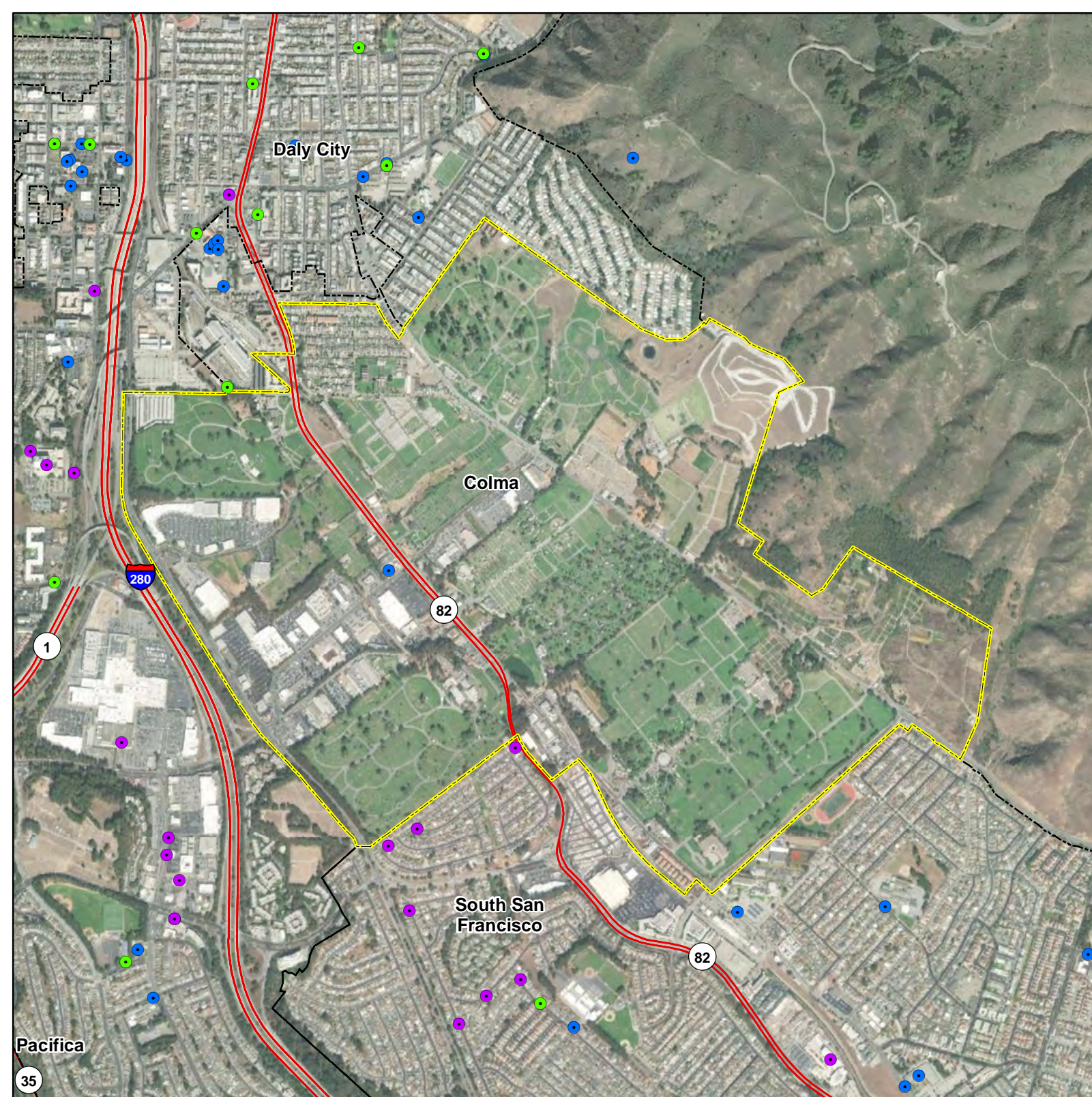
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



0 0.125 0.25 0.5  
Miles





# Colma

## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.125 0.25 0.5 Miles





# Colma

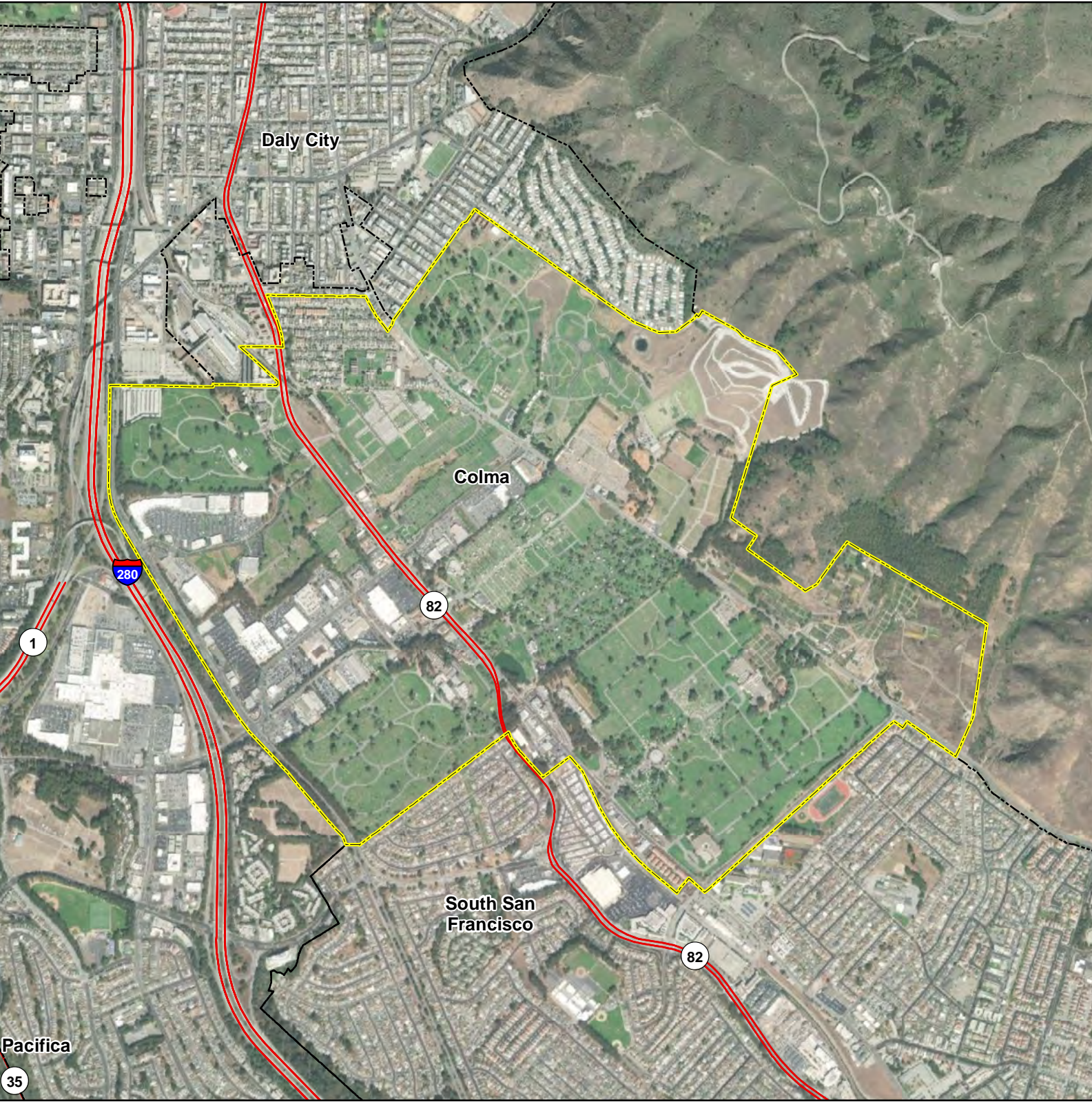
## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










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Miles





# Colma

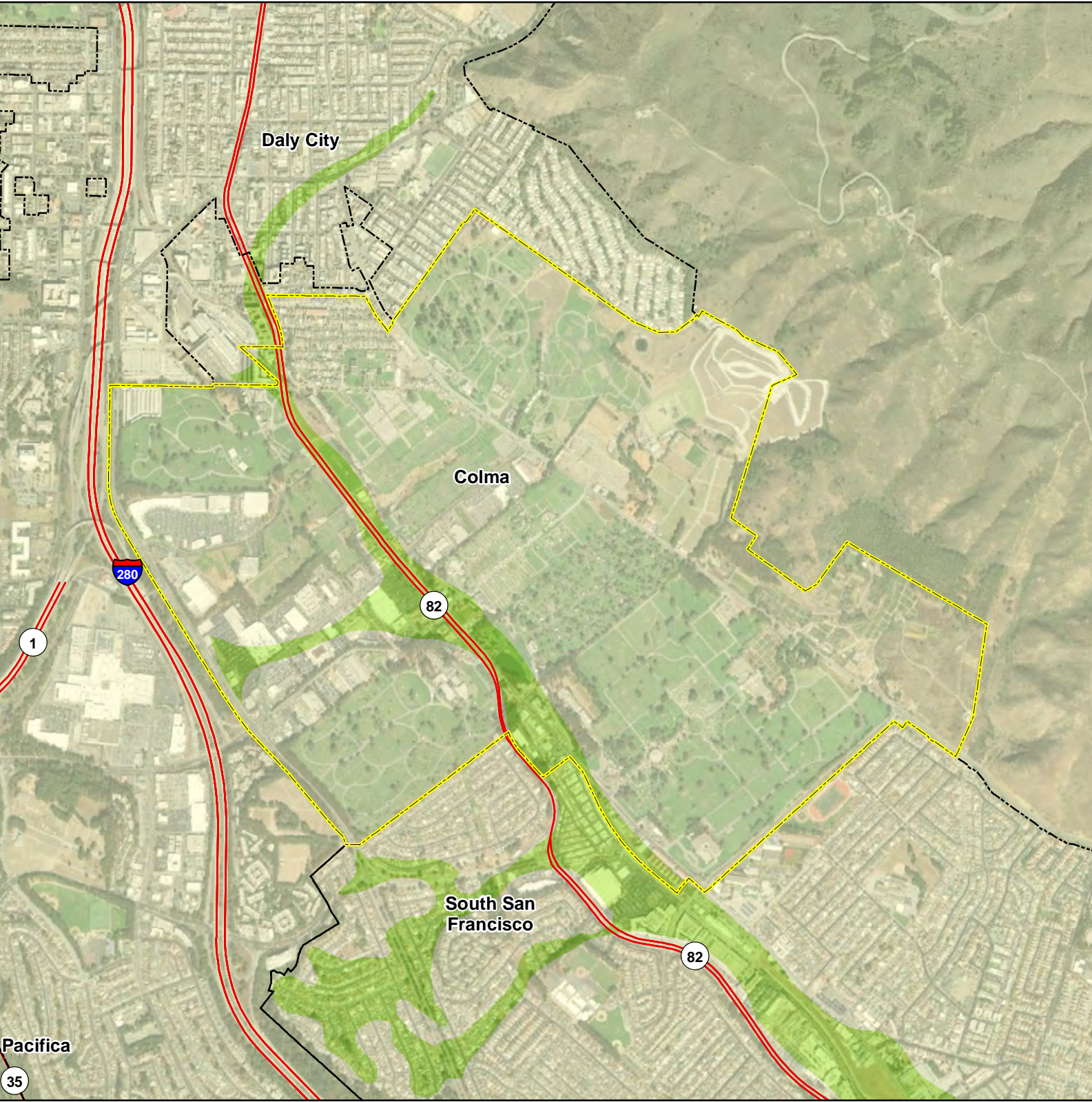
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS



0 0.125 0.25 0.5 Miles



Daly City

Colma

South San Francisco

Pacifica

1

260

82

82

35



# Colma

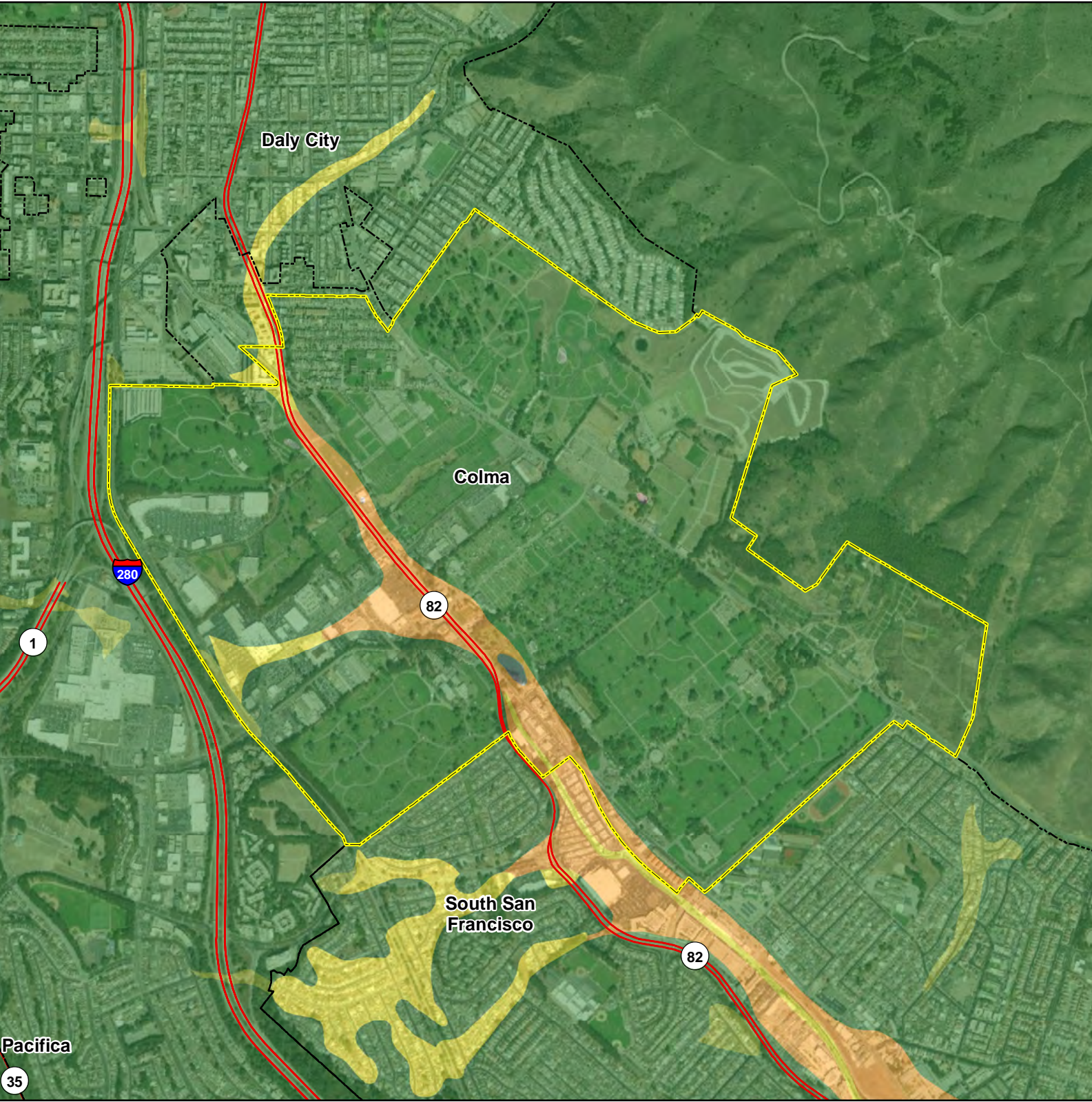
## Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)



0 0.125 0.25 0.5 Miles





# Colma

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

 V (Moderate/Very Light)

 VI (Strong/Light)

 Selected City

 Incorporated Cities

 County Boundary

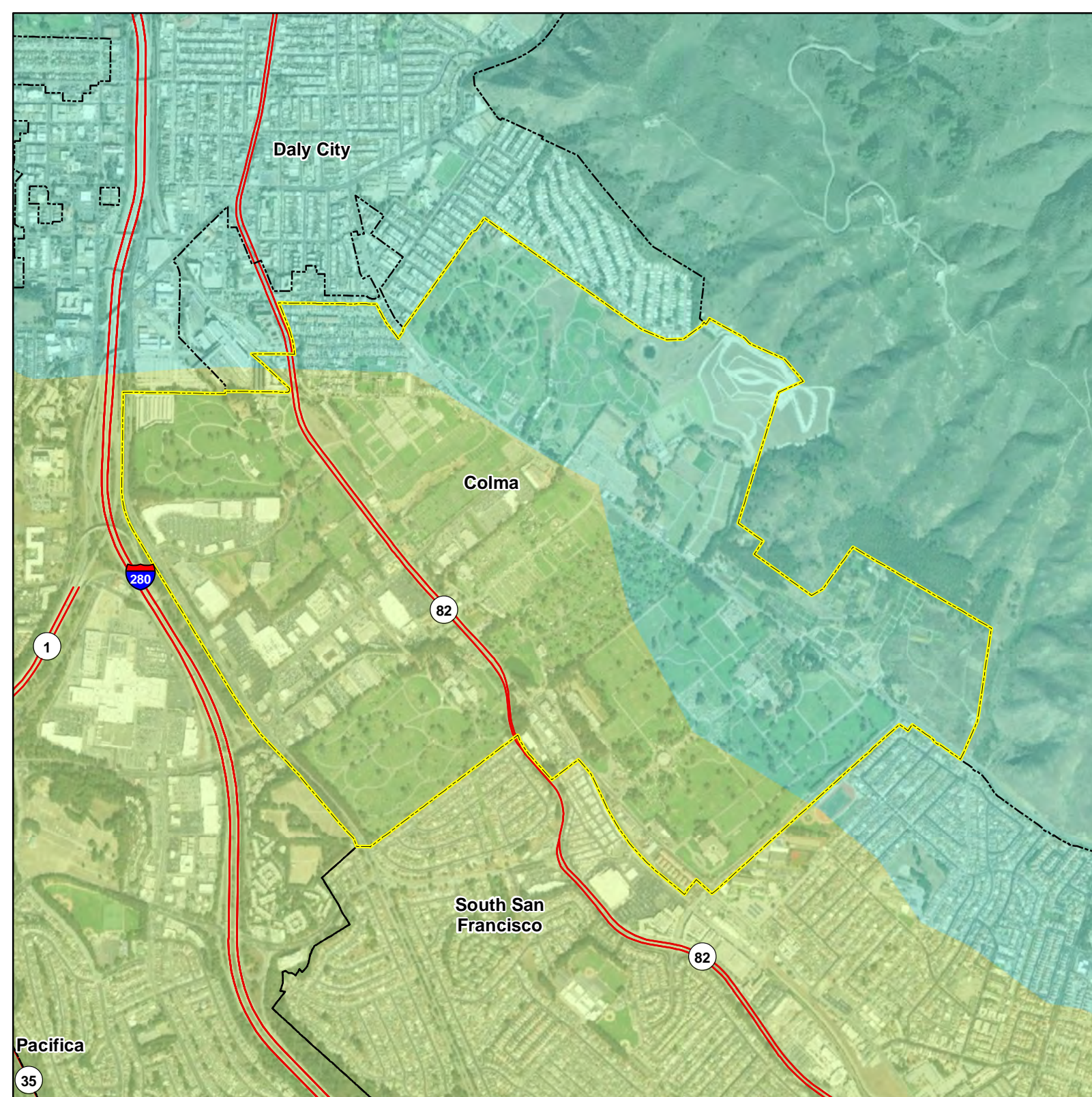
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.125 0.25 0.5  
Miles





# Colma

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

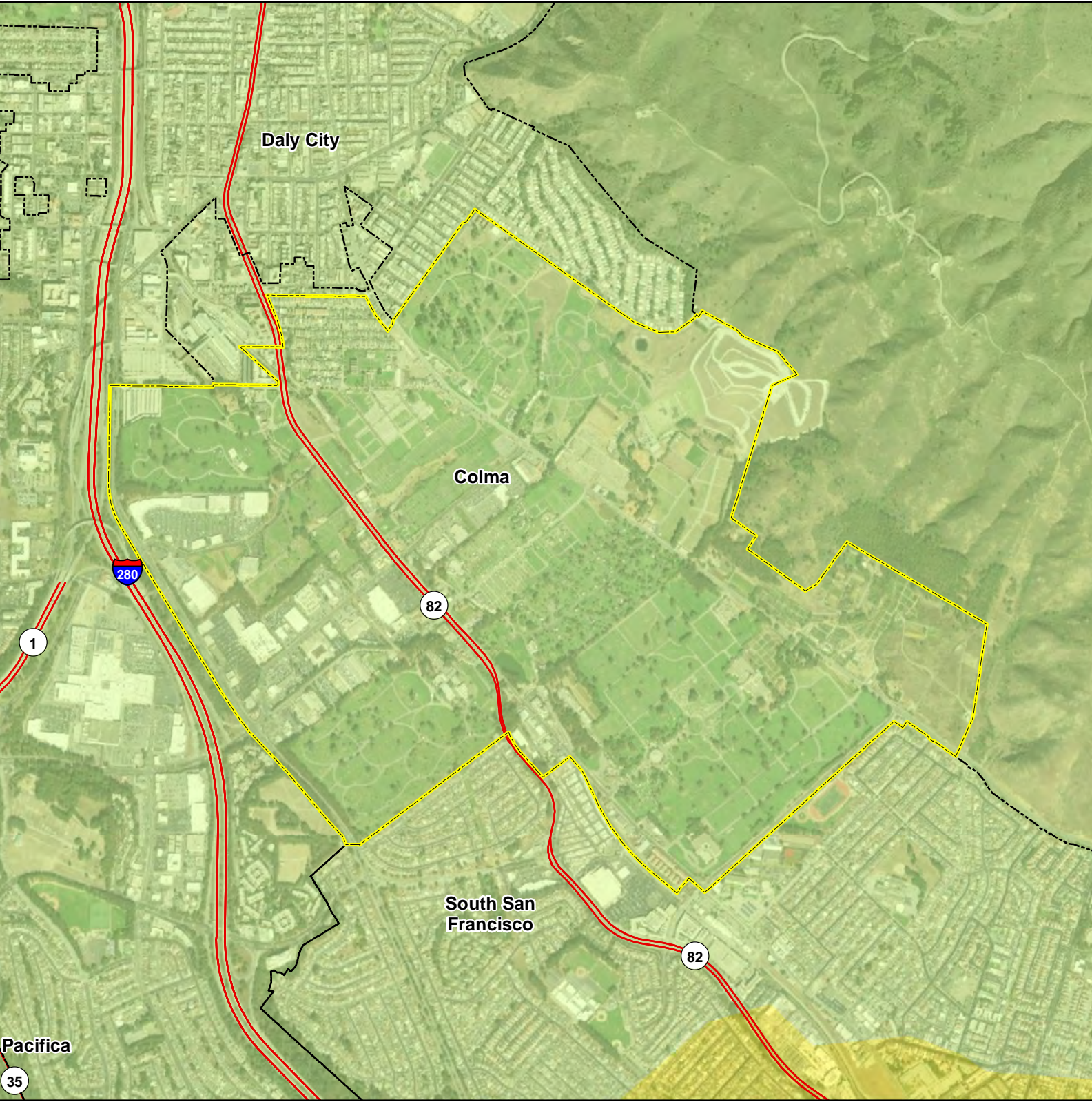
- VI (Strong/Light)
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.125 0.25 0.5  
Miles





# Colma

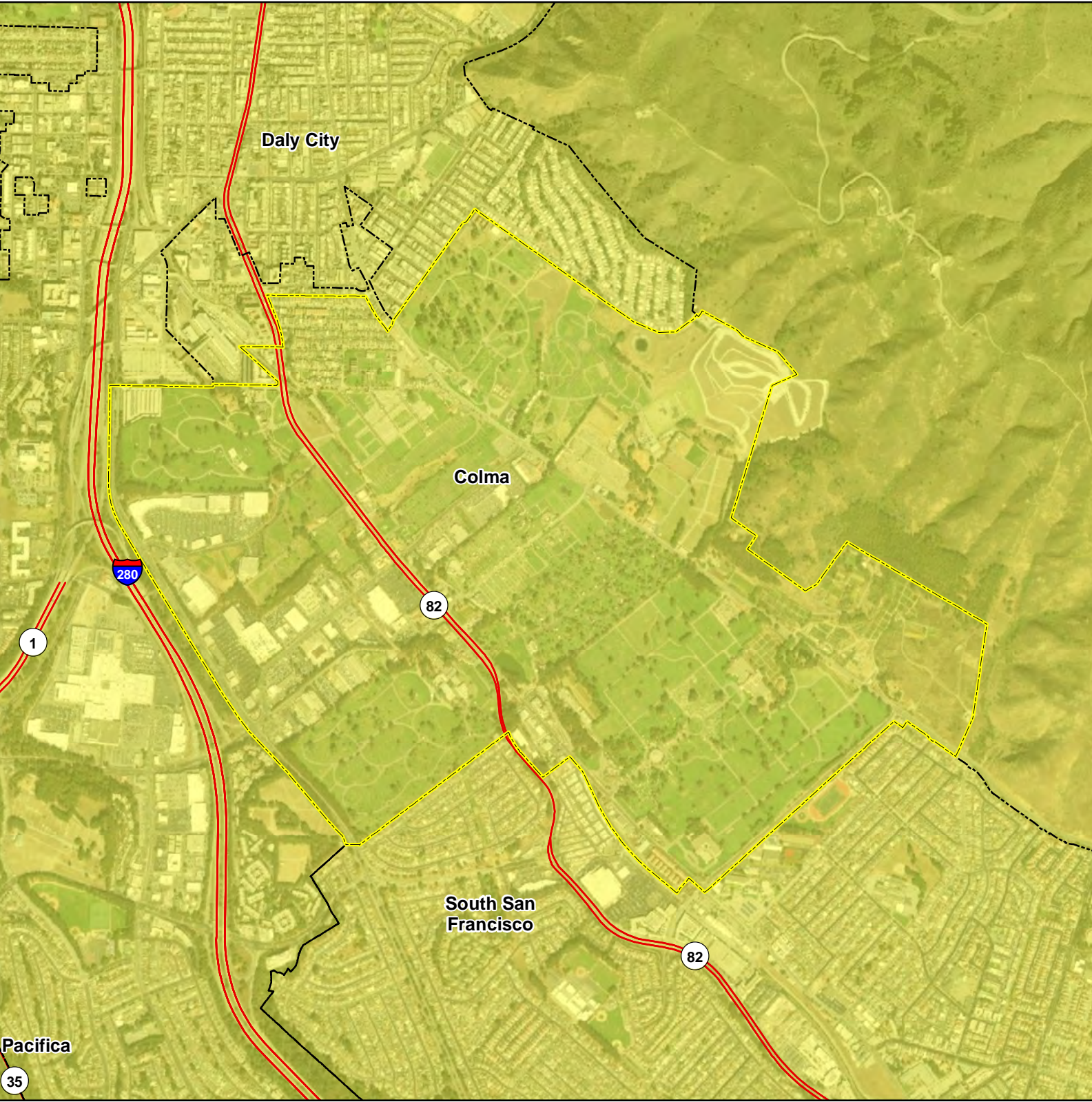
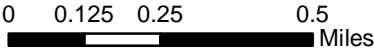
## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Colma

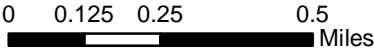
## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Colma

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 VIII (Severe/Moderate-Heavy)

 Selected City

 Incorporated Cities

 County Boundary

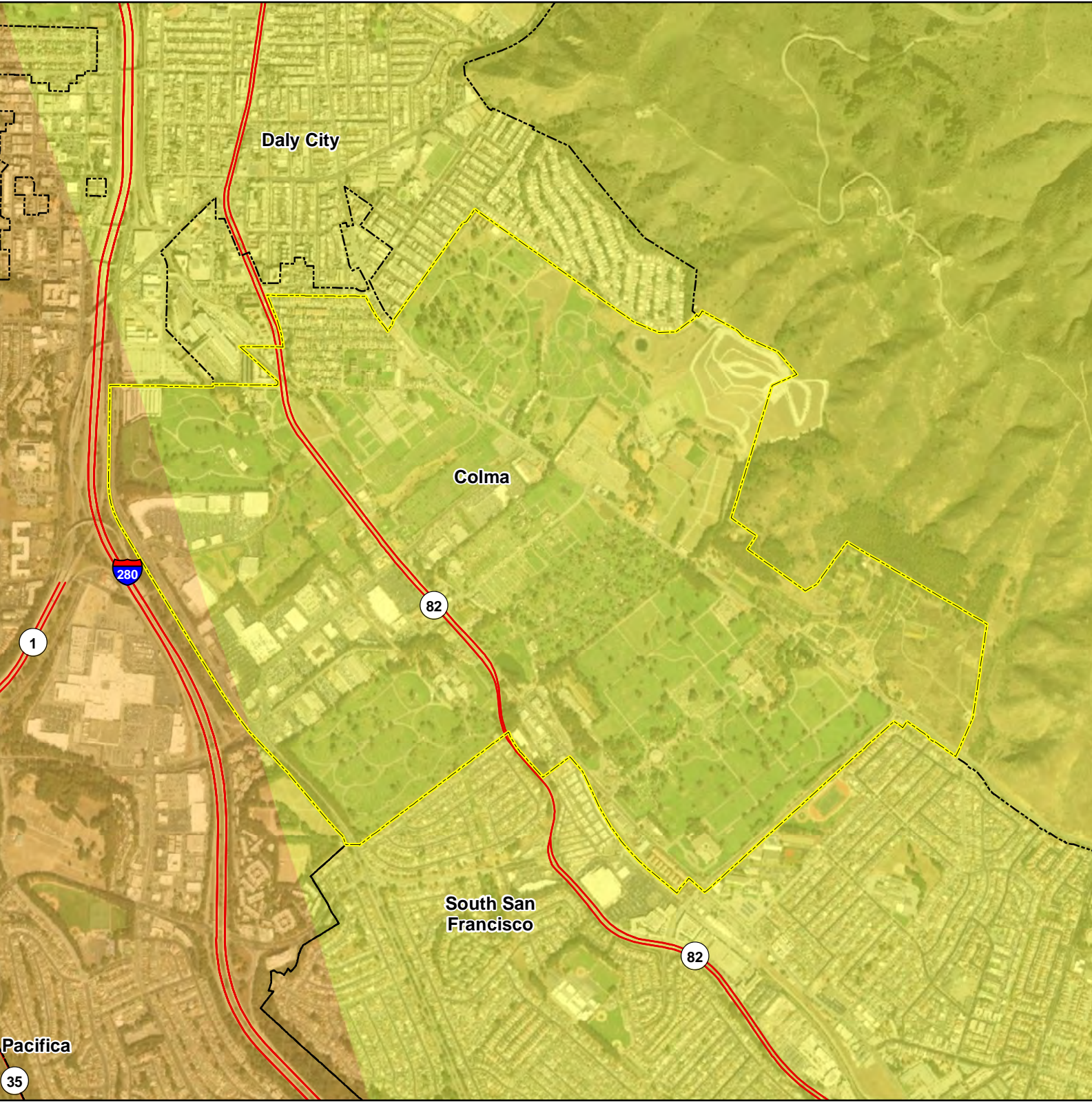
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.125 0.25 0.5 Miles



Daly City

Colma

South San  
Francisco

Pacifica

1

260

82







82

35



# Colma

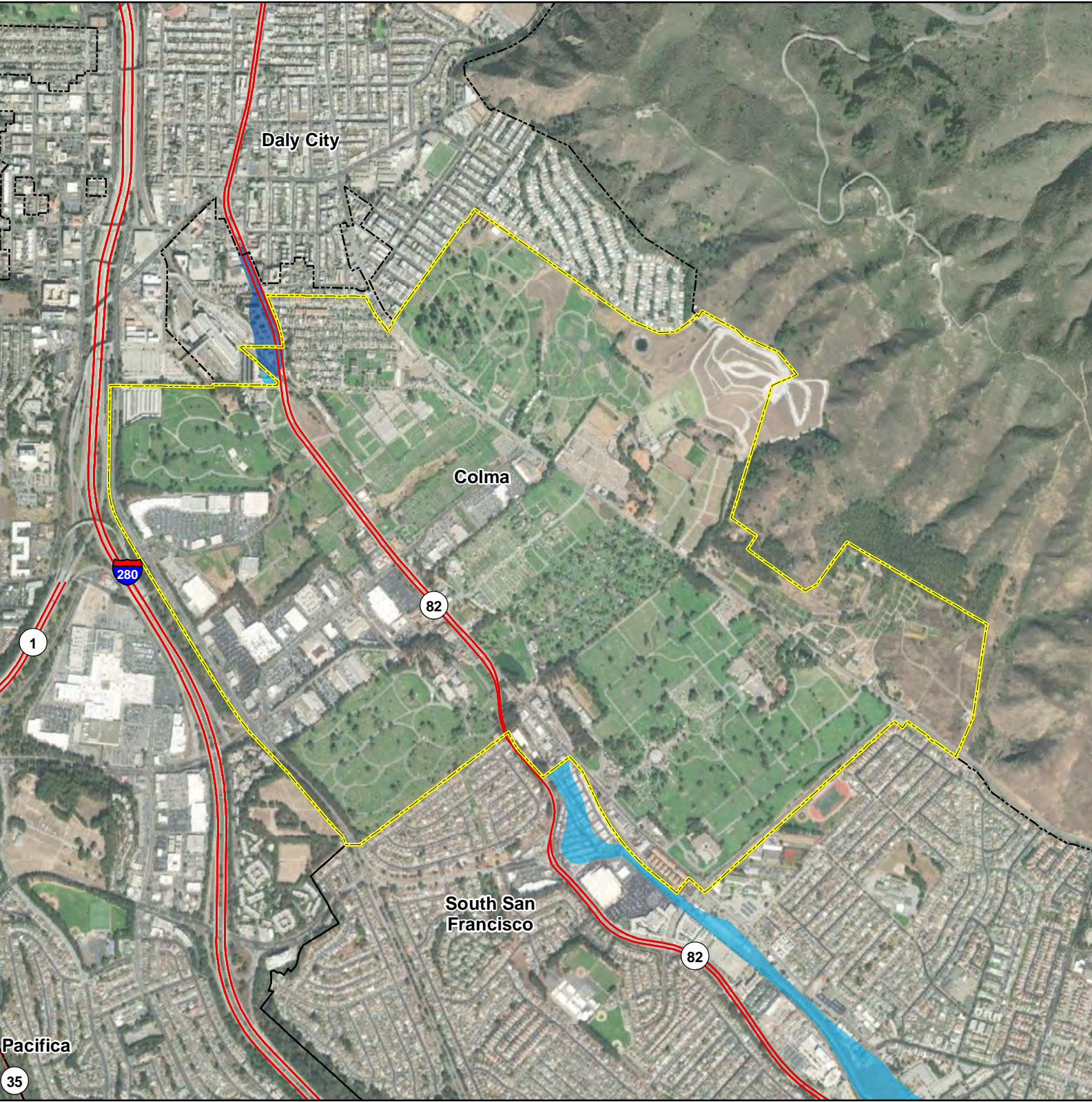
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA



0 0.125 0.25 0.5 Miles





# Colma

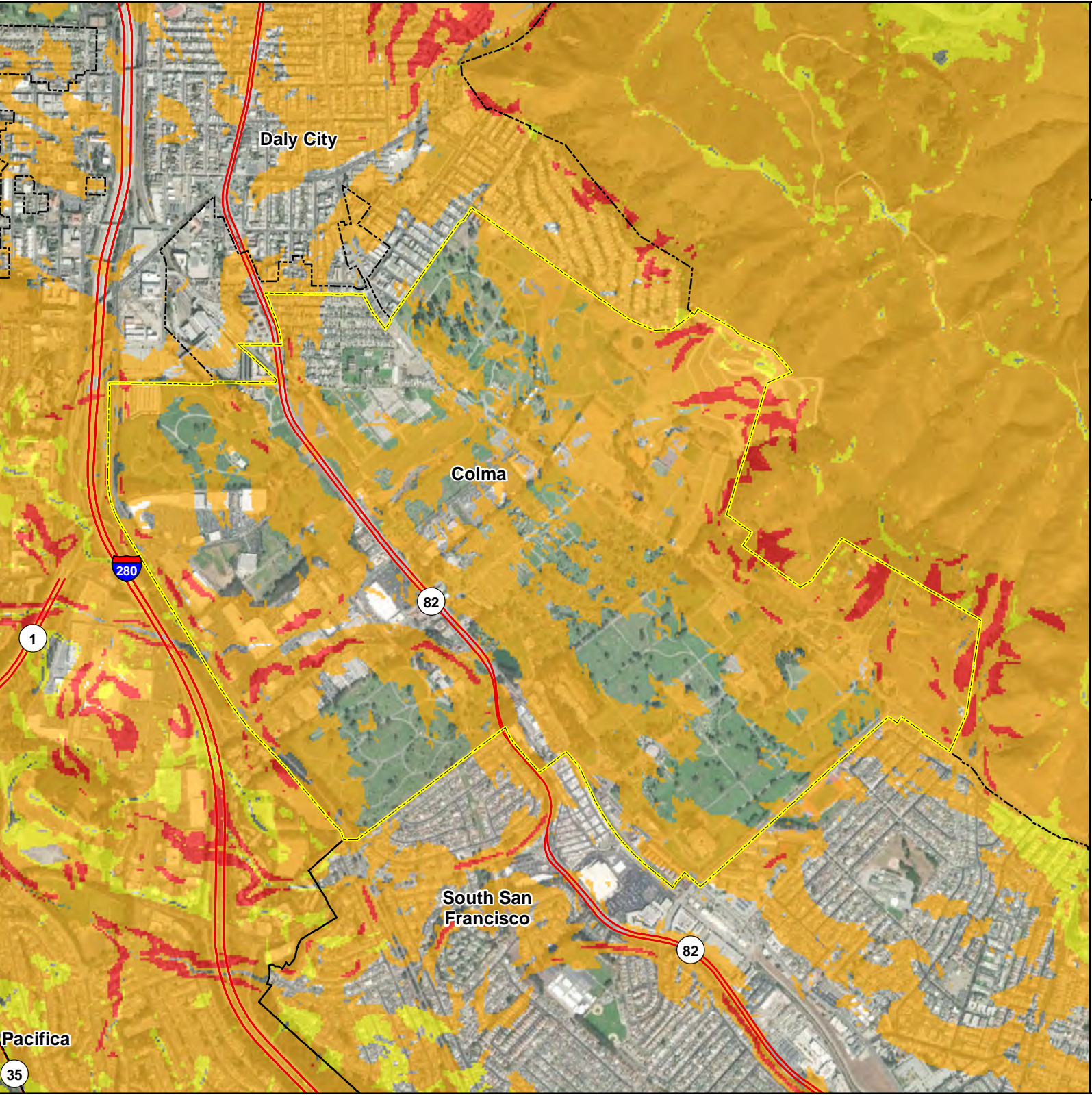
## Susceptibility to Deep-Seated Landslides

- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS










0 0.125 0.25 0.5 Miles





# Colma

## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.125 0.25 0.5 Miles





## 7. CITY OF DALY CITY

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### 7.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Joel Abelson, Battalion Chief  
10 Wembley Drive  
Daly City, CA 94015  
650-991-8138  
jabelson@northcountyfire.org

#### Alternate Point of Contact

Chuck Pomicpic – Deputy Chief  
10 Wembley Drive  
Daly City, CA 94015  
650-991-8138  
cpomicpic@northcountyfire.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 7-1.

**Table 7-1. Local Mitigation Planning Team Members**

Name	Title
Joel Abelson	Fire Battalion Chief
Chuck Pomicpic	Fire Deputy Chief
Ronald Mussman	Police Lieutenant
John Gamez	Police Captain
Stephen Stolke	Assistant City Manager
Leilani Ramos	Assistant to the City Manager
Tatum Mothershead	Director of Economic & Community Development
Richard Chiu, Jr.	Director of Public Works
Kaila DeFries	Safety and Training Compliance Officer

### 7.2 JURISDICTION PROFILE

#### 7.2.1 Location and Features

Known as the “Gateway to the Peninsula,” Daly City is located at the northernmost edge of San Mateo County adjacent to San Francisco. Daly City borders the cities of San Francisco, Colma, Broadmoor, South San Francisco, Pacifica, and Brisbane and extends from the Pacific Ocean on the west to nearly San Francisco Bay on the east. Daly City, central to two of the Bay Area’s major job growth zones of San Francisco and San Mateo counties, has become a regional hub for retail, healthcare, and small business.

A mild climate, with wet, mild winters and dry summers. Most months the maximum temperatures will be in the 50s, 60s, or 70s degrees Fahrenheit range. Evenings are usually in the 50s or 60s. Cool humid weather, even in the summer (except September) when persistent fog often envelops the city. Annual average precipitation is 22.90”.

## 7.2.2 History

Much of Daly City began as farm and dairy lands. After the great 1906 earthquake and fires, which destroyed many San Franciscans' homes, residents left to temporary housing on the ranches of the area to the south, including a large one owned by John Daly. Daly later subdivided his property, which resulted in several housing tracts being built. A community was emerging and with fear of annexation from San Francisco, residents voted to incorporate their own community which became Daly City. The community remained relatively small until the late 1940's when developer Henry Doelger purchased land and created Westlake, a major district of homes and businesses including the Westlake Shopping Center. As the years went on, Daly City became home to several other suburban neighborhoods, a major indoor shopping mall and Seton Hospital.

## 7.2.3 Governing Body Format

Daly City is a General Law City (authority is set forth in the California Government Code) governed by a council-manager form of government in which the five-member City Council appoints the City Manager. The City Manager oversees an Executive Leadership Team in the operation of eight (8) departments employing approximately 475 staff with an annual estimated budget of \$150 million.

The North County Fire Authority assumes responsibility for the adoption of this plan; the North County Fire Authority will oversee its implementation.

## 7.3 CURRENT TRENDS

### 7.3.1 Population

According to the California Department of Finance, the population of Daly City as of January 2020 was 109,142. Since 2016, the population has remained the same.

### 7.3.2 Development

Anticipated development levels for the City of Daly City are moderate, consisting primarily of residential development. The majority of the recent development has been infill. There has been a focus on affordable housing and higher-density housing near urban corridors. Daly City adopted its 2030 General Plan in 2013 and a revised Housing Element in 2015. City actions, such as those relating to land use allocations, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with the plan. Future growth and development in the City will be managed as identified in the general plan.

Table 7-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.



**Table 7-2. Recent and Expected Future Development Trends**

Criterion	Response																														
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <ul style="list-style-type: none"> <li>If yes, give the estimated area annexed and estimated number of parcels or structures.</li> </ul>	No																														
Is your jurisdiction expected to annex any areas during the performance period of this plan? <ul style="list-style-type: none"> <li>If yes, describe land areas and dominant uses.</li> <li>If yes, who currently has permitting authority over these areas?</li> </ul>	No																														
Are any areas targeted for development or major redevelopment in the next five years? <ul style="list-style-type: none"> <li>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</li> </ul>	Yes Development is expected to occur on a variety of in-fill sites throughout the City. Likely sites for larger developments are at or near the Cow Palace, the Jefferson Union High School property on Serramonte Boulevard, and on various properties along Junipero Serra Boulevard. None of these sites are in known hazard areas.																														
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	<table border="1"> <thead> <tr> <th></th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Single Family</td> <td>129</td> <td>14</td> <td>16</td> <td>38</td> <td>15</td> </tr> <tr> <td>Multi-Family</td> <td>3</td> <td>2</td> <td>1</td> <td>37</td> <td>47</td> </tr> <tr> <td>Other (commercial, mixed use, etc.)</td> <td>11</td> <td>1</td> <td>0</td> <td>3</td> <td>1</td> </tr> <tr> <td><b>Total</b></td> <td><b>143</b></td> <td><b>17</b></td> <td><b>17</b></td> <td><b>78</b></td> <td><b>63</b></td> </tr> </tbody> </table>		2016	2017	2018	2019	2020	Single Family	129	14	16	38	15	Multi-Family	3	2	1	37	47	Other (commercial, mixed use, etc.)	11	1	0	3	1	<b>Total</b>	<b>143</b>	<b>17</b>	<b>17</b>	<b>78</b>	<b>63</b>
	2016	2017	2018	2019	2020																										
Single Family	129	14	16	38	15																										
Multi-Family	3	2	1	37	47																										
Other (commercial, mixed use, etc.)	11	1	0	3	1																										
<b>Total</b>	<b>143</b>	<b>17</b>	<b>17</b>	<b>78</b>	<b>63</b>																										
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>Special Flood Hazard Areas: 0</li> <li>Landslide: 0</li> <li>High Liquefaction Areas: 0</li> <li>Tsunami Inundation Area: 0</li> <li>Wildfire Risk Areas: 0</li> </ul>																														
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	Daly City is generally built out and there are very few vacant, undeveloped sites within the City. Most development occurs on previously developed in-fill sites. New development is primarily residential with some limited commercial development in existing urban shopping centers or along commercial corridors.																														

## 7.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 7-3.
- Development and permitting capabilities are presented in Table 7-4.

- An assessment of fiscal capabilities is presented in Table 7-5.
- An assessment of administrative and technical capabilities is presented in Table 7-6.
- An assessment of education and outreach capabilities is presented in Table 7-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 7-8.
- Classifications under various community mitigation programs are presented in Table 7-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 7-10.

**Table 7-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b> <i>Comment: Economic and Community Development Dept. Daly City Municipal Code (DCMC) Chap. 15. 08(Ord. No. 1373, § 2(Exhibit B), 12-9-2013)</i>	Yes	No	No	No
<b>Zoning Code</b> <i>Comment: Economic and Community Development Dept. DCMC Chapter 17.02 (Ord. 635 § 1, 1965)</i>	Yes	No	No	No
<b>Subdivisions</b> <i>Comment: Public Works/ Economic and Community Development Dept. DCMC Chap. 16.04 - (Ord. 1049 § 1, 1985; Ord. 798 § 1A, 1975; Ord. 795 § 1 (part), 1974; prior code § 26-1)</i>	Yes	No	Yes	No
<b>Stormwater Management</b> <i>Comment: Public Works/Dept. of Water and Wastewater Resources. Governed under recently adopted municipal region permit by San Francisco Regional Water Quality Control Board. DCMC Chap. 14.04 (Ord. 1194 § 1 (part), 1994)</i>	Yes	No	Yes	No
<b>Post-Disaster Recovery</b> <i>Comment: DCMC 2.28.010 – 2.28.090. 1978</i>	Yes	No	No	No
<b>Real Estate Disclosure</b> <i>Comment: 3R report issued by Building Division. DCMC 15.44 Residential Requirements Report.</i>	Yes	No	Yes	No
<b>Growth Management</b> <i>Comment: DCMC 17.02.020 (Ord. 635 § 2, 1965)</i>	Yes	No	No	No
<b>Site Plan Review</b> <i>Comment: DCMC Title 16 Subdivisions DCMC Title 17 Zoning. Chapter DCMC 17.45</i>	Yes	No	No	No
<b>Environmental Protection</b> <i>Comment:</i>	No	No	Yes	No
<b>Flood Damage Prevention</b> <i>Comment: Meets NFIP compliance for community with no SFHA through adoption of 2013 IBC/CBC standards</i>	No	No	Yes	No
<b>Emergency Management</b> <i>Comment: DCMC 2.28.010 – 2.28.090. 1978</i>	Yes	No	Yes	No
<b>Climate Change</b> <i>Comment:</i>	Yes	No	Yes	Yes
<b>Other</b> <i>Comment:</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
General Plan <i>Is the plan compliant with Assembly Bill 2140?</i> <i>Comment:</i>	Yes	No	No	No
Capital Improvement Plan <i>How often is the plan updated? At least every two years.</i> <i>Comment:</i>	Yes	No	No	No
Disaster Debris Management Plan <i>Comment: Countywide plan in process of being developed – anticipated delivery 2022.</i>	Yes	No	No	No
Floodplain or Watershed Plan <i>Comment:</i>	No	No	No	No
Stormwater Plan <i>Comment: General Plan Resource Management Element Policy RME-8, Municipal Regional Permit authorized by the San Francisco Bay Regional Water Quality Control Board. The MRP adopted by the Regional Board on November 19, 2015 with a five year implementation schedule beginning January 1, 2016.</i>	Yes	No	No	No
Urban Water Management Plan <i>Comment: Document integrates fire flow information and planning. Updated 2020</i>	Yes	No	Yes	Yes
Habitat Conservation Plan <i>Comment: The San Bruno Mountain Habitat Conservation Plan is administered through the County of San Mateo and was adopted in 1982.</i>	No	Yes	No	No
Economic Development Plan <i>Comment: 2030 General Plan (Amended with 1015 Housing Element)</i>	Yes	No	No	No
Shoreline Management Plan <i>Comment: General Plan Resource Management Element DCMC 17.27 Resource Protection Combining District (Requires Coastal Development Permit). Daly City has participated in a working group for the San Francisco Littoral Cell Coastal Regional Sediment Management Plan, but the document has not been adopted or implemented. The City did adopt its Coastal Element in 1984.</i>	Yes, partial	No	No	No
Community Wildfire Protection Plan <i>Comment: All Hazard and evacuation Plan</i>	Yes	No	No	Yes
Forest Management Plan <i>Comment:</i>	No	No	No	No
Climate Action Plan <i>Comment: City Manager, Daly City "Green Vision" Climate Action Plan, 2011-2020</i>	Yes	No	No	Yes
Emergency Operations Plan <i>Comment: City of Daly City &amp; North County Regional Area Emergency Operations Plan, June 2020.</i>	Yes	No	No	No
Threat & Hazard Identification & Risk Assessment (THIRA) <i>Comment: Bay Area UASI THIRA</i>	No	No	No	Yes
Post-Disaster Recovery Plan <i>Comment: City of Daly City &amp; North County Regional Area Emergency Operations Plan, June 2020. Vol. 2, Chapter 4. –Recovery.</i>	Yes, partial	No	No	No
Continuity of Operations Plan <i>Comment: City of Daly City &amp; North County Regional Area Emergency Operations Plan, June 2020. Vol. 2, Chapter 1</i>	Yes, partial	No	No	Yes
Public Health Plan <i>Comment: San Mateo County Public Health</i>	No	Yes	No	No
Other <i>Comment:</i>	No	No	No	



**Table 7-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? • If no, who does? If yes, which department?	Yes Economic and Community Development
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No

**Table 7-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes – Department of Water & Wastewater Resources - as identified in capital planning.
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes - Voter approval required – water rates and sewer service lines.
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	No

**Table 7-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Public Works and Economic and Community Development Dept.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works and Economic and Community Development Dept.
Planners or engineers with an understanding of natural hazards	Yes	Economic Community Development Dept., Public Works Director, City Engineer, Senior and Associate Engineers with P.E. In house and contractual services with engineering and plan check services firms.
Staff with training in benefit/cost analysis	Yes	Public Works Engineers
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Public Works - GIS Analyst.
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	North County Fire Authority
Grant writers	Yes	Public Works and Economic and Community Development Dept.

**Table 7-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes, Assistant City Manager
Do you have personnel skilled or trained in website development?	Yes, Assistant City Manager.
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	Yes Local Hazard Mitigation Plan posted on website
Do you use social media for hazard mitigation education and outreach? • If yes, briefly describe.	Yes We have posted announcements about public forums for LHMP on the City website and social media.
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	No
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	Yes In addition to communications programs via the City website, social media, monthly e-newsletter and quarterly print newsletter, hazard-related information has been communicated through Project Green Space (urban forestry program). Other public-facing sustainability programs could incorporate hazard-related information as well.
Do you have any established warning systems for hazard events? • If yes, briefly describe.	Yes SMC Alert

**Table 7-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works
Who is your floodplain administrator? (department/position)	Public Works, Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	2013 (as part of IBC/CBC building code standards adoption)
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets Meets NFIP requirements for community with no SFHA.
When was the most recent Community Assistance Visit or Community Assistance Contact?	1/1/1972 (CAC) - No SFHA
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If no, state why.	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No

Criterion	Response
Does your jurisdiction participate in the Community Rating System (CRS)?	No
• If yes, is your jurisdiction interested in improving its CRS Classification?	No
• If no, is your jurisdiction interested in joining the CRS program?	No
How many flood insurance policies are in force in your jurisdiction?	49
• What is the insurance in force?	\$6,868,000
• What is the premium in force?	\$12,797
How many total loss claims have been filed in your jurisdiction?	24
• What were the total payments for losses?	\$171,510

a. According to FEMA statistics as of March 31, 2021

**Table 7-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	06-17918	
DUNS#	Yes	060116274	
Community Rating System	No		
Building Code Effectiveness Grading Schedule	Yes	3	2014
Public Protection	Yes	ISO: 2	02/01/09
Storm Ready	No		
Firewise	No		
Tsunami Ready	No		

**Table 7-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Through recent regional efforts and studies, understanding of the impacts of sea level rise, extreme heat, wildfire and more has improved.</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment:</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: The City updates existing greenhouse gas emissions inventories with the help of County of San Mateo consultants through RICAPS. GHG inventories provide the basis for our Climate Action Plan.</i>	Medium
Capital planning and land use decisions informed by potential climate impacts <i>Comment:</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: High degree of collaboration among jurisdictions within County of San Mateo through RICAPS and other climate-change focused efforts on sea level rise and wildfire.</i>	High



Criterion	Jurisdiction Rating <sup>a</sup>
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Daly City has a long history of mitigating greenhouse gas emissions and has received recognition from the Institute for Local Governments, most recently with the Beacon Vanguard Award Silver Level (2020) for the following achievements: Platinum Level Award for 20% Community Greenhouse Gas Reductions, Gold Level Award for 18% Agency Greenhouse Gas Reductions, Silver Level Award for 6% Agency Energy Savings, Silver Level Award for 7% Agency Natural Gas Savings, and Gold Level Award in Sustainability Best Practices.</i>	High
Identified strategies for adaptation to impacts <i>Comment: Historically, Daly City's focus has been climate change mitigation. In the next update to the City's Climate Action Plan, adaptation will become a more prominent feature.</i>	Low
Champions for climate action in local government departments <i>Comment:</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment:</i>	High
Financial resources devoted to climate change adaptation <i>Comment:</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Medium
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment:</i>	Low
Local residents support of adaptation efforts <i>Comment:</i>	Medium
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Medium
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Low

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 7.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 7.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- Our city’s General Plan integrates our mitigation plan through the Safety Element portion as required by law, Government Code section 65300-65303.4

### 7.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- Water and sewer master plans, Capital Improvement Program (CIP). Water and sewer master plans identify projects needed to make the utility system more resilient and capable of withstanding natural disasters such as an earthquake. These projects are prioritized and funded through the city’s CIP.
- Climate Action Plan – Daly City will soon initiate an update to its CAP for a new time period from 2021 to 2030. This will include an opportunity to integrate hazard mitigation information, particularly around climate change impacts and adaptation efforts.

## 7.6 RISK ASSESSMENT

### 7.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 7-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 7-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Flood – Vista Grande Watershed	N/A	02/25/04	Unknown
Landslide – Northridge Bluff	N/A	12/22/03	Unknown
Wildfire San Bruno Mountain (4 alarms)	N/A	2002	Unknown
Landslide – Westline Dr.	N/A	1997-1998	Unknown
Storm – El Niño	DR-1155/1203	1997-1998	Unknown
Earthquake – Loma Prieta	DR-845	10/1989	Unknown

### 7.6.2 Hazard Risk Ranking

Table 7-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 7-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	117	High
2	Earthquake	78	High
3	Drought	9	High*
4	Severe weather	24	Medium
5	Sea Level Rise /Climate Change	0	Medium
6	Wildfire	0	Medium**
8	Flood	0	Medium***
7	Dam Failure	0	Low
9	Tsunami	0	Low

\* Raking changed from Low to High based on current statewide drought conditions and the City manages water delivery for residents

\*\* Ranking changed from Low to Medium because part of San Bruno Mountain (borders the City) is WUI and history of multi-alarm wildfire on the mountain in 2002.

\*\*\* Ranking changed from Low to Medium because of recent flooding event (2004)

### 7.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 1
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 1
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Climate change, as it is a main influence on drought, extreme weather, wildfire, and coastal landslides associated with higher tides/sea level rise.
- Wind Events – Recurrent high wind events continue to impact our community.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 7.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 7-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.



**Table 7-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action #DC-1</b> Replace or retrofit water retention structures. Following the completion of a seismic study of the City’s water system in 2008, the Department of Water &amp; Wastewater Resources completed seismic upgrades to Reservoir 3 and continues to work on a long range seismic improvement program, including completion of other identified seismic upgrades to city reservoirs scheduled over the next five years.</p> <p><b>Comment:</b> Hydraulic analysis is being done to determine the need for Reservoir 3. This is anticipated to be complete in 2021 along with the Water Distribution System Master Plan. Since the last Local Hazard Mitigation Plan update seismic repairs were done to Reservoir 5 and Reservoir 1. This initiative is addressed on an ongoing basis in the Water Department’s Capital Improvement Program.</p>	✓			
<p><b>Action #DC -2,</b> Funding for design/construction of storm drainage projects. The Department of Water &amp; Wastewater Resources is continuing work on a comprehensive plan to identify storm drainage solutions in the Vista Grande Drainage Basin and completed repairs estimated at nearly \$3 million made to strengthen the Fort Funston Sewer Outfall and Force Main. A joint NEPA/CEQA Draft EIR was publicly released 04/29/16 on the project options associated with the Vista Grande Drainage Basin Improvement Project with comments due 07/01/16. Funding for this anticipated \$100 million improvement project has yet to be secured, and some funding is anticipated to be derived from the North San Mateo County Sanitation District, a subsidiary district of Daly City. It is anticipated that this project will rectify the issues associated with identified severe repetitive loss property located in unincorporated San Mateo County.</p> <p><b>Comment:</b> Vista Grande Drainage Basin Improvement Project has met many milestones since the creation of the Local Hazard Mitigation Plan. The EIR and CEQA documents are complete, the 100% design is complete, and multiple permits are either close to completion or are complete. Staff is securing funding for the approximately \$120 million project through a Water Infrastructure Funding and Innovation Act loan and a California Clean Water State Revolving Fund loan. It is anticipated the Project will go out to bid in September of 2021, a Notice to Proceed issued in April 2022, and a construction start date in May 2022.</p>	✓			
<p><b>Action #DC-3,</b> Adoption of retrofit standards for single-family homes. Whenever a new living space is created at the garage area or basement of an existing “Single Family Residential Building,” wall bracing is required to strengthen the basement walls to resist horizontal loads.</p> <p><b>Comment:</b> Ongoing project – no longer necessary for HMP Inclusion</p>		✓		
<p><b>Action #DC-4,</b> Plan development for short-term sheltering of residents. Work with Red Cross on the sheltering of residents in the community. Shelter training for P &amp; R staff and CERT members. Develop a formal shelter plan document identifying facilities that can be used, accessibility, showers, number of people that can be housed there, etc.</p> <p><b>Comment:</b> Plan still needs to be developed.- more of a response and recovery item not necessary for HMP</p>		✓		
<p><b>Action #DC-5,</b> Designate a back-up Emergency Operations Center. The current back up EOC requires additional equipment/supplies, including redundant communications to ensure operational readiness if needed.</p> <p><b>Comment:</b> Completed 2020.</p>	✓			

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action #DC-6</b>, Water distribution coordination between agencies. One specific issue that will be addressed is the future coordination with the Department of Water &amp; Wastewater Resources in training and exercising of alternative water distribution methods including (but not limited to) the use of portable pumps, Hose Tenders, etc.</p> <p><b>Comment:</b> New water distribution system interconnection constructed with neighboring agency North Coast County Water District at their Christen Hill Tank. Training and testing of this new interconnection and the existing interconnections take place on a regular basis.</p>	✓			
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> No updates.</p>			✓	DCY-1
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as Tree City and StormReady.</p> <p><b>Comment:</b> In 2016, Daly City launched Project Green Space, an urban forestry program to mitigate stormwater and climate change. Over 750 citizen volunteers have grown the urban forest by 10% with over 800 trees planted, 11 rain gardens installed and a California-native mini park. Project Green Space has partnered with over 20 community organizations and schools and recently participated in the California Initiative to Reduce Carbon and Limit Emissions (CIRCLE 3.0).</p>			✓	DCY-18
<p><b>Action G-3</b>—Continue to maintain the minimum National Flood Insurance Program participation requirement for communities with no mapped Special Flood Hazard Area.</p> <p><b>Comment:</b> Ongoing.</p>			✓	DCY-4
<p><b>Action G-5</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Ongoing.</p>			✓	DCY-2
<p><b>Action G-6</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> No updates – no longer feasible</p>		✓		
<p><b>Action G-7</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing.</p>			✓	DCY-17
<p><b>Action G-8</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing.</p>			✓	DCY-3

## 7.8 HAZARD MITIGATION ACTION PLAN

Table 7-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 7-15 identifies the priority for each action. Table 7-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 7-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action # DCY-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Earthquake, landslide, severe weather, flooding, wildfire, sea Level Rise						
Existing	1, 2, 3, 6, 13, 14,	City of Daly City (DCY)	NA	High	Grant funding FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action # DCY-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Daly City General Plan.						
<i>Hazards Mitigated:</i> Earthquake, landslide, drought, severe weather, flooding, wildfire, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14	DCY		Low	Staff Time, General Funds	Ongoing
<b>Action # DCY-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, landslide, severe weather, drought, wildfire, climate change, flooding, tsunami, dam failure, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	DCY	Participating jurisdictions	Low	Staff Time, General Funds	Short-term
<b>Action # DCY-4</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<i>Hazards Mitigated:</i> Flooding, severe weather						
New & Existing	4, 5, 6, 7, 8, 9, 10, 14	DCY		Low	Staff Time, General Funds	Ongoing
<b>Action # DCY-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change.						
<i>Hazards Mitigated:</i> Climate change, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14	DCY		Low	Staff Time, General Funds	Short-term
<b>Action # DC-6</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power.						
<i>Hazards Mitigated:</i> Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire						
New & Existing	4, 8, 9,	DCY / North San Mateo County Sanitation District (Westborough Water District)	N/A	Low	Water and Sanitation Funds	Short term
<b>Action # DCY-7</b> — Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Flooding, severe weather, drought, wildfire, earthquake, Sea Level Rise						
New & Existing	2, 4, 6, 7, 9,10	DCY		Low	Staff time, grant funding-FEMA Public Assistance post event	short term
<b>Action # DCY-8</b> — Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.						
<i>Hazards Mitigated:</i> Climate change, severe weather, flooding, Sea Level Rise						
	1, 2, 4, 5, 6, 7, 10, 12, 13	DCY	San Mateo County	Medium	Staff time	Long term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action # DCY-9</b> — Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including pump stations, generators, tide gates, stream gates, open channel and culvert/pipeline infrastructure.						
<u>Hazards Mitigated:</u> Flooding, drought, climate change, earthquake, wildfire						
Existing	1, 2, 6, 7, 8, 12, 13	DCY/ North San Mateo County Sanitation District	NA	Medium	General/Water/ Sanitation Funds	Ongoing
<b>Action # DCY-10</b> —Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.						
<u>Hazards Mitigated:</u> Climate change, drought, Sea Level Rise						
	1, 4, 5, 6, 9, 12, 13, 14	DCY		Low	General funds	Short term
<b>Action # DCY-11</b> —Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to SM Flood & Seal Level Rise Dist. Flood Zone channels and infrastructure.						
<u>Hazards Mitigated:</u> Flooding, climate change, landslide, drought						
New & existing	1, 6, 8, 9, 10, 14	DCY	SM Flood & Sea Level Rise District	High	Grant funding	Long Term
<b>Action # DCY-12</b> —Plan, design, and implement long-term resilience to sea level rise, extreme storms, and coastal erosion for culverts, roadways, and bridges in the vicinity of other flood protection projects, including assets identified in the Caltrans District 4 Adaptation Priorities Report.						
<u>Hazards Mitigated:</u> Flooding, climate change, drought, severe weather, tsunami						
New & existing	1, 6, 8, 9, 10, 14	DCY	SM Flood & Sea Level Rise District	High	Grant funding FEMA HMA (BRIC, FMA and HMGP)	Long term
<b>Action # DCY-13</b> —Develop Emergency Action Plans for Navigable Slough, Colma Creek, and San Bruno Creek						
<u>Hazards Mitigated:</u> Flooding, Severe Weather, Drought, Sea Level Rise						
Enter Response	1, 6, 8, 9, 10, 14	DCY	SM Flood & Sea Level Rise District	Medium	Staff time or grant funding-EMPG and HSGP	Long term
<b>Action # DCY-14</b> —Advance long-term resilience to sea level rise and extreme storms for the communities and critical assets adjacent to Colma Creek, San Bruno Creek, Navigable Slough, and nearby areas of the shoreline, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<u>Hazards Mitigated:</u> Climate change, tsunami, drought, severe weather, flooding, Sea level Rise						
New & existing	1, 6, 8, 9, 10, 14	DCY	SM Flood & Sea Level Rise District	High	Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Long Term
<b>Action # DCY-15</b> —Complete permitting and construction of the Vista Grande Drainage Basin Improvement Project, which will address storm-related flooding in the Vista Grande Drainage Basin while providing the additional benefit of augmenting the water level of Lake Merced.						
<u>Hazards Mitigated:</u> Flooding, severe weather, Sea Level Rise						
New and Existing	1, 6, 8, 9, 10, 14	DCY/ North San Mateo County Sanitation District	San Francisco/ County of San Mateo/Caltrans	High	Daly City General/ Water/ Sanitation Funds –Grant Funds	Long term
<b>Action # DCY-16</b> —Advance long-term resilience to sea level rise, extreme storms, and coastal erosion in the Mussel Rock area, including the adjacent landfill, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<u>Hazards Mitigated:</u> Climate change, tsunami, drought, severe weather, flooding, Sea Level Rise						
New & existing	1, 6, 8, 9, 10, 14	DCY	SM Flood & Sea Level Rise District	High	Grant funding FEMA HMA (BRIC, FMA and HMGP)	Long term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action # DCY-17</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Flooding, severe weather, drought, wildfire, earthquake, tsunami, dam failure, climate change, landslide, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	DCY	San Mateo Co	Low	Staff time	Short term
<b>Action # DCY-18</b> — Consider participation in incentive-based programs such as Tree City and StormReady.						
<i>Hazards Mitigated:</i> Flooding, severe weather, climate change						
New & Existing	1, 2, 3, 4, 5, 7, 8, 9, 14	DCY	San Mateo Co	Low	Staff time	Short term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 7-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	6	High	High	Yes	Yes	No	Medium	High	High
2	12	Medium	Low	Yes	No	Yes	High	Low	Medium
3	14	High	Low	Yes	No	Yes	High	Low	High
4	8	Medium	Low	Yes	No	Yes	High	Low	Low
5	11	Medium	Low	Yes	No	Yes	High	Low	Low
6	3	High	Low	Yes	No	No	Medium	Low	Low
7	6	Medium	Low	Yes	Yes	Yes	Medium	Medium	Low
8	9	Medium	Medium	Yes	No	Yes	Medium	Low	Low
9	7	Medium	Medium	Yes	No	Yes	Medium	Low	Medium
10	8	Low	Low	Yes	No	Yes	Low	Low	Low
11	6	High	High	Yes	Yes	No	Medium	Medium	Medium
12	6	High	High	Yes	Yes	No	Medium	Medium	Medium
13	6	Medium	Medium	Yes	Yes	Yes	Medium	Medium	Medium
14	6	High	High	Yes	Yes	No	Medium	Medium	Medium
15	6	High	High	Yes	Yes	No	Medium	Medium	Medium
16	6	High	High	Yes	Yes	No	Medium	Medium	Medium
17	14	High	Low	Yes	No	Yes	High	Low	High
18	9	Medium	Low	Yes	No	Yes	High	Low	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 7-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	2	1,3	10,17	5,8	1, 6, 7,9	1,11	5, 8, 10	2
Landslide	2	1,3	10,17	5,8	1, 6, 7,9	1,11	5, 8, 10, 11	2
Drought	2	3	10,17	4, 5, 8, 2, 13, 14, 15, 16		9	5, 8, 10, 11, 12, 13, 14, 15, 16	2
<b>Medium-Risk Hazards</b>								
Wildfire	2	1,3	10,17	5,8	1, 6, 7	1,9	5, 8, 10	2
Sea Level Rise / Climate Change	2	3,17	10,17	5, 8, 2, 13, 14, 15, 16			5, 8, 10, 11	2, 18
Severe Weather	2	1, 3, 17	10,17	4, 5, 8, 2, 13, 14, 15, 16	1, 6, 7	1, 9, 11, 12, 13, 14, 15, 16	5, 8, 10, 12, 13, 14, 15, 16	2, 18
Flooding	2	1, 3, 17	10,17	4, 5, 8, 2, 13, 14, 15, 16	1, 6, 7	1, 9, 11, 12, 13, 14, 15, 16	5, 8, 10, 11, 12, 13, 14, 15, 16	2, 18
<b>Low-Risk Hazards</b>								
Dam Failure		3,17	17		6,7			
Tsunami		3,17	17		6,7	9		

a. See the introduction to this volume for explanation of mitigation types.

## 7.9 PUBLIC OUTREACH

Table 7-17 lists public outreach activities for this jurisdiction.

**Table 7-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
City Website	2021	unknown
Social Media – Facebook, Twitter, Instagram	2021	unknown
Various community groups	2021	unknown

## 7.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed for this annex.

- **Daly City Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **2016 SM County Multijurisdictional HMP** – review previous action items
- **Daly City** – various city plans

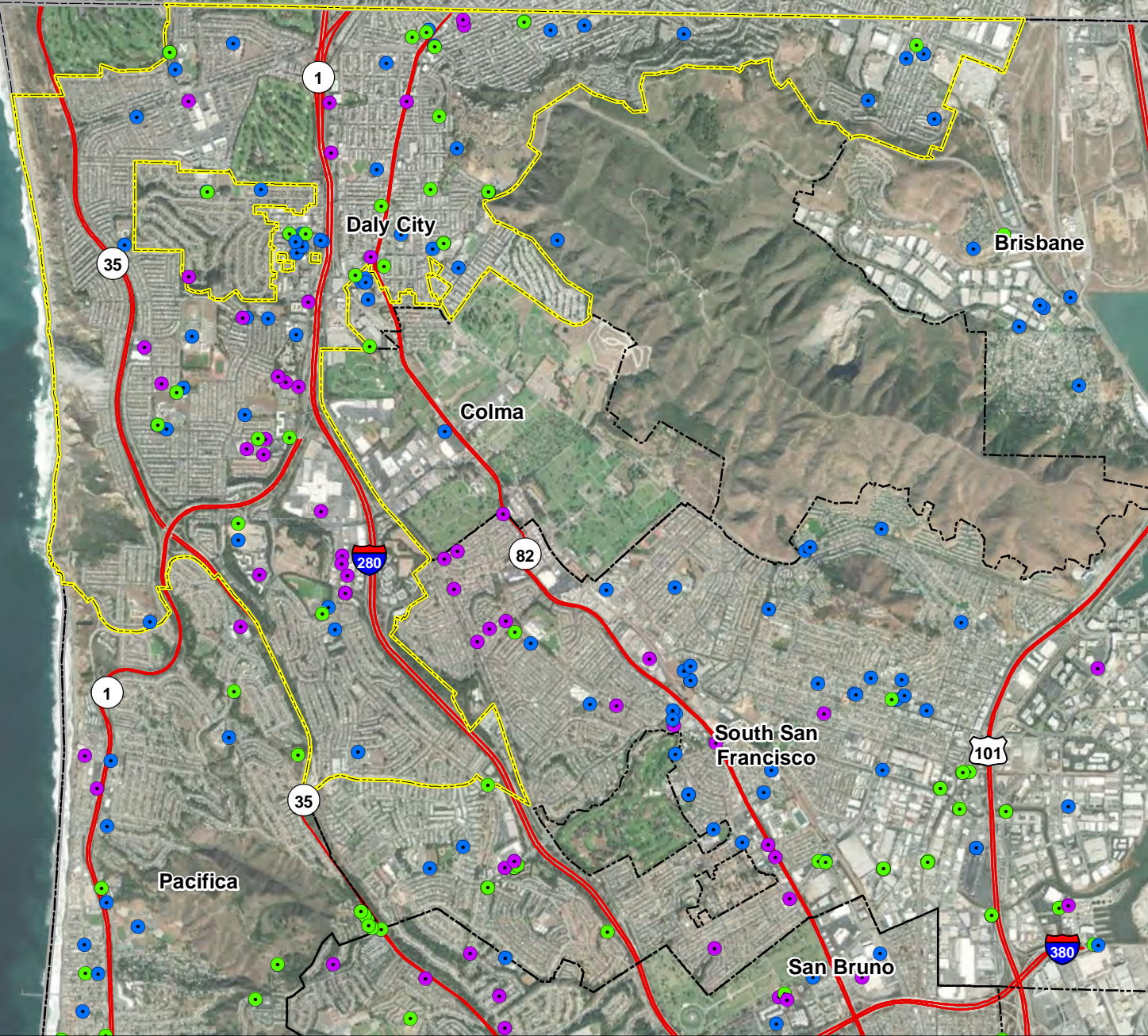
The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used for the identification of past hazard events and vulnerabilities, the risk ranking, and the development of the mitigation action plan.



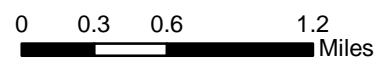
# Daly City

## Critical Facilities, 1 of 2



- Food, Water, Shelter
- Health and Medical
- Safety and Security
- Selected City
- Incorporated Cities
- County Boundary
- Highways

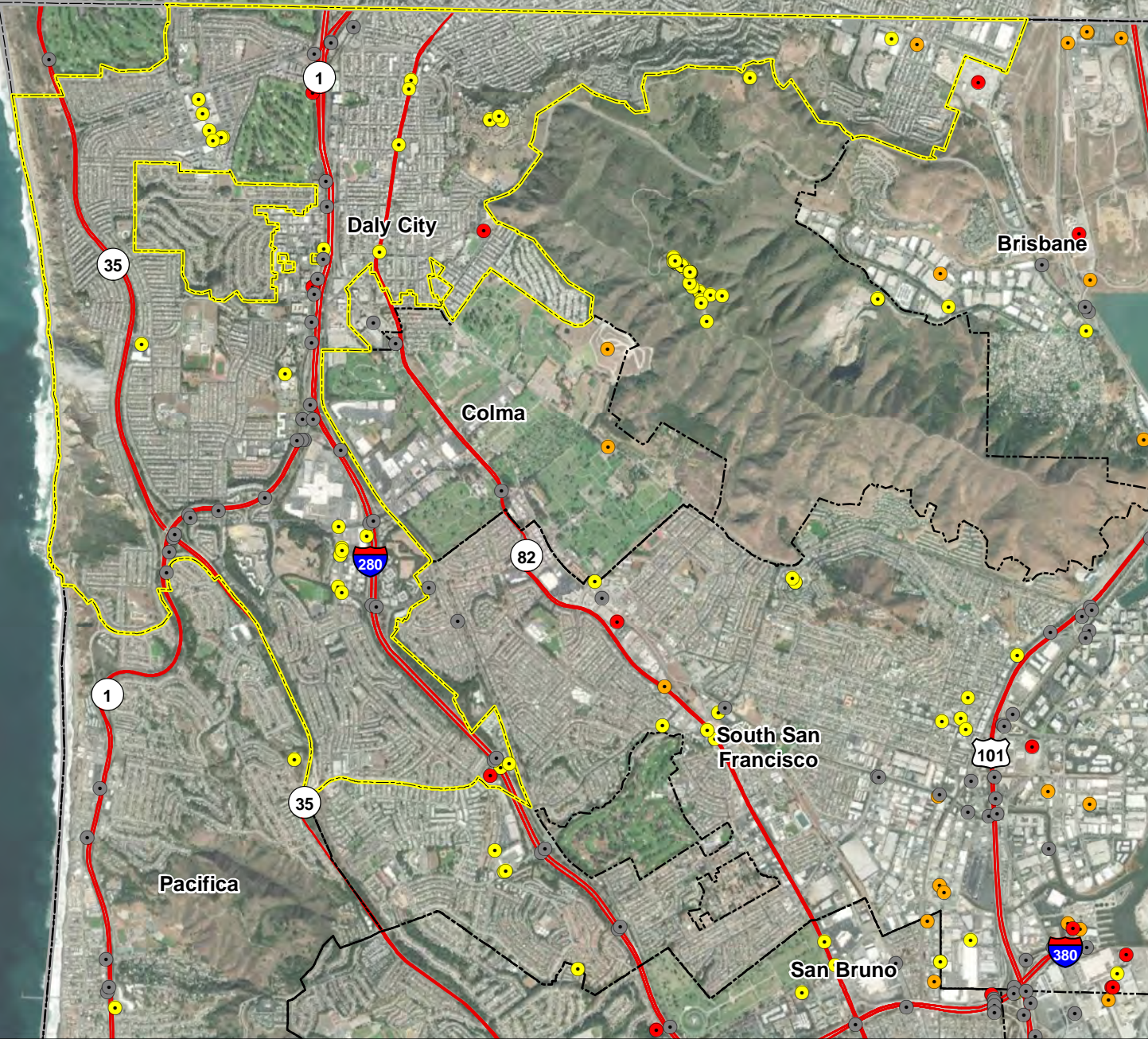
Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD





# Daly City

## Critical Facilities, 2 of 2



- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.3 0.6 1.2 Miles



# Daly City

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










0 0.3 0.6 1.2  
Miles





# Daly City

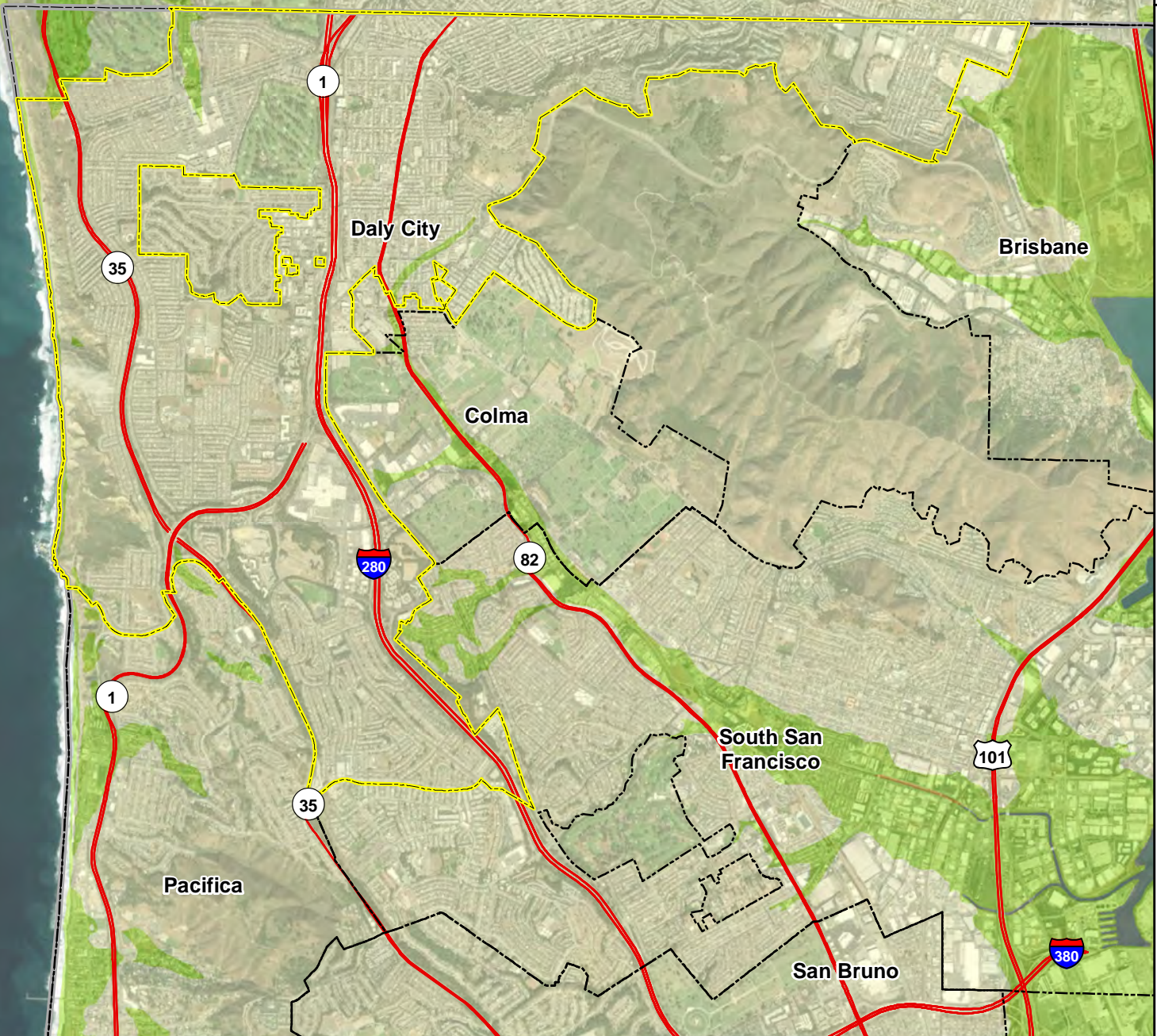
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.3 0.6 1.2  
Miles





# Daly City

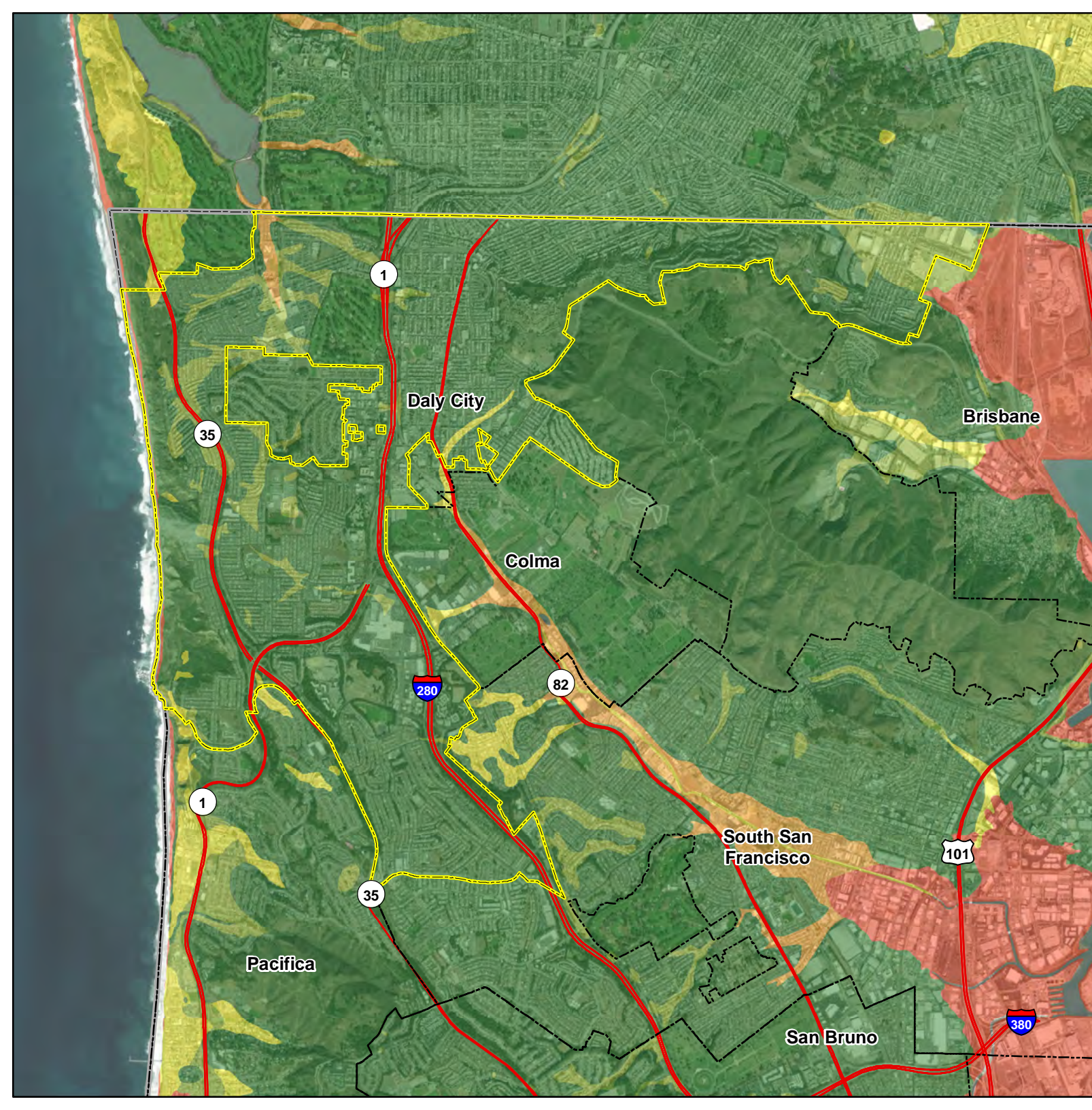
## Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)



0 0.3 0.6 1.2 Miles





# Daly City

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

 V (Moderate/Very Light)

 VI (Strong/Light)

 Selected City

 Incorporated Cities


 County Boundary

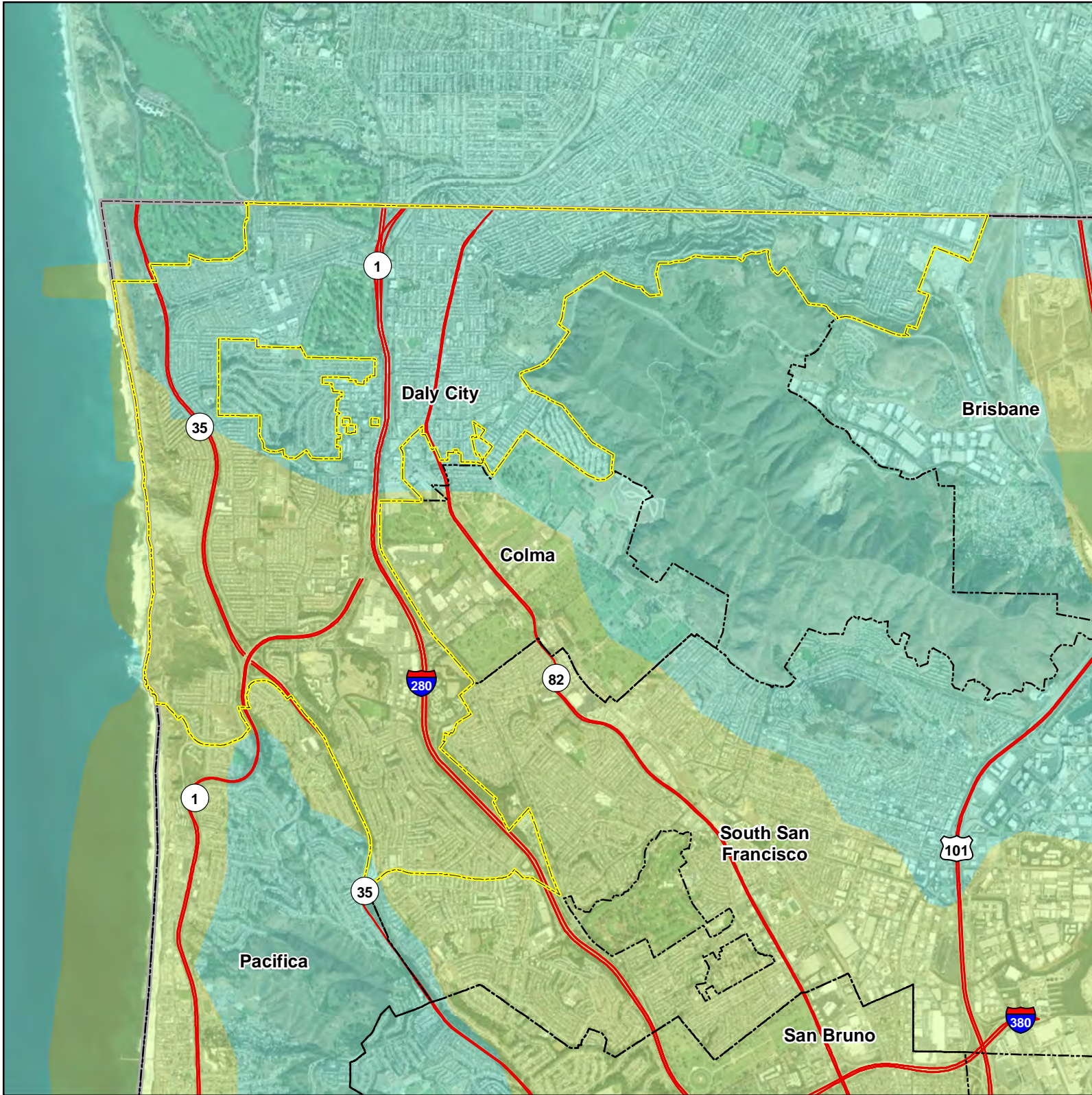
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.3 0.6 1.2  
 Miles





# Daly City

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

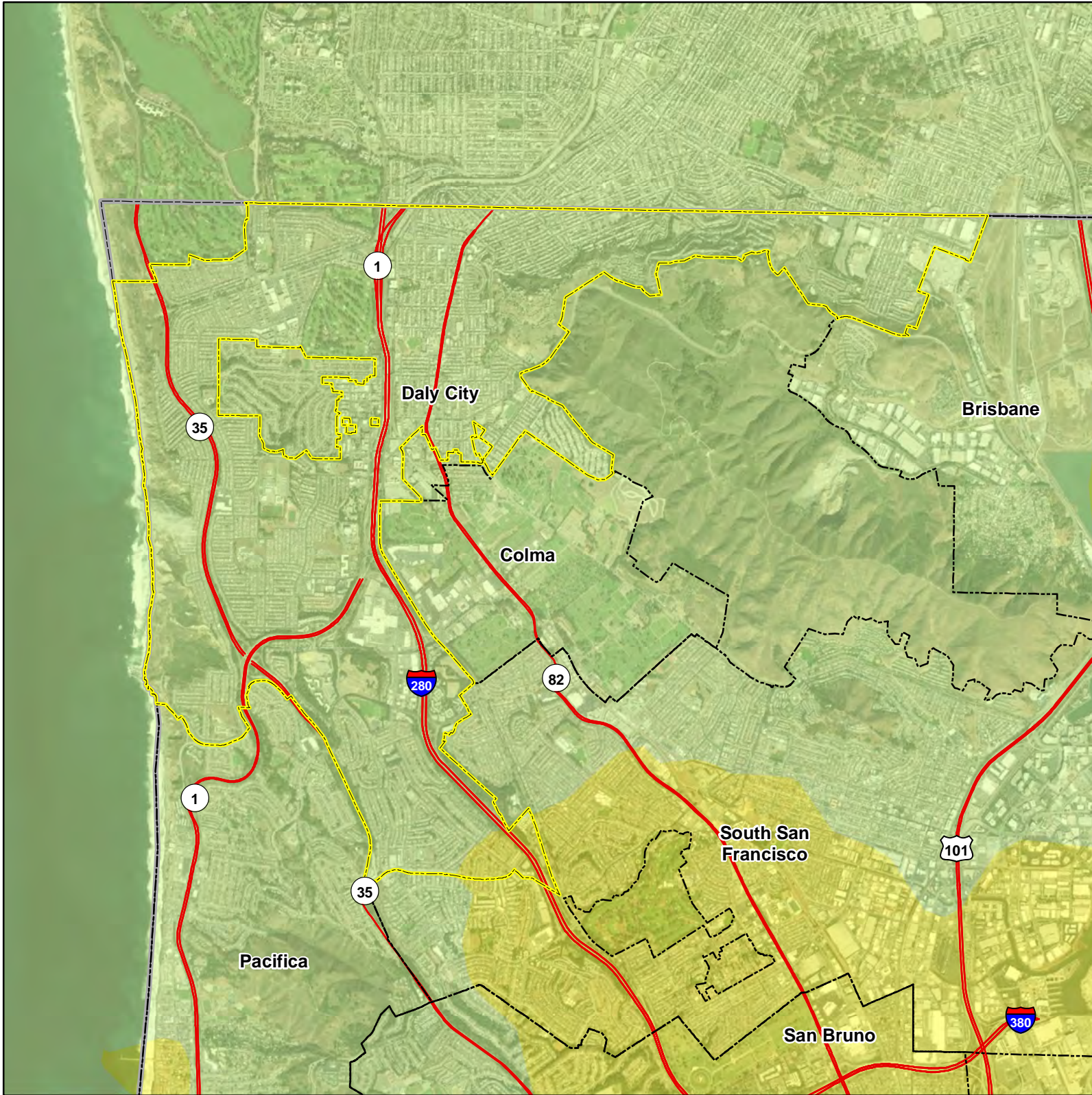
- VI (Strong/Light)
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.3 0.6 1.2  
Miles





# Daly City

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities


 County Boundary

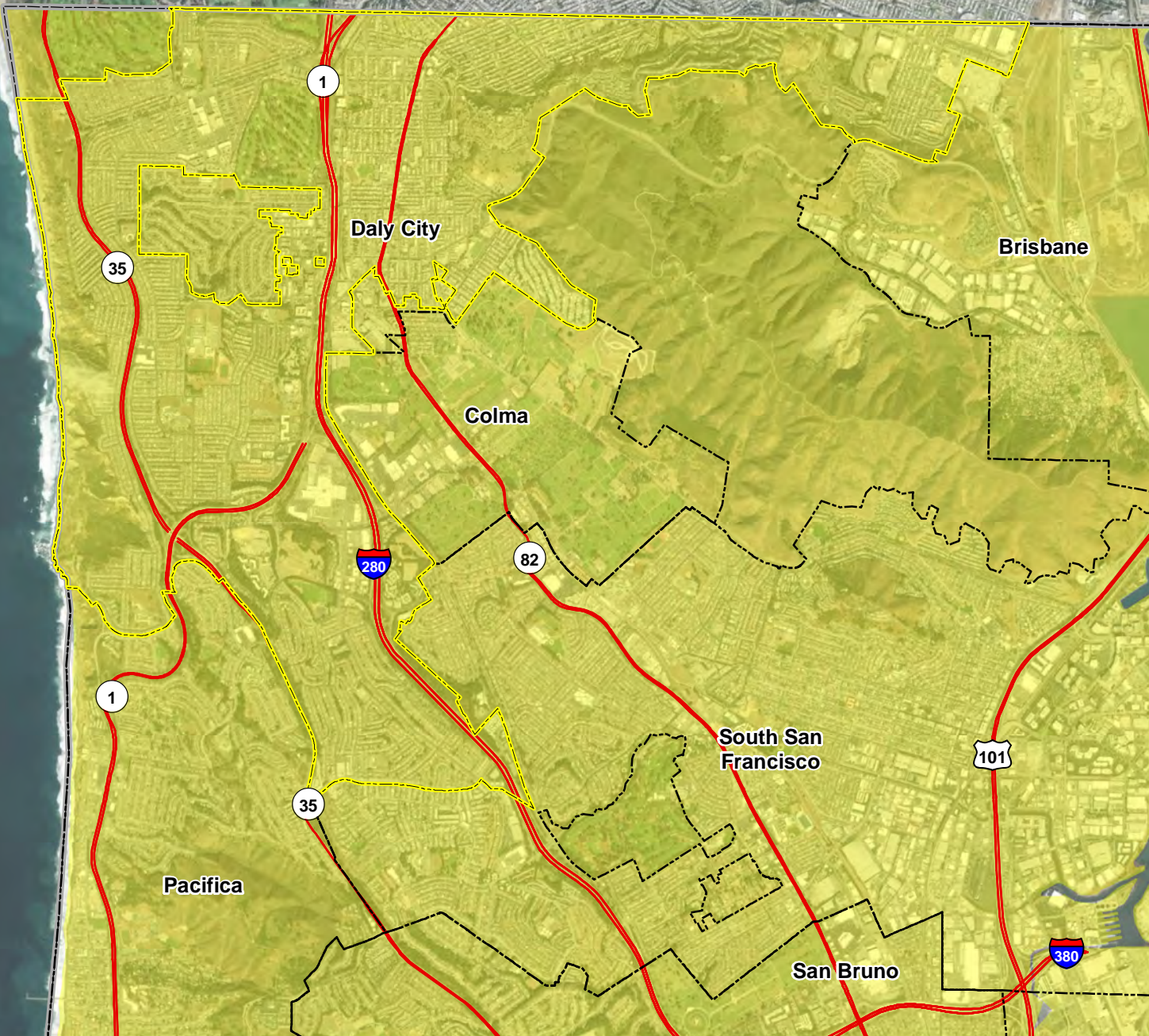
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.3 0.6 1.2  
 Miles











# Daly City

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

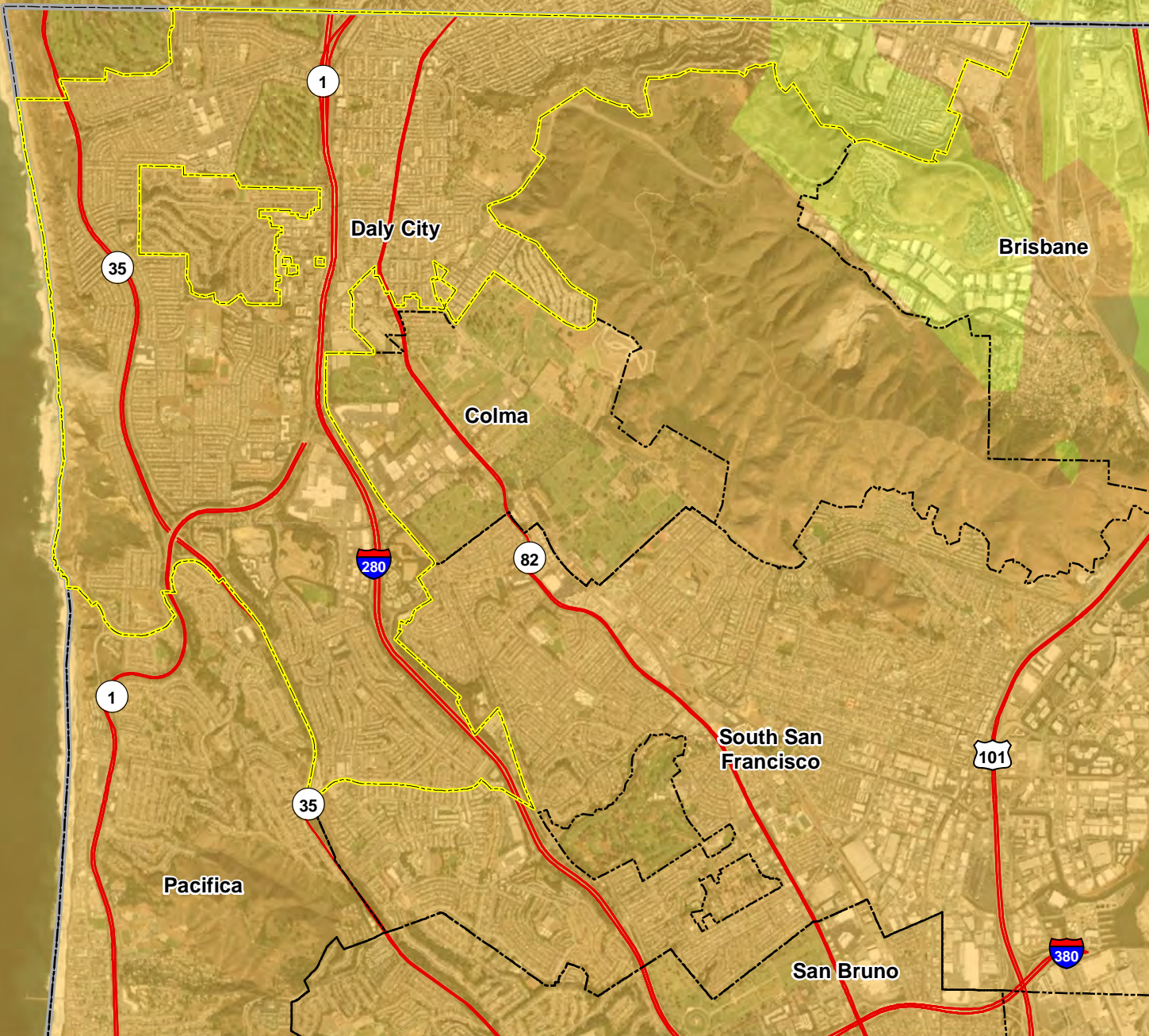
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.3 0.6 1.2  
Miles











# Daly City

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

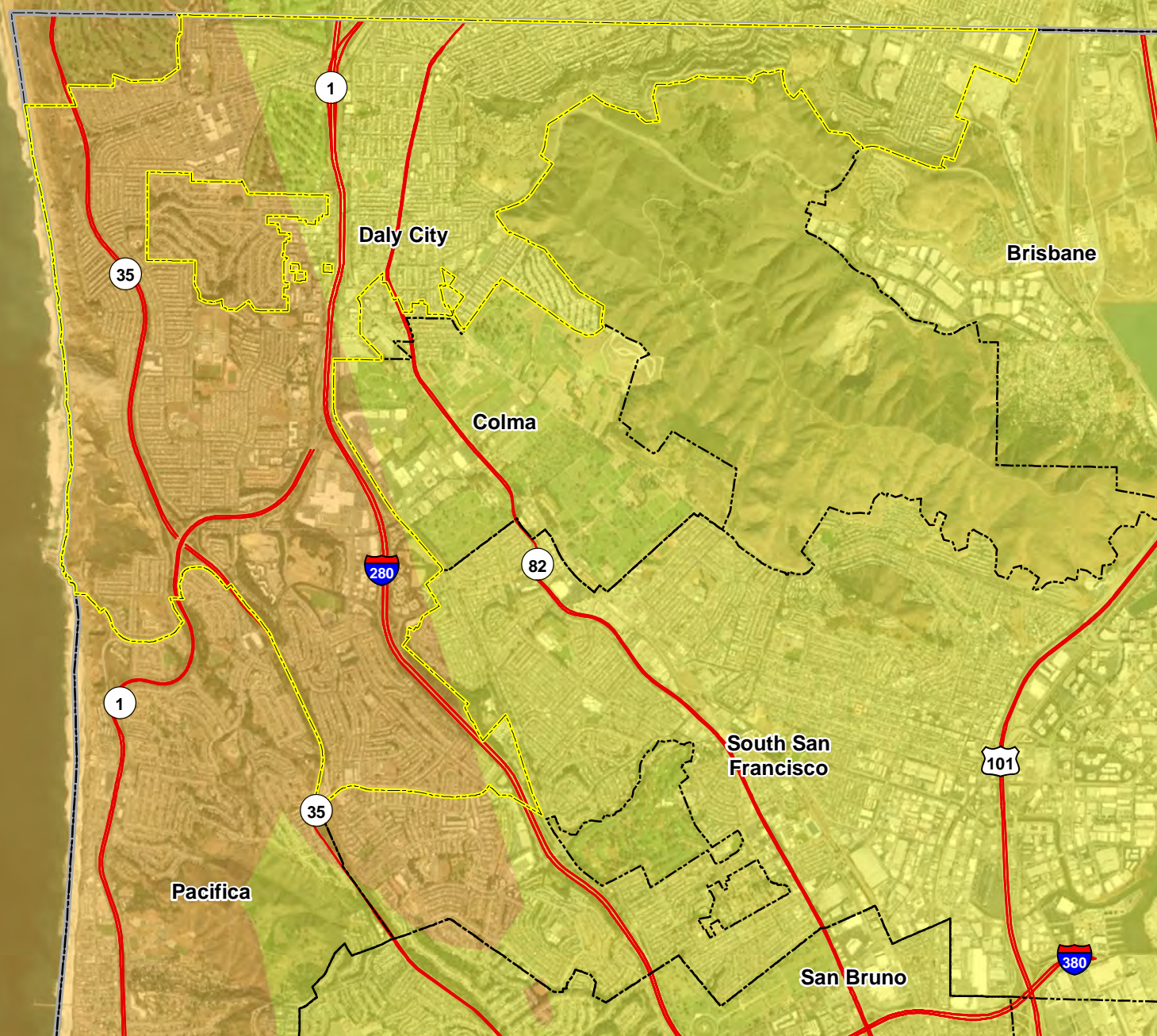
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.3 0.6 1.2  
Miles





# Daly City

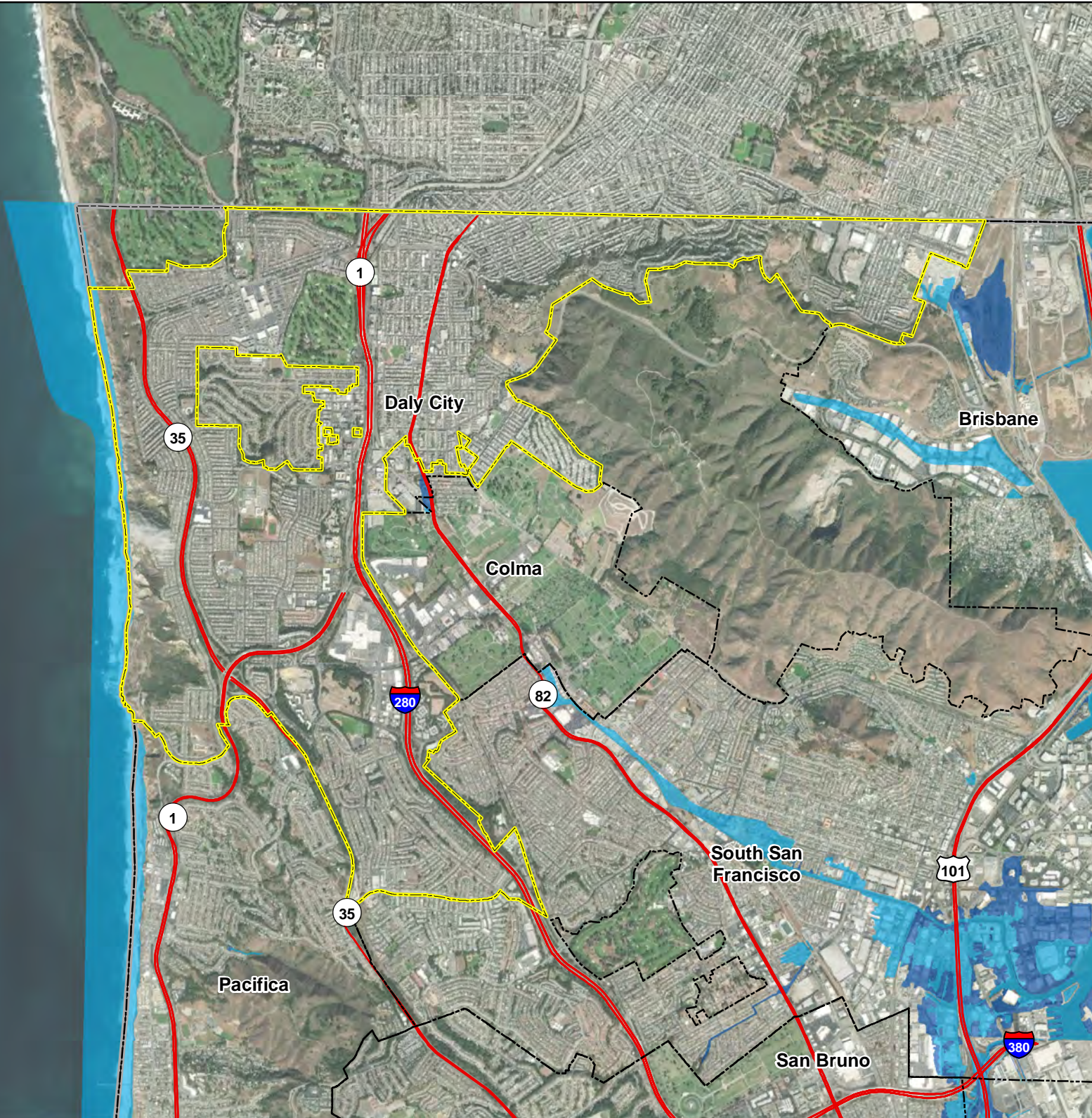
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.3 0.6 1.2 Miles





# Daly City

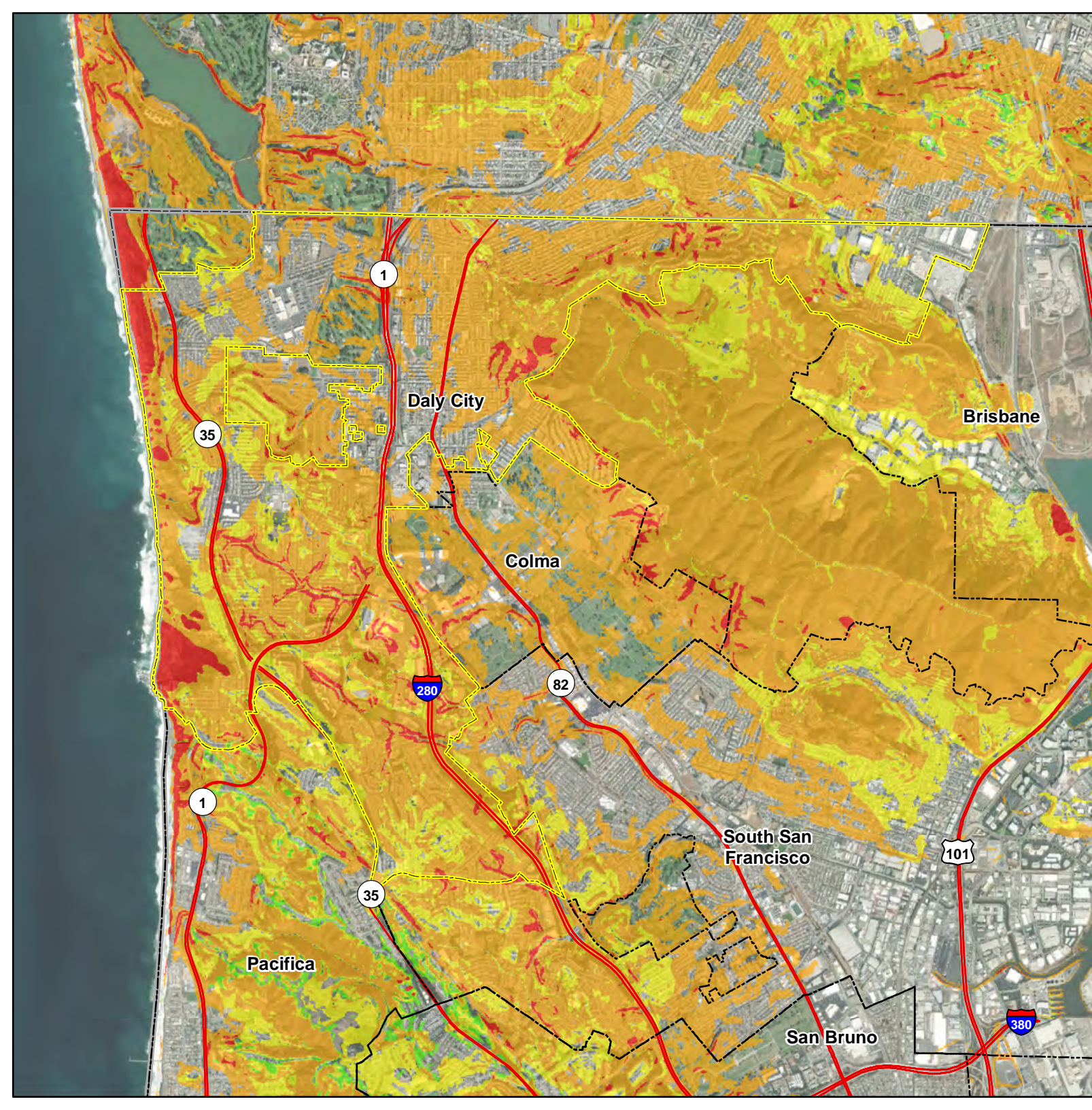
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








0 0.3 0.6 1.2  
Miles





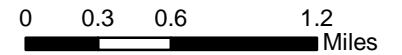
# Daly City

## Sea Level Rise

-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.






Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF





# Daly City

## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.3 0.6 1.2  
Miles





# Daly City

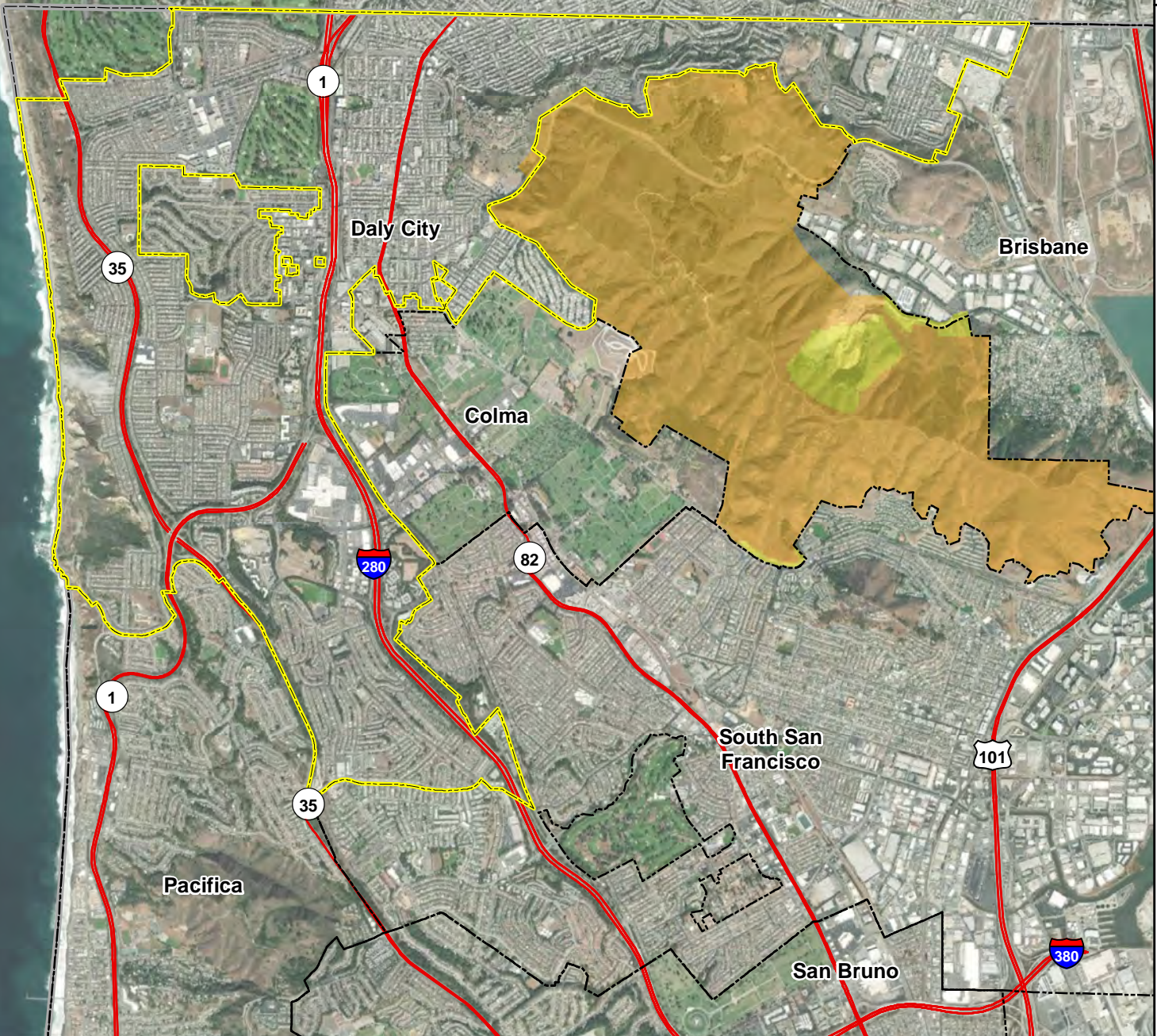
## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.3 0.6 1.2 Miles





## 8. CITY OF EAST PALO ALTO

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### 8.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Daniel Berumen, Senior Planner  
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#### Alternate Point of Contact

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This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 8-1.

**Table 8-1. Local Mitigation Planning Team Members**

Name	Title
Daniel Berumen	Senior Planner
Elizabeth Lam	Community Service Officer
Humza Javed	City Engineer
Amy Chen	Community and Economic Development Director
Kamal Fallaha	Public Works Director
Elena Lee	Planning Manager
Janet Nunez	Building Permit Technician

### 8.2 JURISDICTION PROFILE

#### 8.2.1 Location and Features

The City of East Palo Alto is a community located in Silicon Valley at the southernmost edge of San Mateo County. The city is approximately 2.6 square miles in size. The city currently employs 105 people. The city is surrounded by the City of Menlo Park to the north and to the west, the City of Palo Alto to the south, and San Francisco Bay to the east.

The City of East Palo Alto has a Mediterranean Climate with cool, wet winters and warm, dry summers. The average annual precipitation is around 16 inches per year.

## 8.2.2 History

East Palo Alto was incorporated on July 1, 1983. The area that is now East Palo Alto has supported human settlement for over two millennia. Various tribes of Costanoan Native Americans, also known as the Ohlone, were the first known human inhabitants in the San Francisco Bay Area. The first European settlers in the area were Spanish ranchers and Gold Rush enriched land speculators. In 1849, a wharf was built at the foot of Bay Road – then just an unimproved dirt cart road – and the community of “Ravenswood” grew around it. The community was primarily agricultural in nature but there was also some shipping activity through the wharf, largely related to the bricks produced at a local factory. The area remained generally in agricultural use through the rest of the 19th century.

The development of East Palo Alto into primarily a residential suburban community began after World War II. Housing tract developers acquired larger tracts from nearby farms along with some of the colony lots and began subdividing them into much smaller, densely populated residential parcels. African American migrants first arrived in East Palo Alto around the end of World War II. Most of these Southern migrants moved in to take advantage of low cost housing and because, unlike surrounding peninsula communities, the area had few restrictive housing covenants. By the 1960s jobs and the possibility for higher education brought a second wave of African American settlers.

As the high-tech industry in Silicon Valley enjoyed an economic boom in the 1980s and 1990s, East Palo Alto was one of the most affordable places to live as property values in nearby communities skyrocketed. The city’s prime location near Highway 101 and the Dumbarton Bridge, combined with affordable housing rates, attracted a very diverse population to the growing community. Today, Hispanic, African American, and Pacific Islander residents represent the largest ethnic groups in East Palo Alto, making it one of the most multicultural and multilingual communities in the San Francisco Bay Area.

## 8.2.3 Governing Body Format

A General Law City with a Council Manager form of government and as a municipal corporation, the City of East Palo Alto establishes its own zoning and land use regulations.

The Planning Commission will make a recommendation to City Council to adopt the Hazard Mitigation Plan and direct the City Manager to direct staff to implement the plan.

## 8.3 CURRENT TRENDS

### 8.3.1 Population

According to the California Department of Finance, the population of East Palo Alto as of January 2020 was 30,794. Since 2016, the population has grown at an average annual rate of 0.2 percent.

### 8.3.2 Development

The City of East Palo Alto has been experiencing a steady amount of growth since the adoption of the previous hazard mitigation plan. There has been a significant push for more housing with projects like rehabilitation of Light Tree Apartments, Serenity Senior Apartments on University Avenue, and the 965 Weeks Street affordable housing development that were entitled within the past 5 years. Proposals for office developments have also



increased. Projects like the Sobrato Phase I and II project on University Avenue were either built or entitled. Major activity is occurring in the Ravenswood / 4 Corners Specific Plan area of the city with multiple multi-family residential, office, and mixed-use projects being proposed.

Table 8-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 8-2. Recent and Expected Future Development Trends**

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No					
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No					
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes The Ravenswood/4 Corners TOD Specific Plan Area. A portion of this area is in the designated Special Flood Hazard Area.					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2016	2017	2018	2019	2020
	Single Family	1	1	0	4	4
	Multi-Family	0	0	0	0	2
	Other (commercial, mixed use, etc.)	0	0	2	2	0
	<b>Total</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>6</b>
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 4</li> <li>• Landslide: N/A</li> <li>• High Liquefaction Areas: N/A</li> <li>• Tsunami Inundation Area: N/A</li> <li>• Wildfire Risk Areas: N/A</li> </ul>					
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	The City is currently experiencing a high amount of development permit applications. There are a number of proposed commercial building, mixed-use, and residential projects that are under review by the Planning Division. A majority of the activity is occurring in the Ravenswood Business District.					

## 8.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning. This section summarizes the following findings of the assessment:

- An assessment of planning and regulatory capabilities is presented in Table 8-3.
- Development and permitting capabilities are presented in Table 8-4.
- An assessment of fiscal capabilities is presented in Table 8-5.

- An assessment of administrative and technical capabilities is presented in Table 8-6.
- An assessment of education and outreach capabilities is presented in Table 8-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 8-8.
- Classifications under various community mitigation programs are presented in Table 8-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 8-10.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions.

**Table 8-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b> <i>Comment: CBC 2019</i>	Yes	No	Yes	No
<b>Zoning Code</b> <i>Comment: EPA Development Code, adopted 2018</i>	Yes	No	No	No
<b>Subdivisions</b> <i>Comment: EPA Development Code, Article 5, adopted 2018</i>	Yes	No	Yes	No
<b>Stormwater Management</b> <i>Comment: Chapter 13.12 adopted in November 19, 2013</i>	Yes	No	Yes	No
<b>Post-Disaster Recovery</b> <i>Comment: Emergency Management Plan adopted in April 2011</i>	Yes	No	Yes	No
<b>Real Estate Disclosure</b> <i>Comment: CA. State Civil Code 1102 requires full disclosure on natural hazard exposure of the sale/re-sale of any and all real property.</i>	Yes	No	Yes	No
<b>Growth Management</b> <i>Comment: Vista 2035 General Plan, Ravenswood/ 4 Corners TOD Specific Plan adopted in 2012.</i>	Yes	No	No	No
<b>Site Plan Review</b> <i>Comment: EPA Development Code, Article 2, adopted 2018</i>	Yes	No	Yes	No
<b>Environmental Protection</b> <i>Comment: Title 17, adopted in November 19, 2013</i>	Yes	No	Yes	No
<b>Flood Damage Prevention</b> <i>Comment: Muni Code Chapter 15.52, adopted in November 19, 2013</i>	Yes	No	Yes	No
<b>Emergency Management</b> <i>Comment: Multi Aid Agreements with the County, Police Department, Public Works, Building Division</i>	Yes	No	Yes	Yes
<b>Climate Change</b> <i>Comment: Vista 2035 General Plan adopted 2016</i>	Yes	No	Yes	No
<b>Other</b> <i>Comment: Chapter 8.12 (Environmental Health), Chapter 8.16 (Fire Code and Prevention), Chapter 8.44 (Individual Sewage Disposal Systems), Chapter 13.08 (Sanitary Sewers), Chapter 15.44 (Backflow Prevention)</i>	Yes	No	No	No



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
<b>General Plan</b> <i>Is the plan compliant with Assembly Bill 2140? Yes</i> <i>Comment: Last updated in 2016</i>	Yes	No	Yes	No
<b>Capital Improvement Plan</b> <i>How often is the plan updated? Every 2 years</i> <i>Comment: Currently being updated by the Public Works Division</i>	Yes	No	Yes	No
<b>Disaster Debris Management Plan</b> <i>Comment: Countywide planning process – expected plan in 2022</i>	Yes	Yes	Yes	Yes
<b>Floodplain or Watershed Plan</b> <i>Comment: San Francisquito Creek Joint Powers Authority, City of East Palo Alto Storm Drain Master Plan</i>	Yes	Yes	Yes	No
<b>Stormwater Plan</b> <i>Comment: Storm Drain Master Plan (City of East Palo Alto website), adopted October 23, 2012</i>	Yes	No	Yes	No
<b>Urban Water Management Plan</b> <i>Comment: Currently being updated, to be adopted end June</i>	Yes	Yes	Yes	No
<b>Habitat Conservation Plan</b> <i>Comment: General Plan adopted in 2016</i>	No	Yes	Yes	No
<b>Economic Development Plan</b> <i>Comment: Ravenswood 4/ Corners TOD Specific Plan, adopted in 2012.</i>	Yes	No	Yes	No
<b>Shoreline Management Plan</b> <i>Comment:</i>	No	No	Yes	No
<b>Community Wildfire Protection Plan</b> <i>Comment: Chapter 7a of the Building Code (Wildland Urban Interface) adopted in January 2011</i>	Yes	No	Yes	No
<b>Forest Management Plan</b> <i>Comment:</i>	No	No	Yes	No
<b>Climate Action Plan</b> <i>Comment: Climate Action Plan, adopted in 2014.</i>	Yes	No	No	No
<b>Emergency Operations Plan</b> <i>Comment: Multi Agency Committee (MAC), Public Works Mutual Aid Agreement (adopted 2015), California Building Officials/ OES Mutual Aid Agreement (adopted 2009), California Conservation Corps. (adopted December 2012), updated NIMS program; Emergency Operations Plan, adopted April 2011.</i>	Yes	No	Yes	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment: A threat assessment was conducted when compiling the Emergency Operation Plan (EOP) which was adopted in April 2011. The outcome was published in EOP Volume 1: Threat Summary Assessment</i>	Yes	No	Yes	No
<b>Post-Disaster Recovery Plan</b> <i>Comment: Emergency Operations Plan, Volume 1; Chapter 4: Recovery.</i>	Yes	No	Yes	No
<b>Continuity of Operations Plan</b> <i>Comment: Emergency Operations Plan, Volume 2; page 28, adopted in 2011.</i>	Yes	No	Yes	No
<b>Public Health Plan</b> <i>Comment: Section in 1999 General Plan, MOU with clinic, part of Emergency Plan, COAD of South San Mateo County</i>	Yes	No	No	No
<b>Other</b> <i>Comment: Ravenswood/4 Corners Transit-oriented Development Specific Plan (2012), Bicycle Transportation Plan (2016), Gateway 101 Specific Plan (1993), Water System Master Plan (2010), Updated Urban Water Management Plan (2021)</i>	Yes	Yes	No	No

**Table 8-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Planning Division
Does your jurisdiction have the ability to track permits by hazard area?	Yes, flood zone
Does your jurisdiction have a buildable lands inventory?	Yes

**Table 8-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes (established fee schedule)
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State-Sponsored Grant Programs	Yes, Cal-OES Hazard grants
Development Impact Fees for Homebuyers or Developers	Yes
Other	N/A

**Table 8-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Community and Economic Development Department/ Planning Division/ Engineering Division
Engineers or professionals trained in building or infrastructure construction practices	Yes	Community and Economic Development Department/ Engineering Division
Planners or engineers with an understanding of natural hazards	Yes	Community and Economic Development Department/ Engineering Division
Staff with training in benefit/cost analysis	Yes	Community and Economic Development Department/ Management Analyst
Surveyors	Yes	State Licensed Consultants
Personnel skilled or trained in GIS applications	Yes	Staff, Contract IT
Scientist familiar with natural hazards in local area	Yes	USGS, Cal-Conservation, UC Berkley
Emergency manager	Yes	Administrative Services Director
Grant writers	No	No one on staff
Other	No	N/A



**Table 8-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Cityofepa.org (Flood Preparedness Webpage, Hazard Mitigation Plan link, etc.)
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes East Palo Alto Next Door, Facebook
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes Program for Public Information (PPI) Group
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes COAD of South San Mateo County
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes SMC Alert

**Table 8-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Community and Economic Development/ Planning and Public Works
Who is your floodplain administrator? (department/position)	Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	Yes
What is the date that your flood damage prevention ordinance was last amended?	2018
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Exceeds 18" minimum freeboard requirement
When was the most recent Community Assistance Visit or Community Assistance Contact?	Fall of 2020
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	Yes There may be a transition from Planning to Public Works. City would need a Certified Floodplain Manager (CFM).
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	Yes Yes
How many flood insurance policies are in force in your jurisdiction? <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	830 \$225,732,400 \$1,040,343
How many total loss claims have been filed in your jurisdiction? <i>What were the total payments for losses?</i>	32 \$156,763

a. According to FEMA statistics as of March 31, 2021

**Table 8-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608120956	N/A
DUNS#	Yes	155104870	N/A
Community Rating System	Yes	8	October 8, 2020
Building Code Effectiveness Grading Schedule	Yes	3	2019
Public Protection	Yes	2	2012
Storm Ready (Flood Warning)	Yes	7	1/27/2012
Firewise	Yes	2	2012
Tsunami Ready	No	N/A	N/A

**Table 8-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Ratings
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: The jurisdiction has participated in sea level rise workshops/ assessments</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment: The City is monitoring climate change impacts, but no direct department is designated</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: The City is lacking internal resources at this time</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: This work has not been done, it's project-specific at this time</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: The Ravenswood Business District is an area of the city that is being evaluated through a Specific Plan Update. Climate change impacts are being reviewed.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: Cooling Centers, San Francisquito Creek JPA, Reach Code adoption</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Specific projects are being evaluated and considered for climate change impacts</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Transportation Demand Management Ordinance</i>	Medium
Identified strategies for adaptation to impacts <i>Comment: Energy Reach Code</i>	Medium
Champions for climate action in local government departments <i>Comment: Public Works/ Community and Economic Development</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment: City Council and local support is strong when it comes to climate change adaptation strategies</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Limited financial resources have been allocated for climate change adaptation. Grant funding is needed</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment: Limited authority exists at this time</i>	Low



Criterion	Jurisdiction Ratings
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Local residents have a strong interest and understanding of climate risk.</i>	High
Local residents support of adaptation efforts <i>Comment: City Council and local residents support adaptation efforts but direct programs still need to be implemented</i>	Medium
Local residents' capacity to adapt to climate impacts <i>Comment: Resiliency is a strength of the community, but more attention needs to be placed on countering climate impacts</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment: Local economy needs improvement and will need more time build up adaptation to climate impacts</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment: This is difficult to answer at this time, depends on the scale or range of change</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 8.5 INTEGRATION WITH OTHER PLANNING INITIATIVES

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 8.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- The General Plan 2035 Update fulfills requirements for AB2140. Chapter 10: Safety and Noise, subchapter goal and policies. We have conducted public outreach and have adopted a comprehensive list of codes including Title 24. We also have a collaborative enforcement of CCR Titles 8, 19, 24, and 25. We adopted floodplain and earthquake safety requirements as per the state and national standards.

### 8.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- The city will upgrade the levees and increase partnerships with COAD and the Program for Public Information group. Applying resources to abate the special flood hazard areas of the city. The city will remove any and all impediments of storm water flow in the floodplain. Building, Planning, Public Works, County of San Mateo, and San Francisquito Joint Powers Authority are working on mitigation efforts for sea level rise.
- *Disaster Debris Management Plan* – The City of East Palo Alto is currently working with the San Mateo County Joint Powers Authority and San Mateo County Emergency Manager’s Association on this plan.

- *Comprehensive Emergency Management Plan/ Emergency Management Plan* – The City of East Palo Alto has an Emergency Management Plan on file and currently working to update this plan.

## 8.6 RISK ASSESSMENT

### 8.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 8-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 8-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Severe Storm/ Flooding	N/A	12/10/2016	\$0.00
Severe Storm / Flooding	N/A	December 23, 2012	\$2,627,000
Severe Storm / Flooding	DR-1203	February 9, 1998	\$12,000,000
Severe Storm(s)	DR-1155	January 4, 1997	Unknown
Severe Storm(s)	DR-1046	March 12, 1995	Unknown
Severe Storm(s)	DR-1044	January 10, 1995	Unknown
Earthquake	DR-845	October 18, 1989	Unknown

### 8.6.2 Hazard Risk Ranking

Table 8-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 8-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea Rise Level Rise / Climate Change	63	High
2	Flood	57	High
3	Landslide/Mass Movements	45	High
4	Earthquake	42	High
5	Dam Failure	30	Medium
6	Severe weather	24	Medium
7	Drought	9	Low
8	Tsunami	2	Low
9	Wildfire	0	Low

### 8.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.



## **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: *None*
- Number of FEMA-identified Severe-Repetitive-Loss Properties: *None*
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: *None*

## **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Soft-Story Retrofit
- Concrete Tilt-up Building Seismic Retrofit
- Unreinforced masonry

## **8.7 STATUS OF PREVIOUS PLAN ACTIONS**

Table 8-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 8-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action EPA-1</b> Partner on the new levee project from San Francisquito Joint Powers Authority <b>Comment:</b> Improvements have been made on the levee project in Gardens area of the city in 2018.	√			
<b>Action EPA -2</b> Conduct Water main upgrades and improvements <b>Comment:</b> The Public Works Department is looking to make improvements in the future.			√	EPA-8
<b>Action EPA-3</b> Ensure Potable water access via Pad D and Gloria Way Wells <b>Comment:</b> Gloria Way Well was completed in 2018. Pad D Emergency Water Well went through an environmental impact analysis in December 2020.	√			
<b>Action EPA-4</b> Establish New Water Storage Tanks for Commercial Projects <b>Comment:</b> No action yet, proposed projects are discussing this possibility.			√	EPA-9
<b>Action EPA-5</b> Conduct Storm Drain Improvements <b>Comment:</b> Ongoing efforts with the Public Works Department.			√	EPA-8
<b>Action EPA-6</b> Develop a Soft Story Retrofit Ordinance <b>Comment:</b> No action during this mitigation cycle due to staff turnover.			√	EPA-6
<b>Action EPA-7</b> Develop database for unreinforced masonry <b>Comment:</b> No action during this mitigation cycle due to staff turnover.			√	EPA-6

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action EPA-8</b> Develop a Concrete Tilt-up Building Seismic Retrofit Ordinance <b>Comment:</b> No action during this mitigation cycle due to staff turnover.			✓	EPA-6
<b>Action EPA-9</b> Participate in programs such as Firewise and StormReady. <b>Comment:</b> The city is continuing to work with our CERT partners on Palo Alto and in the Menlo Park Fire district for community outreach programs.			✓	EPA-7
<b>Action G-1</b> —Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses. <b>Comment:</b> No action on this item yet, staff will need to prioritize for next cycle.			✓	EPA-1
<b>Action G-2</b> —Maintain good standing under the National Flood Insurance Program and continue participation in CRS by exceeding the minimum NFIP requirements. <b>Comment:</b> Staff maintains in good standing with CRS, currently a Class 7 rating.			✓	EPA-4
<b>Action G-3</b> —Where feasible, implement a program to record high water marks following high-water events. <b>Comment:</b> Ongoing effort in coordination with the JPA and City of Palo Alto.			✓	EPA-11
<b>Action G-4</b> —Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment. <b>Comment:</b> Ongoing efforts to integrate within the General Plan.			✓	EPA-2
<b>Action G-5</b> —Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting. <b>Comment:</b> No action during this mitigation cycle due to staff turnover.		✓		
<b>Action G-6</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan. <b>Comment:</b> Ongoing through collaborative efforts with San Mateo County.			✓	EPA-3
<b>Action G-7</b> — Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan. <b>Comment:</b> Ongoing through collaborative efforts with San Mateo County.			✓	EPA-3

## 8.8 HAZARD MITIGATION ACTION PLAN

Table 8-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 8-15 identifies the priority for each action. Table 8-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 8-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action EPA-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas. <i>Hazards Mitigated:</i>	Climate Change/Sea Level Rise, Earthquake, Flood, Landslide/ Mass Movements, Severe Weather, Tsunami, Wildfire					
Existing	1, 2, 3, 4, 6, 8, 9	Building Division	County of San Mateo	High	Grant funding FEMA HMA (BRIC, FMA and HMGP)	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action EPA-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including EPA Municipal Code and Capital Improvement Program (CIP)						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Dam Failure, Earthquake, Flooding, Landslide/ Mass Movements, Severe Weather, Drought, Tsunami, Wildfire						
New & Existing	All	Planning Division	Public Works	Low	Staff Time, General Funds	Ongoing
<b>Action EPA-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Dam Failure, Earthquake, Flood, Landslide / Mass Movements, Severe Weather, Drought, Tsunami, Wildfire						
New & Existing	All	Planning Division	Public Works	Low	Staff Time, General Funds	Short-term
<b>Action EPA-4</b> —Continue to maintain good standing and compliance under the NFIP and Community Rating System (CRS) through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Dam Failure, Tsunami						
Existing	1, 2, 3, 5, 8	Planning Division	Public Works	Low	Staff Time, General Funds	Ongoing
<b>Action EPA-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: Sea Level Rise, Flooding, Severe Weather, and Drought						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe weather, Drought						
New & Existing	1, 2, 3, 6,7	Planning Division	Public Works	Low	Staff Time, General Funds	Short-term
<b>Action EPA-6</b> — Develop Soft Story Retrofit and Concrete Tilt-up Building Seismic Retrofit Ordinances as well as developing database for unreinforced masonry.						
<u>Hazards Mitigated:</u> Earthquake, Landslide/ Mass Movements						
Existing	3,4	Building Division	Planning Division	Low	Staff Time	Short-term
<b>Action EPA-7</b> —Participate in programs such as Firewise and StormReady.						
<u>Hazards Mitigated:</u> Flood, Dam Failure, Severe Storm, Wildfire						
Existing	2, 5, 6, 8, 9	Planning Division	Public Works/ Environmental Services	Low	Staff Time, General Funds	Ongoing
<b>Action EPA-8</b> — Conduct Water main upgrades and storm drain improvements						
<u>Hazards Mitigated:</u> Flood, Dam Failure, Severe Storm, Tsunami						
New and Existing	2, 3, 5, 6, 8	Public Works	CEDD	High	Water capital improvement surcharge	Long-term
<b>Action EPA-9</b> —Establish New Water Storage Tanks for Commercial Projects.						
<u>Hazards Mitigated:</u> Drought						
Existing	7	Public Works	Planning	High	Water capital improvement surcharge	Long-term
<b>Action EPA-10</b> — Ensure Potable water access via new emergency well projects.						
<u>Hazards Mitigated:</u> Earthquake, Drought						
Existing	4, 7	Public Works	Planning	High	Water capital improvement surcharge	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action EPA-11</b> — Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> New and Existing	Climate Change/Sea Level Rise, Flood, Severe Weather, Tsunami 1, 5, 6, 7, 8	San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD)	County, All municipalities	Medium	General Fund	Short-term
<b>Action EPA-12</b> —Request a new Flood Insurance Study (FIS) from FEMA for Gardens Area after levee upgrades to San Francisquito Creek are completed.						
<u>Hazards Mitigated:</u> Existing	Climate Change, Flood 1,2	San Francisquito Creek Joint Powers Authority/ Public Works	Planning Division	Low	FEMA Grant Funds (Public Assistance)	Short-term
<b>Action EPA-13</b> —Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.						
<u>Hazards Mitigated:</u> New and Existing	Climate Change/Sea Level Rise, Flood, Severe Weather 1, 2, 6	San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD)	County, All municipalities	Low	General Fund, Private Developers, City Capital Project Funding	Ongoing
<b>Action EPA-14</b> —Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD) Flood Zone channels and infrastructure.						
<u>Hazards Mitigated:</u> New and Existing	Climate Change/Sea Level Rise, Flood, Severe Weather 1, 2, 6	San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD)	County, All municipalities	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, State Grants (Caltrans, CA DWR), Federal Grants (EPA), City Capital Project Funding	Ongoing
<b>Action EPA-15</b> — Advance long-term resilience to sea level rise and extreme storms for the communities and critical assets adjacent to the San Francisquito Creek and nearby areas of the shoreline with the Cities of Menlo Park and East Palo Alto, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<u>Hazards Mitigated:</u> New and Existing	Climate Change/Sea Level Rise, Flood, Severe Weather 1, 2, 6	East Palo Alto, Menlo Park, (FSLRRD)	San Francisquito Creek Joint Powers Authority, Caltrans, Metropolitan Transportation Commission	Medium	State Grant (CA DWR), Federal Grants (FEMA BRIC/HMGP), City Capital Project Funding	Long-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action EPA-16</b> —Continue to develop, maintain, and enhance the County's classification under the Community Rating System by improving community response to flood emergencies in various ways, including but not limited to:						
<ul style="list-style-type: none"> <li>• Upgrade and expand the countywide flood early warning system.</li> <li>• Conduct community flood preparation, education, and recovery outreach.</li> </ul>						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather						
New and Existing	1, 2, 6	San Mateo County Flood and Sea Level Rise Resiliency District, All municipalities	County	Low	State Grant (CA DWR SWERG)	Short-term
<b>Action EPA-17</b> —Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including pump stations, generators, tide gates, stream gages, open channel, and culvert/pipeline infrastructure.						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather						
New and Existing	1, 2, 6	San Mateo County Flood and Sea Level Rise Resiliency District	County, All municipalities	Medium	Tax Funded Flood Zones, State Grants, Federal Grants	Ongoing
<b>Action EPA-18</b> — Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather. Landslide/ Mass Movements, Drought						
New and Existing	1, 2, 3, 4, 6, 7	County, C/CAG	San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD), All municipalities	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, State Grants (Caltrans, CA DWR), Federal Grants (EPA), City Capital Project Funding	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 8-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	7	High	High	Yes	Yes	No	Medium	High	High
2	9	Medium	Low	Yes	No	Yes	High	Low	Medium
3	9	Low	Low	Yes	No	Yes	High	Low	Medium
4	4	Medium	Low	Yes	No	Yes	High	Low	High
5	4	Medium	Low	Yes	No	Yes	High	Medium	High
6	2	High	Medium	Yes	Yes	No	Medium	High	Medium
7	5	Medium	Low	Yes	Yes	Yes	Medium	Medium	Medium
8	4	High	High	Yes	Yes	No	High	High	High
9	1	High	High	No	Yes	No	Medium	Medium	Low
10	2	Medium	Medium	Yes	Yes	No	Medium	Medium	Medium
11	5	High	Medium	Yes	Yes	Yes	High	Medium	Medium

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
12	2	High	Medium	Yes	Yes	Yes	High	Medium	High
13	3	High	Low	Yes	Yes	Yes	High	High	Medium
14	3	High	Medium	Yes	Yes	Yes	High	High	Medium
15	3	High	Medium	Yes	Yes	Yes	High	High	High
16	3	High	Low	Yes	Yes	Yes	High	Low	High
17	3	High	Medium	Yes	Yes	Yes	High	High	Medium
18	5	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 8-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>								
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building	
<b>High-Risk Hazards</b>									
Sea Level Rise / Climate Change	EPA-1, 2, 3, 5, 11, 15	EPA-1, 15	EPA-1, 2, 4, 16	EPA-13, 15	_____	EPA 8, 9, 10, 16, 18	EPA-5, 13, 15, 17, 18	EPA-13	
Flood	EPA-1, 2, 3, 4, 12, 15	EPA-1, 8, 14, 15	EPA-1, 2, 4, 12, 16	EPA-13, 15	EPA-7, 10	EPA-8, 17, 18	EPA-5, 12, 15, 17, 18	EPA-13	
Landslide/ Mass Movements	EPA-1, 2,	EPA-1, 6	EPA-2, 3	_____	EPA-6, 10	EPA-10, 18	EPA-18	EPA-2, 3	
Earthquakes	EPA-1, 2, 3	EPA-1, 6	EPA-2, 3	_____	EPA-10	EPA 8, 9, 10	EPA-18	EPA- 2, 3	
<b>Medium-Risk Hazards</b>									
Dam Failure	EPA-1, 2, 3	EPA-1	EPA-2, 3	_____	_____	EPA-10,	_____	EPA-2, 3	
Severe weather	EPA-1, 2, 3, 15	EPA-1	EPA-4, 15, 16	_____	EPA-7	EPA-8, 18	EPA-15	EPA-2, 3, 13	
<b>Low-Risk Hazards</b>									
Drought	EPA-2, 3	EPA-7	EPA-2, 3	_____	EPA-9, 10	EPA-7, 8, 9, 10	EPA-9	EPA-2, 3	
Tsunami	EPA-2, 3	_____	EPA-11	_____	_____	EPA-8	_____	EPA-2, 3	
Wildfire	EPA-1, 2, 3	EPA-1, 7	EPA-7	_____	EPA-7	EPA-1	EPA-1	EPA-2, 3	

a. See the introduction to this volume for explanation of mitigation types.

## 8.9 PUBLIC OUTREACH

Table 8-17 lists public outreach activities for this jurisdiction.



Table 8-17. Local Public Outreach

Local Outreach Activity	Date	Number of People Involved
Nuestra casa hazard mitigation focus group	June 10, 2021	38
CRC LHMP Workshop	June 23, 2021	24

## 8.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.








- **East Palo Alto Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **East Palo Alto Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **East Palo Alto Capital Improvement Program (CIP) - Infrastructure Projects**
- **City of East Palo Alto Vista 2035 General Plan – Goals and Policies**
- **City of East Palo Alto Development Code- Zoning and Development Standards**

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

# East Palo Alto

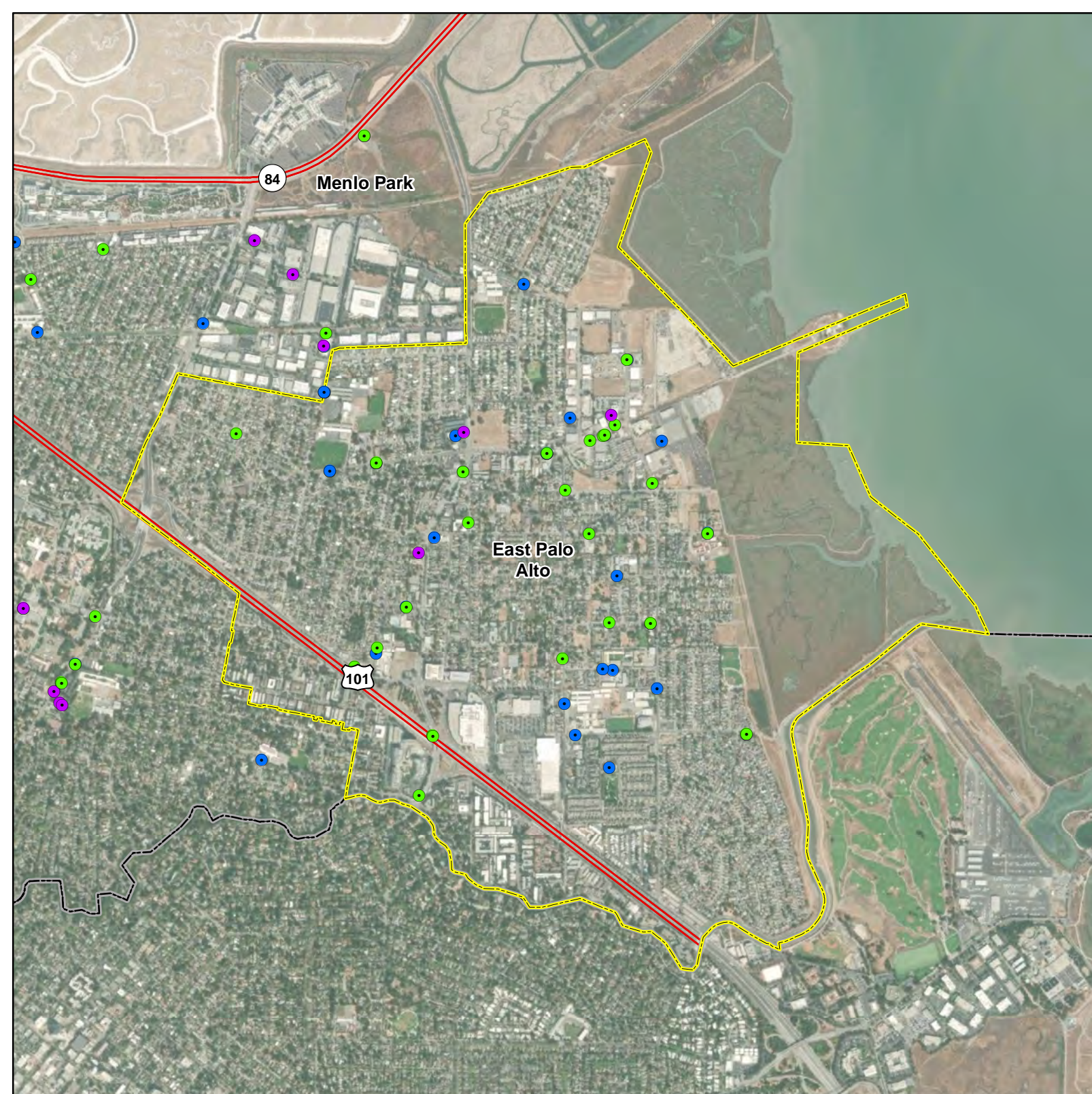
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD











0 0.125 0.25 0.5  
Miles





# East Palo Alto

## Critical Facilities, 2 of 2

-  Communications
-  Energy
-  Hazardous Materials
-  Transportation
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD









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Miles





# East Palo Alto

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










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Miles





# East Palo Alto

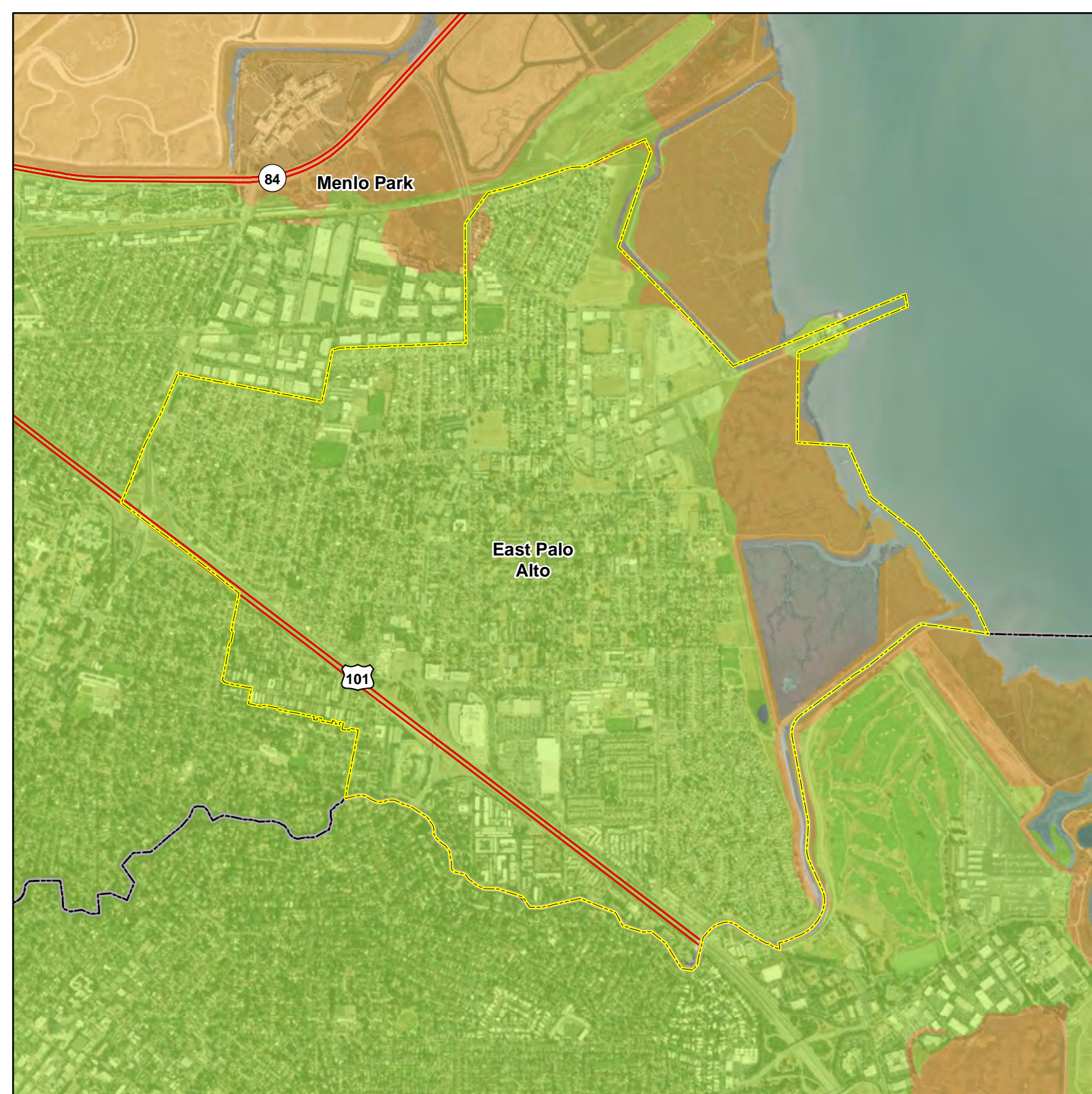
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS












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Miles





# East Palo Alto

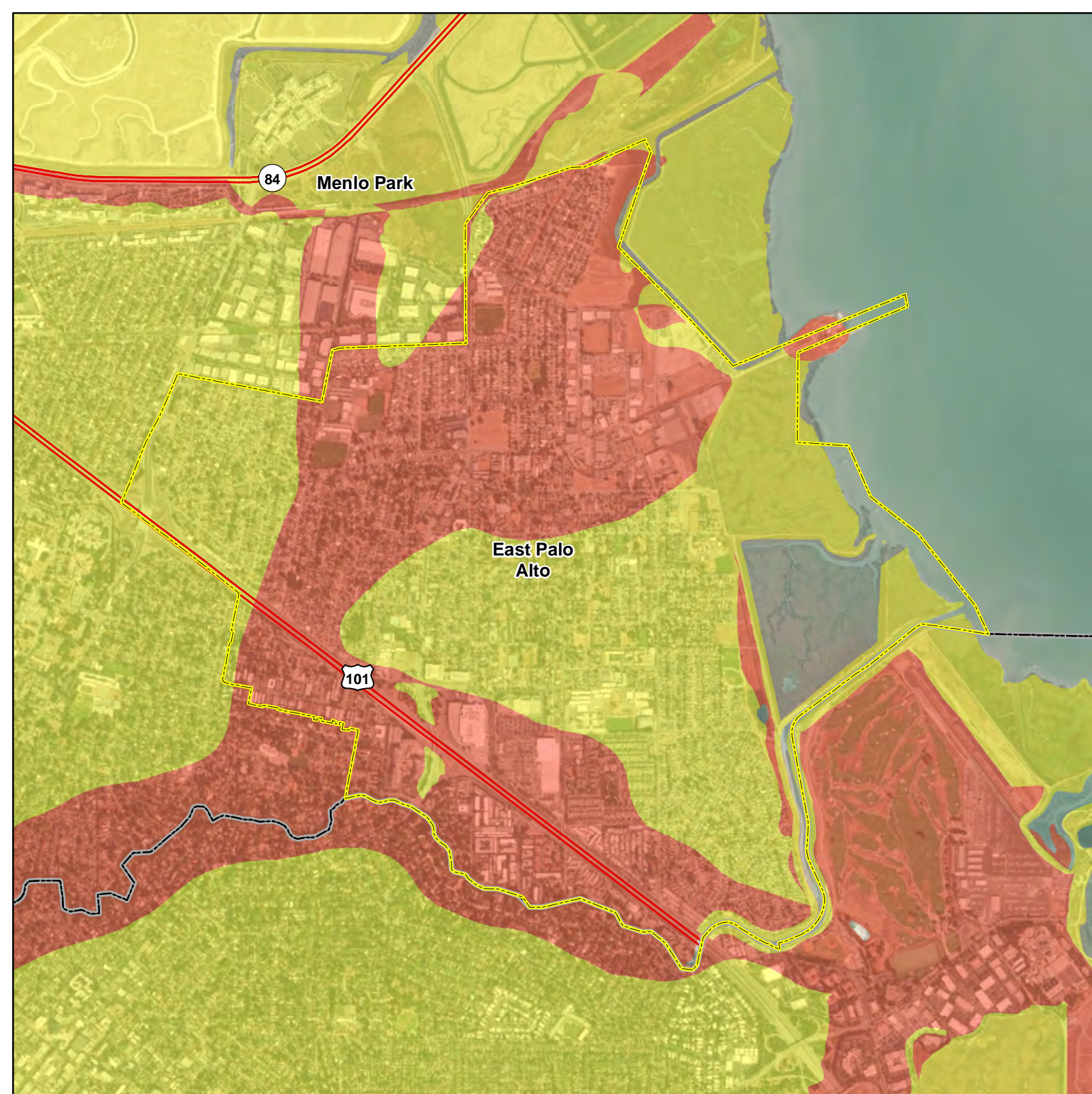
## Liquefaction Susceptibility

-  Very Low
-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., ABAG (USGS)



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Miles











# East Palo Alto

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

-  VI (Strong/Light)
-  VII (Very Strong/Moderate)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



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Miles





# East Palo Alto

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

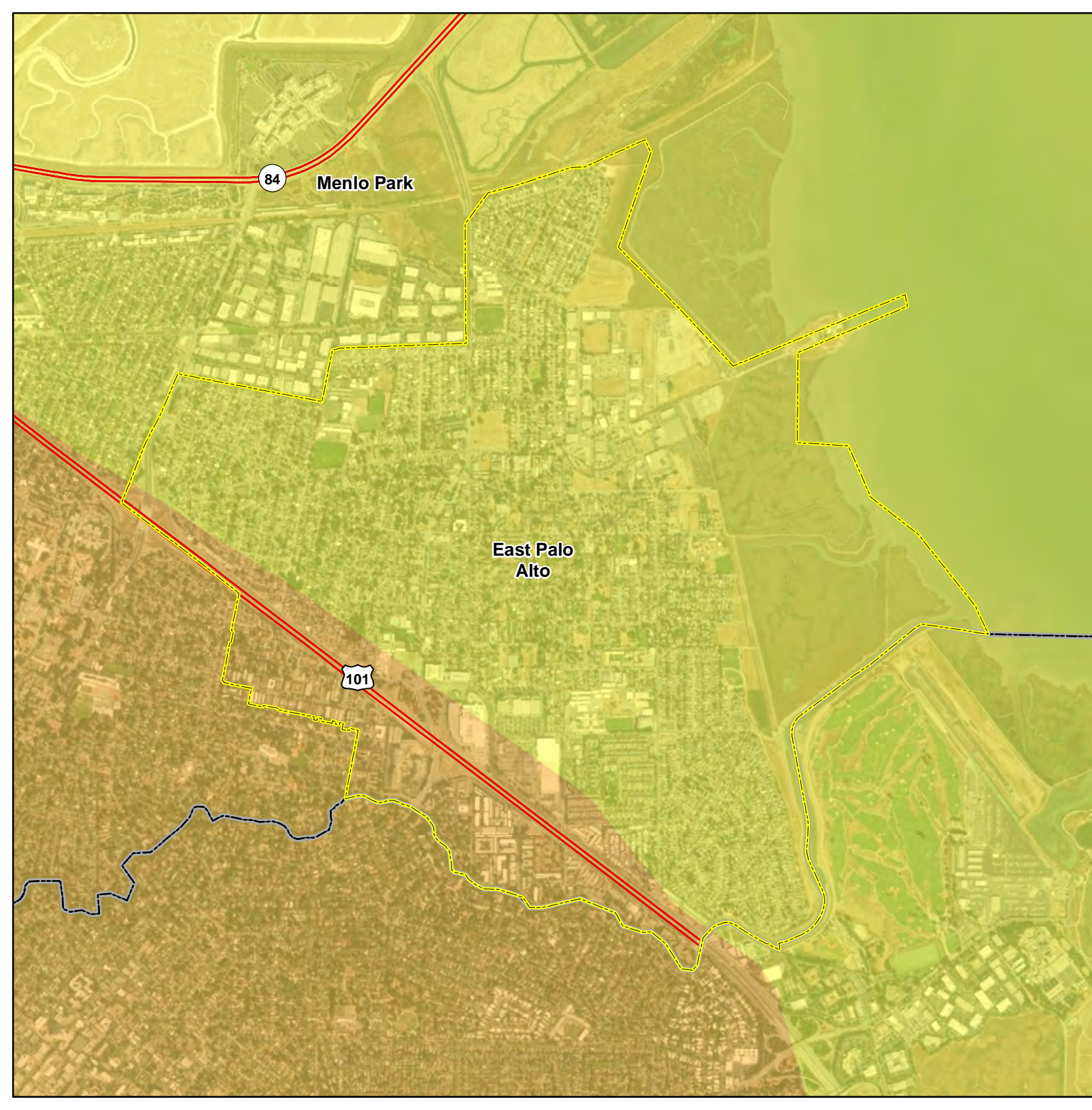
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



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Miles





# East Palo Alto

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

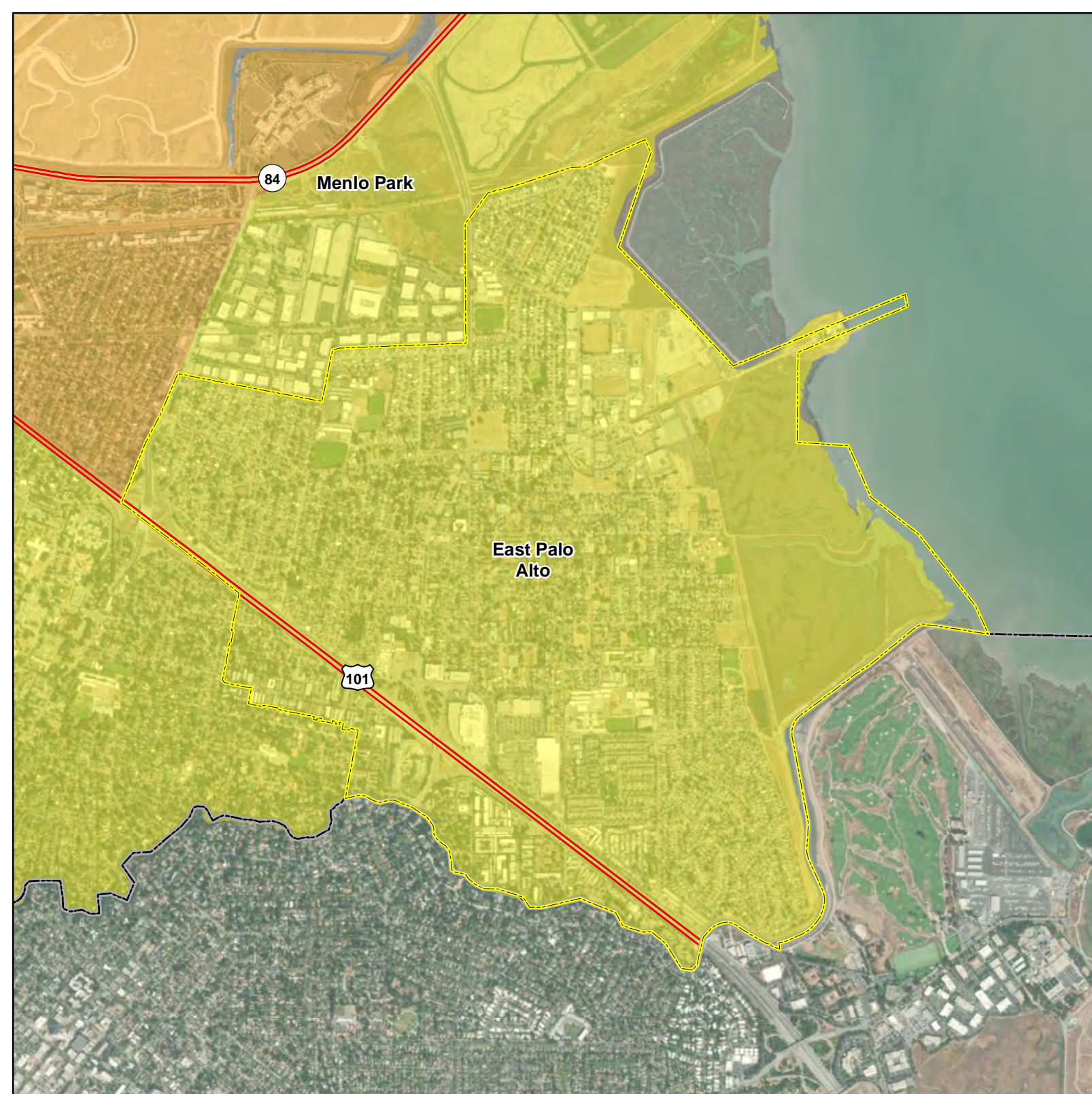
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.125 0.25 0.5  
Miles





# East Palo Alto

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

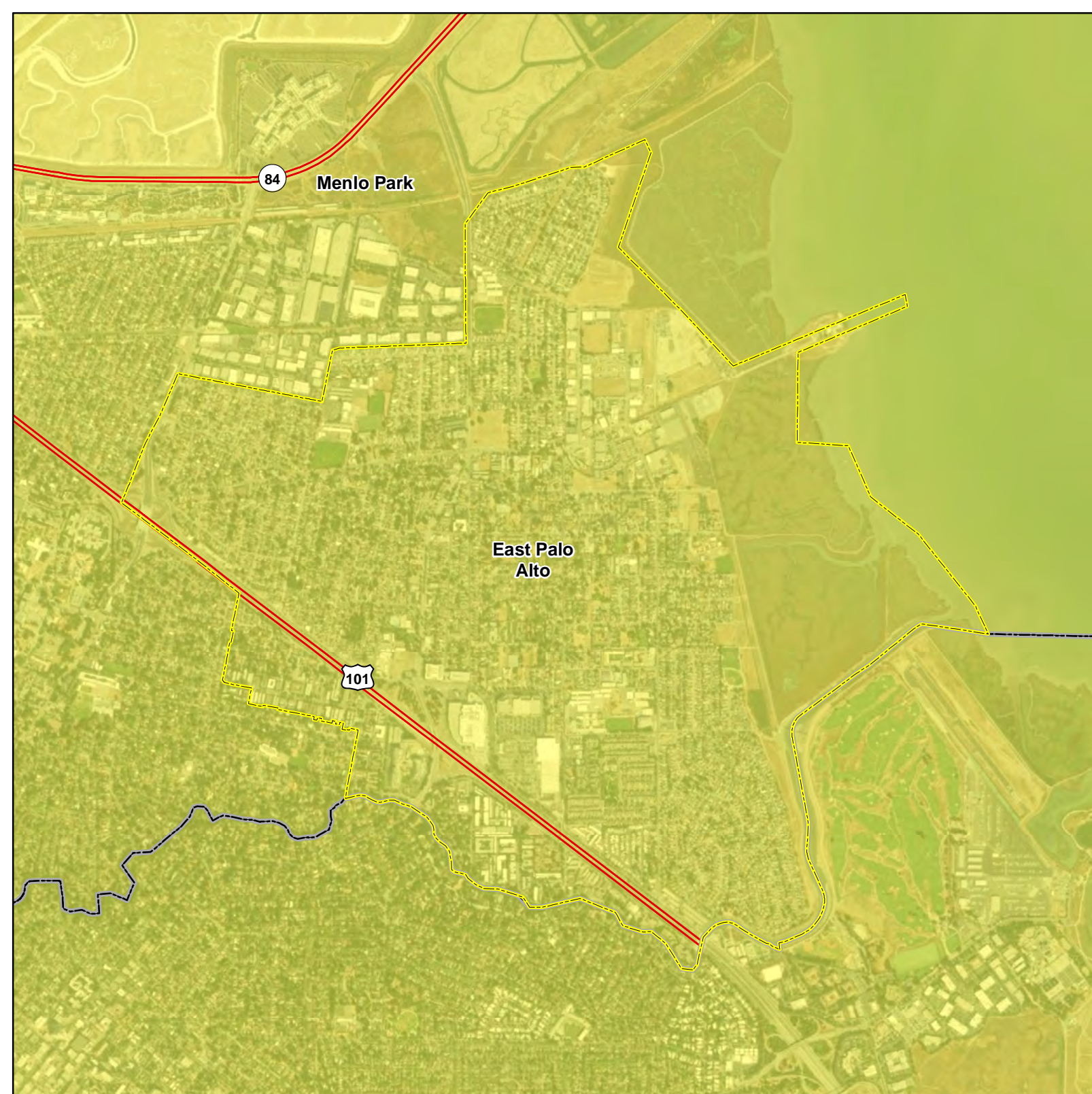
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



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Miles











# East Palo Alto

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

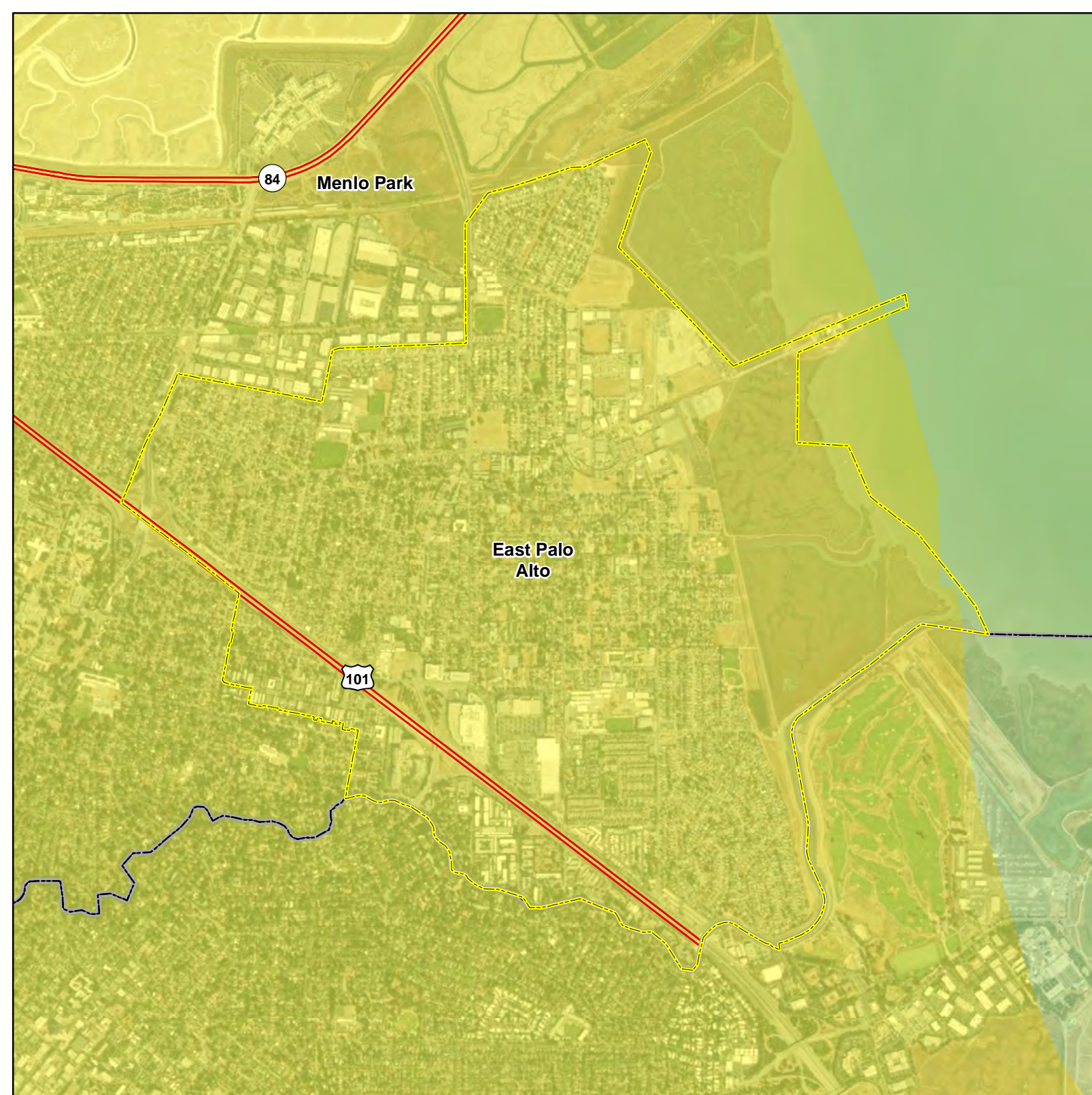
-  VI (Strong/Light)
-  VII (Very Strong/Moderate)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









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Miles





# East Palo Alto

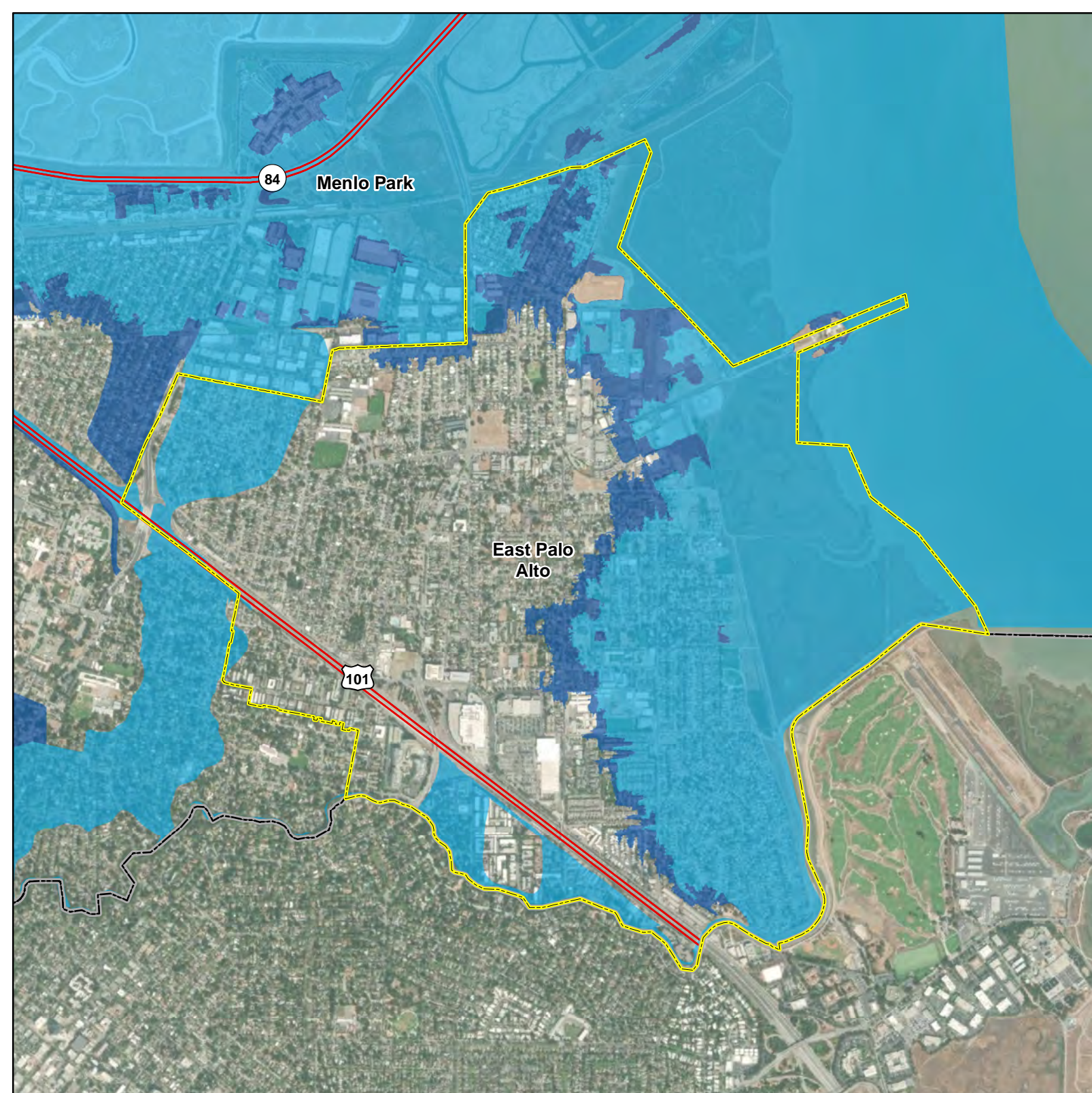
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.125 0.25 0.5 Miles





# East Palo Alto

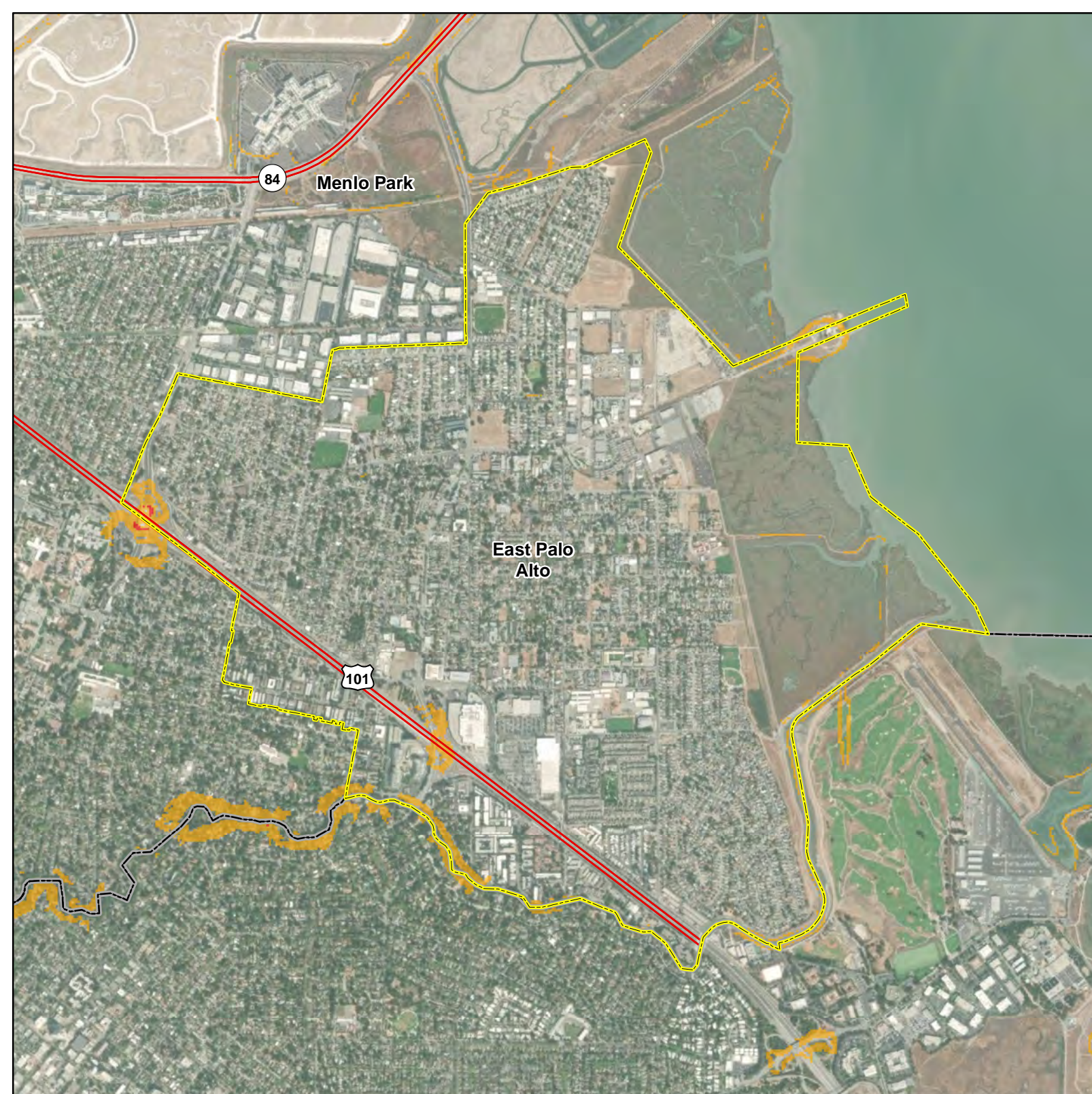
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








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Miles





# East Palo Alto

## Sea Level Rise

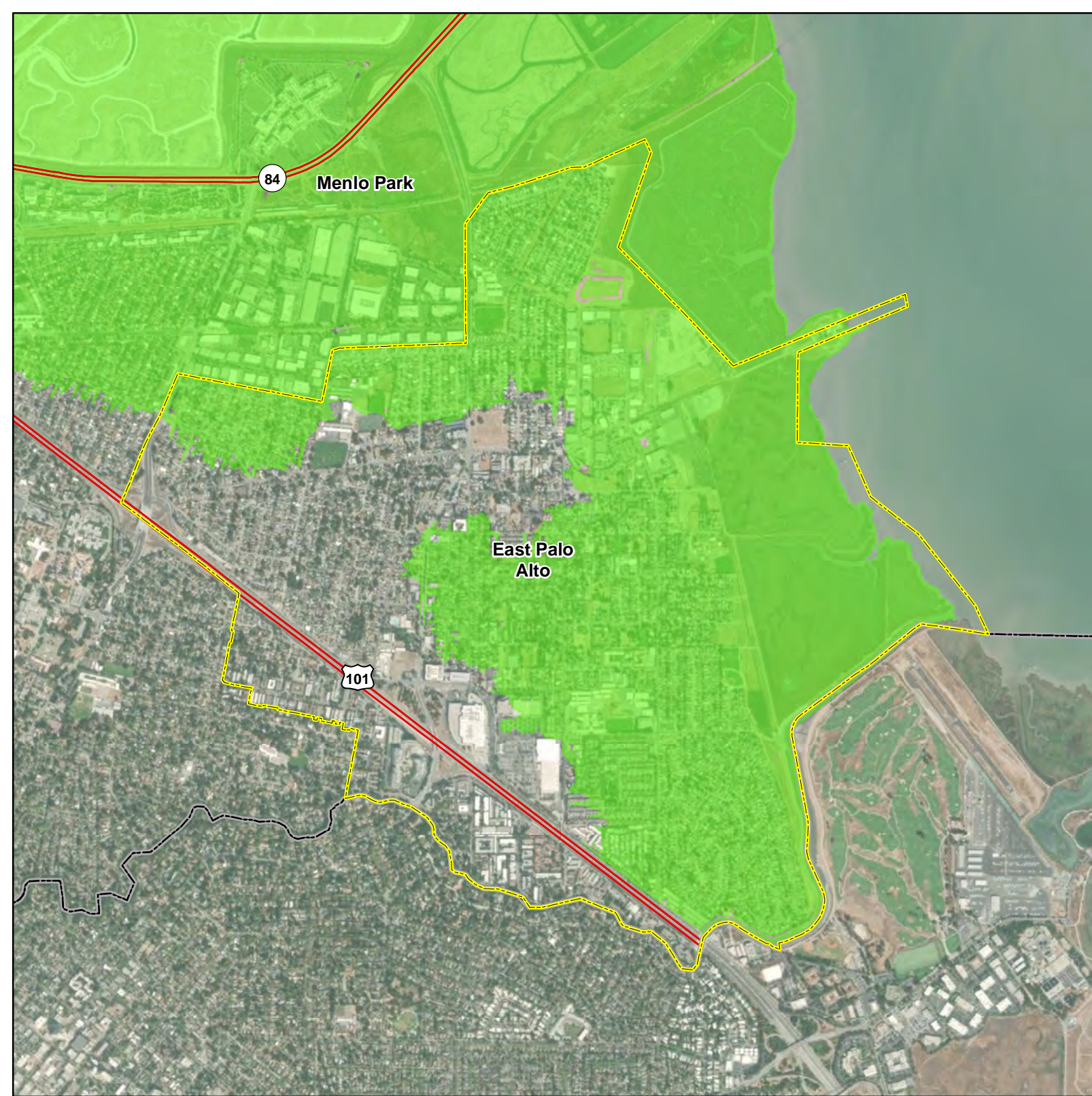
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








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# East Palo Alto

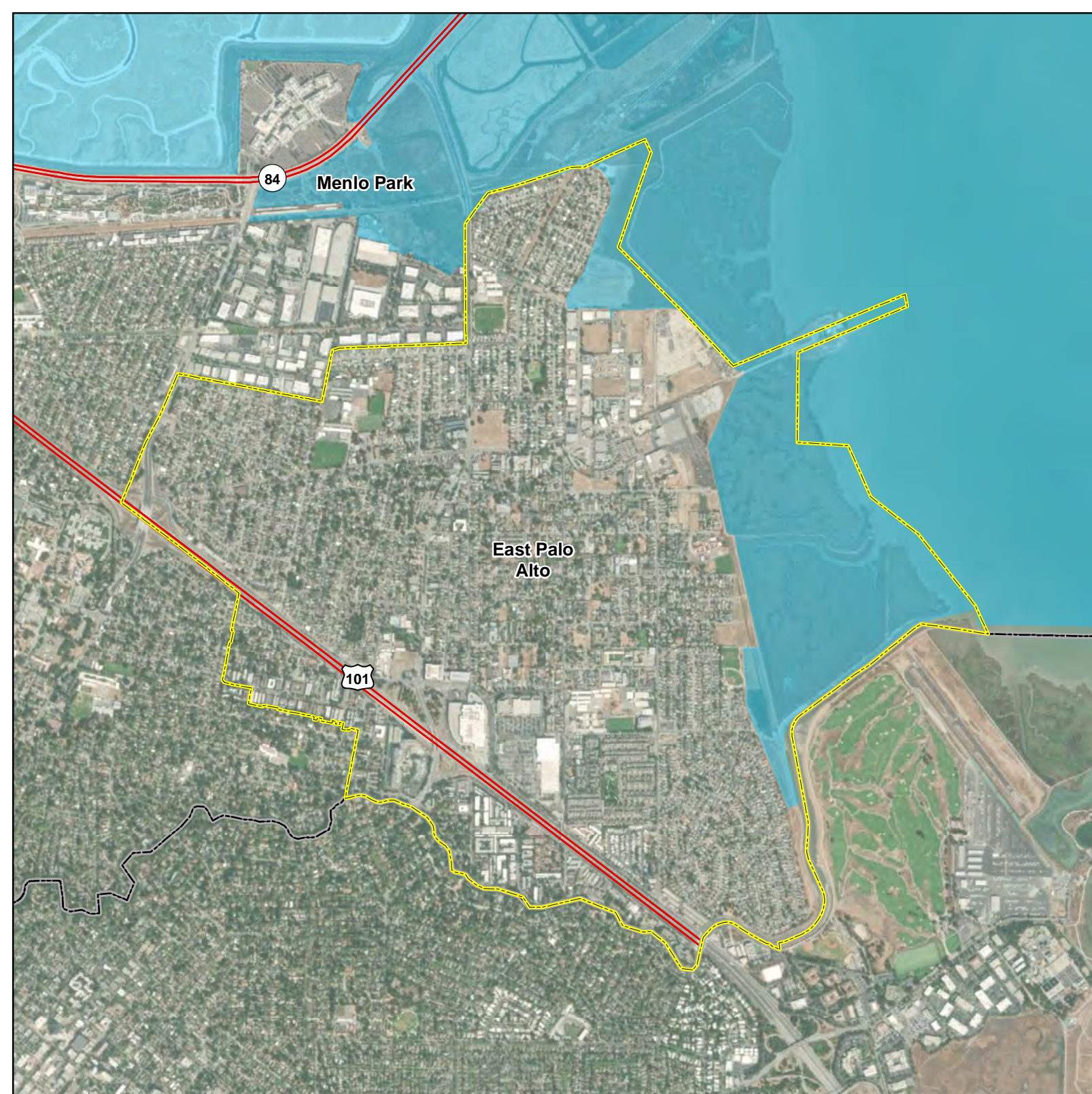
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.125 0.25 0.5  
Miles







## 9. CITY OF FOSTER CITY

### 9.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Kacey Treadway, Emergency Services Specialist  
 1900 O’Farrell St, Ste. 375  
 San Mateo, CA 94403  
 650-522-7962  
 ktreadway@smcfire.org

#### Alternate Point of Contact

Peter Pirnejad, City Manager  
 610 Foster City Boulevard  
 Foster City, CA 94404  
 650-286-3288  
 ppirnejad@fostercity.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 9-1.

**Table 9-1. Local Mitigation Planning Team Members**

Name	Title
Leslie Carmichael	Consulting Planner
Sofia Mangalam	Planning Manager
Kai Ruess	Associate Attorney
David Liu	Human Resources Analyst
Yelena Capello	Deputy City Clerk
Jennifer Phan	Principal Management Analyst
Peter Pirnejad	City Manager
Fiti Rusli	Assistant Finance Director
Rob Lasky	IT Manager
Bill Sandri	Police Lieutenant
Martin Ticas	Police Captain
Frank Fanara	Parks Manager
Laura Galli	Public Works Engineering Manager
Marty Cooper	Chief Building Official
Robert Marshall	Fire Marshal
Kacey Treadway	Emergency Services Specialist
Pat Halleran	Emergency Services Specialist
Bill Euchner	Battalion Chief

## 9.2 JURISDICTION PROFILE

### 9.2.1 Location and Features

Foster City is located midway between San Francisco and San Jose on the western shoreline of the San Francisco Bay, east of U.S. 101. The City is bisected by State Route 92 (the J. Arthur Younger Freeway), which runs between Half Moon Bay to the west and to Hayward and Highway 880 to the east via the San Mateo-Hayward Bridge. The City encompasses 12,345 acres, of which 8,726 acres are part of the San Francisco Bay and Belmont Slough, and 2,619 acres are reclaimed marshland. This equates to approximately 4 square miles of land area.

Foster City enjoys a marine-like climate characterized by mild and moderately wet winters and dry, cool summers. The summer weather is dominated by a cool sea breeze. Low overcast often occurs for a few hours in the morning. Summer nights are comfortably cool, with minimum temperatures averaging in the fifties. The average minimum and maximum temperature range is 47.1 °F to 71.1 °F.

Historical records show that sea level in San Francisco Bay has risen about seven (7) inches over the past 100 years. Scientists agree that the rate of sea level rise is accelerating, but projections of future sea levels vary considerably. Present California coastline projections reported by the California Natural Resource Agency and the California Energy Commission predict 10 to 18 inches of sea level rise by 20250 (using 200 as the base line) and between 40 and 55 inches by 2100, depending upon the emission scenario used.

California in general should expect overall the hotter and drier conditions with a reduction in winter rain (and concurrent snow in the mountains), as well as increased average temperatures. There is a likelihood that extreme weather events, including heat waves, wildfires, droughts, and floods will be among the earliest climate impacts experienced. In San Mateo County, higher average sea levels means that storms will impact the Pacific Coast and Bay shore more severely with high storm surges, more extensive inland flooding, and increased erosion.

### 9.2.2 History

Foster City had its beginnings as reclaimed marshlands devoted to dairy farming and evaporation ponds. At the turn of the century, the approximately 2,600 acres of tidal marshlands now occupied by Foster City were owned by Frank Brewer, and the land was called Brewer Island. During the late 1950s, T. Jack Foster, in association with Bay Area developer Richard Grant, purchased an option to acquire Brewer Island for the development of a complete community. In 1960 the California Legislature created the Estero Municipal Improvement District (EMID or District), the state's first such public agency. EMID was granted most of the government powers associated with an incorporated municipality, except the powers to zone and approve development and certain police powers. T. Jack Foster prepared a master plan for the development of Brewer Island (Foster City) and submitted it to the County in 1961. The plan envisioned a self-contained community with a variety of housing types, waterfront lots and parks, an internal lagoon for public recreation, marinas, offices, stores, industry, and public services. The engineering firm of Wilsey Ham developed a plan to raise the surface level of the island four to five feet and to dig a central drainage basin area that would also serve as a runoff storage area. This drainage basin is the Foster City Lagoon. EMID issued bonds to finance the improvements, including the lagoon, water systems, sewer system, roads, bridges, and other necessary improvements. Foster City was incorporated in April 1971, with the newly elected City Council assuming the powers of the EMID Board. Foster City's Master Plan was amended and adopted as the City's General Plan.



### 9.2.3 Governing Body Format

The City of Foster City and the Estero Municipal Improvement District provide governmental services to the citizens of Foster City. The members of the City Council serve as the policy-making body for both governmental agencies. City voters elect Council members to staggered terms of four years each. The City uses the Council-Manager form of government, with the City Manager appointed by and responsible to the five-member City Council.

The City Council assumes responsibility for the adoption of this plan; the City Manager will oversee its implementation.

## 9.3 CURRENT TRENDS

### 9.3.1 Population

According to the California Department of Finance, the population of Foster City as of January 2020 was 33,033. Since 2015, the population has grown at an average annual rate of 0.39 percent.

### 9.3.2 Development

Identifying previous and future development trends is achieved through a comprehensive review of permitting since completion of the previous plan and in anticipation of future development. Tracking previous and future growth in potential hazard areas provides an overview of increased exposure to a hazard within a community. Table 9-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 9-2. Recent and Expected Future Development Trends**

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No					
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No					
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes  Mariners Point Golf Center					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	2016	2017	2018	2019	2020	
Single Family	0	0	0	1	0	
Multi-Family	5	0	0	5	3	
Other (commercial, mixed use, etc.)	9	4	6	13	7	
<b>Total</b>	<b>14</b>	<b>4</b>	<b>6</b>	<b>19</b>	<b>10</b>	

Criterion	Response
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred. – CDD (raising the levee – where are we designated right now)	Special Flood Hazard Areas: 0 Landslide: 0 High Liquefaction Areas: 2 Tsunami Inundation Area: 0 Wildfire Risk Areas: 0
Describe the level of buildout in the jurisdiction, based on your jurisdiction’s buildable lands inventory. If no such inventory exists, provide a qualitative description.	We are fully built out within the City proper there is one area within the wetlands that might be developed in future.

## 9.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 9-3.
- Development and permitting capabilities are presented in Table 9-4.
- An assessment of fiscal capabilities is presented in Table 9-5.
- An assessment of administrative and technical capabilities is presented in Table 9-6.
- An assessment of education and outreach capabilities is presented in Table 9-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 9-8.
- Classifications under various community mitigation programs are presented in Table 9-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 9-10.

**Table 9-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
Building Code	Yes (ordinance 629)	Yes – SMCFD and Estero Municipal Improvement District (EMID)	Yes – changing state laws	Yes
Zoning Code	Yes – Title 17	No	Yes – see above	Yes
Subdivisions	Yes Chapter 16.28	Yes – SMCFD and Estero (reviewing)	Yes –State Subdivision Map Act?	No
Stormwater Management	Yes Chapter 13.12	Yes –San Mateo Water Pollution Prevention Program	Yes - MRP & Regional Water Quality Control Board	Yes – pollution incident or fuel leak



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Post-Disaster Recovery	Yes Chapters 2.40 and 17.82	Yes - FEMA, mutual aid agreements, Cal OES	Yes – State Emergency Orders	Yes – have pieces of a plan but could be an opportunity for a project
Real Estate Disclosure	No	No	No	No
Growth Management –	No	No	No	No
Site Plan Review --	Yes – (Chapter 17.72)	Yes – SMCDF reviews and EMID	No	No
Environmental Protection	Yes – (CEQA Guidelines)	Yes	Yes	Yes
<i>Comment: Foster City has Environmental Review Guidelines adopted 10/1/2007. Actions must be consistent with California Environmental Quality Act (CEQA).</i>				
Flood Damage Prevention	Yes (Chapter 15.36)	Yes – FEMA, neighboring agencies potentially	Yes – in FEMA costal flood hazard studies, NFIP	Yes
Emergency Management	Yes - (Chapter 2.4)	Yes – SMCDF, FEMA, Cal OES, mutual & automatic aid agreement	Yes – CA Emergency Services Act	Yes
Climate Change	Yes – <a href="#">Climate Action Plan</a>	Yes - CA	No	Yes
<i>Comment: Climate Action Plan is being updated.</i>				
<b>Planning Documents</b>				
General Plan	Yes	No	Yes	Yes
<i>Is the plan compliant with Assembly Bill 2140? Yes</i>				
Capital Improvement Plan	Yes –	No – unless driven by a regulation like FEMA	No – good budgetary practice	Yes
<i>How often is the plan updated?</i> updated annually, detailed 5 years, and projected for 10				
Disaster Debris Management Plan	Yes - language in franchise agreement with Recology	Yes – County, EPA, Cal OES	No	Yes
<i>Comment: Countywide Annex in development</i>				
Floodplain or Watershed Plan	Yes – Lagoon Management Plan	No	Yes– Regional Quality Board	Yes
<i>Comment: Lagoon Management Plan</i>				
Stormwater Plan	Yes – MRP	No	Yes – Regional Quality Board Permit	Yes
<i>Comment: This is technically our permit from MRP</i>				
Urban Water Management Plan	Yes – updated every 5 years, 2020 is year of update and is currently being updated	Yes- PW to review SFPUC and BAWSCA allocations that inform the plan	Yes- 1983 Act – CA Water Code Section 10610-10657 and submit to Department of Water Resources – AB 2067	Yes
Habitat Conservation Plan	No	No	No	No
Economic Development Plan	Yes – City Manager's Office to confirm year 2016/2017	No	No	No

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Shoreline Management Plan	No	Yes – San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD)	No	Yes
<i>Comment:</i> County led initiative flood and sea level rise agency – paying for startup cost year 3 of 3 - erosion and resiliency study has been started				
Community Wildfire Protection Plan	No	Yes – CAL FIRE	No	No
Forest Management Plan	No	No	No	No
Climate Action Plan	Yes - <a href="#">CAP</a>	No	No	Yes
Emergency Operations Plan	Yes – EOP 2007	Yes - SMCFD	Yes –CA Emergency Services Act	Yes
Threat & Hazard Identification & Risk Assessment (THIRA)	Yes	No	No	Yes
<i>Comment:</i> Bay Area UASI THIRA Plan				
Post-Disaster Recovery Plan	No	Yes SMCFD	No – OES to review	Yes
Continuity of Operations Plan	Yes	No – SMCFD assists with updates	No - recommend	Yes
Public Health Plan	No	Yes – County Health	No	No – County driven
Other - America’s Water Infrastructure Act – Emergency Response Plans and Risk Assessment – Plan being produced end of this fiscal year Dam Annexes such as Crystal Springs	No - pending	No	Yes- EPA	Yes

**Table 9-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes CDD (Community Development Department)
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	Yes

**Table 9-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes – water and sewer in master fee services schedule
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes



Financial Resource	Accessible or Eligible to Use?
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other – Property Taxes, Transient Occupancy Tax, Business License Fees, Franchise Fees, Misc. State Fees	Yes

**Table 9-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	CDD & PW/Parks
Engineers or professionals trained in building or infrastructure construction practices	Yes	Chief Building Official and Senior Engineer
Planners or engineers with an understanding of natural hazards	Yes	CDD & PW/Parks
Staff with training in benefit/cost analysis	Yes	Finance
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	IT
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	City Manager & Fire (Fire Chief)
Grant writers	Yes	Citywide
Other	No	

**Table 9-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes <a href="#">Hazard Mitigation Plan and Maps</a>
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Foster City's Facebook, Twitter, and City Newsletters
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes City Council Subcommittee
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes CERT, Parks and Recreation Classes & social media
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes SMC Alert & Nixle

**Table 9-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	CDD
Who is your floodplain administrator? (department/position)	Community Development Director
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	Ordinance 626 – 2019 Chapter 15.36
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meets
When was the most recent Community Assistance Visit or Community Assistance Contact?	Unknown
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No In designated Zone X until levee is completed
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	No In designated Zone X until levee is completed
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	Yes All
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No No No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	188 \$63,075,000 \$82,662
How many total loss claims have been filed in your jurisdiction? <sup>a</sup>  <i>What were the total payments for losses?</i>	11  \$103,099

a. According to FEMA statistics as of March 31, 2021

**Table 9-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608125338	Unknown
DUNS#	Yes	091847145	Unknown
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	2	2014
Public Protection (Fire)	Yes	ISO Class 2	2012
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A



**Table 9-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Ratings
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: The City is raising the levee in anticipation of sea level rise; understand reduced snowpack impacts on water supply;</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: The City has and continues to collaborate with the multiple regional groups (County of San Mateo, San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD), and the Bay Area Clean Water Agency) including sharing of any applicable monitoring information.</i>	High
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: The City utilizes technical experts as needed.</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: The City utilizes technical experts as needed.</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: As new information becomes available, it will be shared and factored into considerations for future land uses and the City's capital planning.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: The City continues to collaborate with multiple regional groups.</i>	Medium
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Per Climate Action Plan</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Per Climate Action Plan</i>	High
Identified strategies for adaptation to impacts <i>Comment: Per Climate Action Plan</i>	High
Champions for climate action in local government departments <i>Comment: Per Climate Action Plan</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment: Political support for updating Climate Action Plan and Levee Improvements</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Resources allocated to update Climate Action Plan and Levee Improvements</i>	High
Local authority over sectors likely to be negatively impacted <i>Comment: Individual privately held properties that are likely to be negatively impacted due to their location may include a range of sectors from residential, commercial and utilities. The City may exert limited authority over privately held property through its development review process.</i>	Low
<b>Public Capacity</b>	
Local residents' knowledge of and understanding of climate risk <i>Comment: The draft Local Hazard Mitigation Plan will include identification of climate risk factors such as urban fire zone, etc. The draft plan will be shared with the community to build knowledge and understanding of climate risk. The City will hold public meeting on the draft plan and consider community input prior to adoption.</i>	Medium
Local residents' support of adaptation efforts <i>Comment: Overwhelming support of levee bond measure.</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: No information available.</i>	Unsure

Criterion	Jurisdiction Ratings
Local economy current capacity to adapt to climate impacts <i>Comment: No information available.</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment: No information available.</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 9.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 9.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Capital Improvement Program Planning** – The City Council annually approves a detailed Capital Improvement Plan (CIP) for a five-year period and identifies and begins to fund upcoming infrastructure projects on a 10-year horizon. The Planning Commission reviews the CIP for consistency with the General Plan. The City Council annually appropriates funding for the current year phases of Capital Improvement Projects. Infrastructure projects identified in this document have been or will be included in the five-year Capital Improvement Project Plan for the years in which they are planned for implementation.
- **Annual Budget** – The City Council annually adopts a Fiscal Year Budget which authorizes the funding for all operations, services, and projects for the fiscal year planning. Priority projects identified in the Local Hazard Mitigation Plan/Safety Element that require an expenditure output will be included in the Annual Budget in the years in which they are planned for implementation. The Annual Budget includes the appropriation of funding for the Capital Improvement Program discussed above.
- **Five Year Financial Plan** – The City Council annually approves a Five-Year Financial Plan which includes revenue and expenditure expectations for the five-year period. Approved projects in the Capital Improvement Plan, including any related to the Local Hazard Mitigation Plan/Safety Element would be included in the five-year plan to ensure that appropriate funding is available for project completion.
- **Foster City Municipal Code** – The City Municipal Code includes several ordinances that would directly impact mitigation measures identified in the Local Hazard Mitigation Plan/Safety Element, for instance updates to the Code may be required in order to implement the post- disaster response measures and/or building code recommendations. Chapter 15.36 includes the City’s Flood Plain Management Regulations related to the City’s participation in the National Flood Insurance Program.
- **Estero Municipal District Code** – The District Code includes several ordinances that would directly impact mitigation measures identified in the Local Hazard Mitigation Plan/Safety Element, for instance



updates to the Code may be required in order to implement the post- disaster response measures and/or changes to the Water Distribution system or Wastewater Collection system.

- **Crime Prevention Programs** – Proactive crime prevention makes Foster City a place where residents and visitors are safe from crime. Foster City is frequently listed among the safest cities in the State of California because of the efforts that go into preventing crime before it happens.
- **CERT** – The Community Emergency Response Teams train regularly to be prepared for emergency response and recovery. Having these teams in place with training in triage, medical response and search and rescue will enhance responsiveness after a disaster and mitigate the impact that effects would have had on individuals and property if left unattended.
- **General Plan Annual Report** – This annual report assesses progress in implementation of programs included in the General Plan and in turn, helps shape the City Council’s annual priorities for staff work efforts, the budget, and the capital improvement program.
- **Climate Action Plan** – The Climate Action Plan was adopted by the City Council in February 2016 and contains 40 measures that will be prioritized to improve the environmental sustainability of Foster City and the Bay Area region. Specific to the Local Hazard Mitigation Plan/Safety Element, the Climate Action Plan measures are intended to reduce the production of greenhouse gasses and mitigate the potential impact of sea level rise.

### 9.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

Please see the following from the above tables of where LHMP could be integrated in the future.

- Building Code
- Zoning Code
- Stormwater Management
- Post-Disaster Recovery
- Environmental Protection
- Flood Damage Prevention
- Emergency Management
- Climate Change
- General Plan
- Capital Improvement Plan
- Disaster Debris Management Plan
- Lagoon Management Plan
- Stormwater Plan
- Urban Water Management Plan
- Shoreline Management Plan

- Climate Action Plan
- Comprehensive Emergency Management Plan
- Threat & Hazard Identification & Risk Assessment (THIRA)
- Post-Disaster Recovery Plan
- Continuity of Operations Plan
- America’s Water Infrastructure Act: Emergency Response Plans and Risk Assessments—Plan being produced end of this fiscal year
- Dam Annexes—such as Crystal Springs
- Clean Water Program

## 9.6 RISK ASSESSMENT

### 9.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 9-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 9-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment (Description)
Power Outages/ Disruption	N/A	Fall 2019 Summer 2020 Fall 2020	Pacific Gas & Electric’s Public Safety Power Shutoff (PSPS) program and Rolling Blackouts done in response to Climate Change and Severe Weather Conditions to help prevent wildfires and prevent strain on the power grid (Secondary Hazard to Climate Change, Extreme Weather, Windstorms, Severe Storms and Wildfire Hazards) Damage Assessment: Unknown
Extreme Weather	N/A	Winter 2018 Fall 2019 Winter 2019 Summer 2020	Extreme temperatures including summer heat and winter cold linked to Climate Change. Foster City has activated cooling centers and shelters for citizens in response. Damage Assessment: Unknown
Windstorm	N/A	2021	Strong winds and storms throughout the Bay Area. Damage to Foster City included down trees. Damage Assessment: Unknown
Severe Storm	N/A	2019	Downed trees in this storm impacted Foster City and residents. Damage Assessment: Unknown
Drought	N/A	2014-2017 July 8, 2021	In January 2014, the Governor proclaimed a State of Emergency and directed State officials to take all necessary actions to prepare for drought conditions. As of July 8, 2021, San Mateo County has been included in the Governor’s emergency declaration. Damage Assessment: Unknown
Winter Storm	N/A	2014	Winter Storm damage resulted in San Mateo County’s Proclamation of State of Emergency on December 19, 2014, and the Governor’s Proclamation of a State of Emergency on December 22, 2014. Foster City personnel worked overtime and provided sandbags to City residents. Damage Assessment: Unknown
Loma Prieta Earthquake	DR-845	October 17, 1989	Minor damage to City owned facilities. Damage Assessment: Unknown



## 9.6.2 Hazard Risk Ranking

Table 9-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 9-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea Level Rise / Climate Change	63	High
2	Flood	63	High
3	Dam Failure	42	High
4	Earthquake	42	High
5	Severe weather	24	Medium
6	Drought	9	Low
7	Tsunami	2	Low
8	Landslide/Mass Movements	0	Low
9	Wildfire	0	Low

## 9.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

### Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Evacuation – Due to Foster City’s geographical nature and infrastructure, the egress and ingress routes are limited which would present issues when evacuation is needed in response to an emergency.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 9.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 9-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Action Item	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>S-A-1-a Protect City’s Infrastructure and Facilities.</b> The City will protect the City’s infrastructure and facilities from damage due to seismic and geologic hazards through proper design and retrofitting older facilities to current standards.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-1
<p><b>S-A-1-b Police Station Assessment.</b> Conduct an assessment of the Police Department facility and its use related to an earthquake to identify strategies that can improve the facility’s resilience, including determining the feasibility of replacing the building.</p> <p><b>Comment:</b> This item is not completed and should carry over to the next plan with language modifications.</p>			X	FOS-1
<p><b>S-A-1-c Recreation Center Assessment.</b> Conduct an assessment of the Recreation Center facility (a potential emergency shelter location) and its use related to an earthquake to identify strategies that can improve the facility’s resilience, including determining the feasibility of replacing the building. (High Priority)</p> <p><b>Comment:</b> This item has been worked on such as the red cross partnerships for the sheltering aspect. This should be carried over to the next plan and was not completed because of budget allocation.</p>			X	FOS-1
<p><b>S-A-1-d Emergency Power for Critical Infrastructure.</b> The City provides emergency power at critical City facilities such as major sewer lift stations and lagoon pumps. A new CIP will replace ten sewer lift station generators that are at the end of its useful life.</p> <p><b>Comment:</b> This item is an ongoing action that should be carried over to the next 5-year plan because the need for emergency power and maintenance of emergency power is perpetual. In FY 2021-22 replacement of 10 of the generators located at 14 of the District’s major wastewater lift stations is scheduled.</p>			X	FOS-2
<p><b>S-A-1-e Monitoring of Water, Sewer and Lagoon Systems.</b> The City provides and maintains a Supervisory Control and Data Acquisition (SCADA) for the water distribution system, the wastewater collection system, and the lagoon system that is monitored 24 hours a day by Public Works staff or Police Department staff.</p> <p><b>Comment:</b> Monitoring is an ongoing process that will carry over to the next 5-year plan since the need for monitoring is perpetual. SCADA measures the following: Wastewater System: effluent flow from LS 59 pump station to the WWTP, the pumps and water levels in the District’s 48 lift stations and pump station 59; Water System: the flow in the 24-inch transmission main, the tank levels in tanks 1-4, the 4 engines in the water booster pump station; Lagoon System: The lagoon levels at 3 locations on the lagoon (rainbow bridge, pitcairn by intake, lagoon pump station by outfall) and the level of the bay. CIP 660, which is currently in Design will address repairs to the transmitters on two of the water tanks-Construction schedule for 2022. Staff is installing an analyzer on Tank 4 to measure chlorine residuals in 2021. A flow probe will be replaced on the 24-inch transmission main as a part of CIP 636- construction to be complete by early 2022.</p>			X	FOS-1
<p><b>S-A-1-f Bridge Inspections.</b> Facilitate 2-year (above water) and 5-year (underwater) inspections by the California Department of Transportation (Caltrans) of City owned bridges (Bicentennial, Foster City Boulevard, Rainbow and Shell Boulevard) and there is an active CIP to address any deficiencies noted in the inspections.</p> <p><b>Comment:</b> Bridge Inspections are perpetual and are required every 2-years for above-water elements and every 5-years for under-water elements of the bridges. In FY2022/23 to 2023/2024 a project will addresses the design and construction of improvements necessary based on the latest Caltrans inspection reports.</p>			X	FOS-3



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>S-A-1-g Earthquake Resilient Pipelines.</b> The City utilizes flexible expansion joints to protect the City's pipelines from stresses produced by seismic activity or gradual soil subsidence.</p> <p><b>Comment:</b> The District has installed flexible connections on each of the steel waterlines at bridge crossings. CIP 660 includes the installation of flexible expansion joints at the City's water tanks.</p>			X	FOS-4
<p><b>S-A-2-a Levee Protection Planning and Improvements.</b> CIP 657 is an active project to raise the City's levees in order to retain FEMA accreditation and protect the City against sea level rise. (High Priority) The project is anticipated to be completed by January 2024.</p> <p><b>Comment:</b> Project under construction. Keep as ongoing.</p>			X	FOS-5
<p><b>S-A-2-b Maintain Levees and Lagoon for Flood Protection.</b> The City will maintain the City's levees and lagoon for flood protection pursuant to the "Operation and Maintenance Manual, Foster City Levees and Pump Station" and the "Lagoon Management Plan."</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-5
<p><b>S-A-2-c Lagoon Pump Station Building Seismic Evaluation.</b> New CIP will provide recommendations for seismic improvements for this 60-year-old building to meet current code standards. (High Priority)</p> <p><b>Comment:</b> Analysis to be completed in FY 2022/2023 and design and construction in subsequent years. Keep as ongoing.</p>			X	FOS-6
<p><b>S-A-3-a Water Supply and Delivery for Fire-Fighting.</b> The City will maintain a water supply and delivery system that can meet potential firefighting demands through annual exercising of fire hydrants and periodic review of storage needs.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-7
<p><b>S-A-3-b Water Supply.</b> The District stores 20 MG of water, which is more than adequate to meet fire and domestic water demands of the City. City will be pursuing alternative water supplies in response to water cutbacks by SFPUC during periods of drought. The 2020 Urban Water Management Plan to be completed by June 30, 2021.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-7
<p><b>S-A-3-c Water Delivery System.</b> The City's Public Works Maintenance Division performs regular hydrant flushing, exercises water valves, and replaces failed parts as identified on a regular basis.</p> <p><b>Comment:</b> Ongoing.</p>			X	FOS-8
<p><b>S-A-3-d Water Booster Pump Station Seismic Retrofit.</b> CIP 660 incorporates a seismic vulnerability assessment, design, and construction to bring the pump station to meet seismic code. (High Priority)</p> <p><b>Comment:</b> PW – Construction is anticipated to begin in Fall 2021 - This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-8
<p><b>S-A-3-e Potable Water Tank Seismic Evaluation Retrofit.</b> CIP 660 incorporates a seismic vulnerability assessment, design, and construction to bring the City's water tanks to current seismic code. (High Priority)</p> <p><b>Comment:</b> PW – Construction anticipated to begin in Fall 2021 - This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-8
<p><b>S-A-3-f Water Transmission Main Evaluation.</b> Continue to evaluate the single 24-inch water supply transmission main on an ongoing basis. (High Priority)</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-8

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>S-A-3-g Water System Pressure Reducing Station Evaluation.</b> Continue to evaluate the water pressure reducing stations that reduce SFPUC’s supply pressure to EMID system pressure. (High Priority)</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-8
<p><b>S-A-4-a Wastewater Treatment Plant Improvements.</b> The WWTP Improvements project (CIP 652) will replace the facility’s aging infrastructure and meet regulatory requirements. (High Priority)</p> <p><b>Comment:</b> Ongoing – Anticipated commissioning of the WWTP is FY 2023/24.</p>			X	FOS-9
<p><b>S-A-4-b Lift Station #59 Improvements.</b> Maintain and improve the City’s main wastewater lift station with replacement of components that provide adequate levels of redundancy.</p> <p><b>Comment:</b> Assessment done next week to commence in 2022 - This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-10
<p><b>S-A-4-c Evaluation/Replacement of Air Release Valves on Wastewater Line between Lift Station #59 and WWTP.</b> The air release valves are evaluated on a yearly basis and are replaced in-house and on an as-needed basis. (High Priority)</p> <p><b>Comment:</b> Ongoing perpetually.</p>			X	FOS-10
<p><b>S-A-4-d Wastewater Lift Stations Rehabilitation.</b> The City’s Wastewater Master Plan incorporates the rehabilitation of the City’s 49 sewer lift stations via a phased approach by performing preventative maintenance and upgrades to improve the reliability, durability, and sustainability of the lift stations. (High Priority)</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-10
<p><b>S-B-1-a Emergency Response.</b> The City will prepare to respond to emergencies through use of established procedures, programs of ongoing training, periodic exercises of the City’s Emergency Operations Plan, and mutual aid agreements.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-11
<p><b>S-B-1-b Emergency Plan.</b> The City will maintain the City’s Emergency Operations Plan indicating responsibilities and procedures for responding to an emergency.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan. CDD will verify its status before submitting to final plan.</p>			X	FOS-11
<p><b>S-B-1-c Mutual Aid.</b> Participate in general mutual-aid agreement and agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.</p> <p><b>Comment:</b> Completed but ongoing – ratified agreements – check with city clerk. This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-11
<p><b>S-B-1-d Police Services.</b> The City will provide adequate personnel, training, and equipment to support the provision of police services.</p> <p><b>Comment:</b> This item needs addition language but is in accordance with other items include here so it should carry over to the next plan.</p>			X	FOS-12
<p><b>S-B-2-a Emergency Operations Center.</b> Maintain the local government’s emergency operations center in a full functional state of readiness.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-13
<p><b>S-B-2-b Back-up Emergency Operations Center.</b> As an infrastructure operator, designate a back-up Emergency Operations Center with redundant communications systems.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-13



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>S-B-2-c Emergency Power for Critical Buildings.</b> Pre-position emergency power generation capacity (or have generation rental/lease agreement for these generators) in critical buildings to maintain continuity of government and services.</p> <p><b>Comment:</b> PW to verify some generators available. his item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-2
<p><b>S-B-2-d Critical Traffic Signalized Intersections.</b> All City signalized intersections either have an emergency generator or battery-back up power in case of loss of permanent power. Maintenance and replacement of battery back-ups and generators is allocated.</p> <p><b>Comment:</b> Ongoing perpetually since need for maintenance of battery back-ups and emergency generators.</p>			X	FOS-2
<p><b>S-B-2-e Post-Disaster Repair of Water and Wastewater Systems.</b> Public Works Maintenance Division maintains an inventory of spare parts for emergency use (e.g., valves, pumps, pipelines of critical size) at the City's Corporation Yard.</p> <p><b>Comment:</b> PW - Ongoing perpetually.</p>			X	FOS-14
<p><b>S-C-1-a Incorporate Sea Level Rise Consideration into Planning Process.</b> Incorporate consideration of sea level rise into the development review and infrastructure planning processes, including response strategies that increase resilience to mid-century sea level rise risks for both new and existing development.</p> <p><b>Comment:</b> The levee project will increase the height and width of the levee to improve protection against storm/tide surges, meet sea level rise projections through 2050, and make the levee more resistant to earthquakes. The improvements will be implemented with either a concrete flood wall, earthen levee, or hybrid sheet pile wall. Construction started in September 2020 and is anticipated to be complete in January 2024.</p>			X	FOS-15
<p><b>S-C-2-a Use of Uniform Codes.</b> The City will adopt and enforce the most current uniform codes with additional local requirements as necessary tailored to Foster City.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-22
<p><b>S-C-2-b Site Specific Geotechnical Analyses.</b> The City will require site specific geotechnical and engineering reports for new structures.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-16
<p><b>S-C-3-a Flood Plain Regulations.</b> The City will evaluate any proposed development within special flood hazard areas for conformance with the City's flood plain regulations as contained in Chapter 15.36 of the Foster City Municipal Code.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-17
<p><b>S-C-3-b FEMA's National Flood Insurance Program.</b> Participate in FEMA's National Flood Insurance Program for affected properties.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-18
<p><b>S-C-3-c Protect Flood Protection Qualities of Natural Areas.</b> The City will protect and preserve natural features such as wetlands that serve as natural mitigation against the impacts of flooding.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-19
<p><b>S-C-4-a Development Review for Fire Safety.</b> The City will review proposals for new and modified buildings to ensure that fire safety provisions are included as required by the most current uniform codes and local regulations.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-20

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>S-C-4-b Annual Inspections for Fire Safety and Hazardous Materials.</b> The City will conduct annual inspections of businesses and multi-family dwellings in order to ensure compliance with fire safety and hazardous materials requirements. The City will continue to provide inspections of residential care facilities at the request of the Department of Social Services.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-20
<p><b>S-C-4-c Fire Sprinklers.</b> Require fire sprinklers in all new or substantially remodeled housing, regardless of distance from a fire station.</p> <p><b>Comment:</b> Ongoing – R. Marshall</p>			X	FOS-20
<p><b>S-C-5-a Hazardous Materials.</b> The City will continue to enforce applicable codes related to hazardous materials.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-20
<p><b>S-C-6-a Post-Disaster Services.</b> Consider and adopt regulations to guide City operations following a disaster, such as suspension of some types of government services.</p> <p><b>Comment:</b> Some preliminary work has been done but due to prioritization, should carry over to next year cycle This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-11
<p><b>S-D-1-a CERT Classes.</b> Continue to provide emergency preparedness classes and Community Emergency Response Team (CERT) training.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-21
<p><b>S-D-1-b Emergency Preparedness Education and Outreach.</b> Continue to utilize available means to educate the public, including schools, businesses, and community groups, about emergency preparedness, including but not limited to the City's website, media, classes, and special events. (High Priority)</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-21
<p><b>S-D-2-a Geotechnical Reports Library.</b> The City will maintain a geotechnical report library.</p> <p><b>Comment:</b> Currently in Docuphase.</p>			X	FOS-16
<p><b>S-D-2-b Seismic Safety Education.</b> The City will include seismic safety education in the Fire Department's public education programs, such as Community Emergency Response Team (CERT) training and earthquake preparedness training.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-21
<p><b>S-D-2-c Non-Structural Hazards Assessment.</b> The City will include an assessment of non-structural seismic hazards as part of annual inspections of businesses as part of a public education program.</p> <p><b>Comment:</b> This function is not supported by the fire code, this item should be removed.</p>			X	
<p><b>S-D-2-d Private Utility Lines at Bridges.</b> City performs general public outreach to homeowner associations to educate them about the need for earthquake- resistant flexible connections when pipes enter and exit the bridges.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-21
<p><b>S-D-3-a Fire Education/Prevention.</b> The City will provide a fire education/prevention program to the public, including schools, businesses and community groups through publications, training classes and other means.</p> <p><b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.</p>			X	FOS-20



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
S-D-4-a Crime Prevention/Education. The City will provide a variety of crime prevention programs to educate and involve the community, including but not limited to Neighborhood Watch, Apartment Watch, Business Watch, newsletter, security surveys, and programs with community groups and organizations. <b>Comment:</b> Police representatives say this ongoing item is completed enough to remove.	X			
S-D-4-b Development Review for Crime Prevention. The City will review proposals for new and modified buildings for compliance with crime prevention requirements. <b>Comment:</b> Police representatives say this ongoing item is completed enough to remove.	X			
S-E-1-a Community Events. The City will actively promote community events in order to bring together individuals and groups within the community for a common purpose. <b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.			X	FOS-21
S-E-1-b Cross-Cultural Events. The City will actively promote cross-cultural events in order to celebrate the diversity of the community as well as to bring together individuals and groups so that they become more inter-connected. <b>Comment:</b> This item has been worked on in the past 5 years but it is ongoing so it should carry over to the next plan.			X	FOS-21
S-E-1-a Police Services. The City will provide adequate personnel, training, and equipment to support the provision of police services. <b>Comment:</b> Police confirmed that this is completed and can be removed from future plans.	X			
S-E-2-a Crime Prevention. The City will promote community-based crime prevention through Neighborhood Watch, Apartment Watch, Business Watch, newsletter, security surveys, and programs with community groups and organizations. <b>Comment:</b> Ongoing item but Police representatives say it is completed enough to remove from the plan.	X			

## 9.8 HAZARD MITIGATION ACTION PLAN

Table 9-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 9-15 identifies the priority for each action. Table 9-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 9-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action FOS 1 - Protect and Assess City's Infrastructure and Facilities – Protect infrastructure and facilities from damage due to seismic and geologic hazards through proper design and retrofitting older facilities to current standards. Also, identify strategies that can improve the facility's resilience, including determining the feasibility of replacement where appropriate. This includes identified projects such as:</b>						
<ul style="list-style-type: none"> <li>• S-A-1-a - Protect City's Infrastructure and Facilities</li> <li>• S-A-1-b - Police Station Assessment</li> <li>• S-A-1-c - Recreation Center Assessment</li> <li>• S-A-1-e Monitoring of Water, Sewer and Lagoon Systems</li> </ul>						
<b>Hazards Mitigated:</b> Climate Change, Earthquake, Severe weather, Flood, Tsunami, Sea Level Rise						
New & Existing	1, 6, 7, 8, 9	Foster City	N/A	Medium	Staff Time, General Fund, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Long-Term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action FOS 2</b> - Emergency Power for Critical Infrastructure &amp; Facilities – Ensure adequate emergency power at critical City facilities including major sewer lift stations and lagoon pumps for continuity of government and services.</p> <ul style="list-style-type: none"> <li>• S-A-1-d – Emergency Power for Critical Infrastructure</li> <li>• S-B-2-c – Emergency Power for Critical Facilities</li> <li>• S-B-2-d Critical Traffic Signalized Intersections</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change, Earthquake, Severe weather, Flood, Drought, Tsunami, Sea Level Rise</p>						
New & Existing	1, 5, 6, 7, 8	Foster City	N/A	High	Staff Time, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<p><b>Action FOS 3</b> – Bridge Inspections - Facilitate 2-year (above water) and 5-year (underwater) inspections by the California Department of Transportation (Caltrans) of City owned bridges (Bicentennial, Foster City Boulevard, Rainbow and Shell Boulevard) and there is an active CIP to address any deficiencies noted in the inspections (S-A-1-f).</p> <p><u>Hazards Mitigated:</u> Earthquake, Flood, Tsunami, Sea Level Rise</p>						
New & Existing	1, 6, 7,8	Foster City	N/A	Low	Staff Time, General Fund	Ongoing
<p><b>Action FOS 4</b> - Earthquake Resilient Pipelines - Utilize flexible expansion joints to protect the City's pipelines from stresses produced by seismic activity or gradual soil subsidence (S-A-1-g).</p> <p><u>Hazards Mitigated:</u> Earthquake</p>						
New & Existing	1, 6, 7, 8	Foster City	N/A	Low	Staff Time, General Fund	Ongoing
<p><b>Action FOS 5</b> - Levee Protection Planning and Improvements - CIP 657 is an active project to raise the City's levees in order to retain FEMA accreditation and protect the City against sea level rise. The project is anticipated to be completed by January 2024. Maintenance and communication for the project will be needed. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>• S-A-2-a - Levee Protection Planning and Improvements</li> <li>• S-A-2-b Maintain Levees and Lagoon for Flood Protection</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change, Earthquake, Severe weather, Flood, Tsunami, Sea Level Rise</p>						
New & Existing	1, 6, 7, 8	Foster City	San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD)	Low	Staff Time, General Fund, Grant Funding-USACE-205 grants	Ongoing
<p><b>Action FOS 6</b> - Lagoon Pump Station Building Seismic Evaluation - New CIP will provide recommendations for seismic improvements for this 60-year-old building to meet current code standards (S-A-2-c).</p> <p><u>Hazards Mitigated:</u> Climate Change, Earthquake, Severe weather, Flood, Tsunami, Sea Level Rise</p>						
New & Existing	1, 6, 7, 8	Foster City		Medium	Staff Time, General Fund, Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<p><b>Action FOS 7</b> - The Estero Municipal Improvement District (EMID) stores 20 MG of water, which is more than adequate to meet fire and domestic water demands of the City. City will be pursuing alternative water supplies in response to water cutbacks by SFPUC during periods of drought. The 2020 Urban Water Management Plan to be completed by June 30, 2021. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>• S-A-3-a Water Supply and Delivery for Firefighting</li> <li>• S-A-3-b - Water Supply</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change, Earthquake, Severe weather, Flood, Drought, Sea Level Rise</p>						
New & Existing	1, 6, 7, 8	Foster City	EMID	Medium	Staff Time, General Fund, Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Long-Term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action FOS 8</b> - Ensure that potable water supply system including but not limited to; water tanks, transmission mains and booster pump stations are assessed, designed, and constructed to meet current seismic codes (ref CIP 660). This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>• S-A-3-c Water Delivery System</li> <li>• S-A-3-d Water Booster Pump Station Seismic Retrofit</li> <li>• S-A-3-e Potable Water Tank Seismic Evaluation Retrofit</li> <li>• S-A-3-f Water Transmission Main Evaluation</li> <li>• S-A-3-g Water System Pressure Reducing Station Evaluation</li> </ul> <p><u>Hazards Mitigated:</u> Earthquake, Drought</p>						
New & Existing	1, 5, 6, 7, 8	Foster City	City of San Mateo	Medium	Staff Time, General Fund, Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<p><b>Action FOS 9</b> - Wastewater Treatment Plant Improvements - The WWTP Improvements project (CIP 652) will replace the facility's aging infrastructure and meet regulatory requirements (S-A-4-a).</p> <p><u>Hazards Mitigated:</u> Earthquake</p>						
New & Existing	1, 5, 6, 7, 8	Foster City		Low	Staff Time, General Fund	Short-Term
<p><b>Action FOS 10</b> - Maintain and improve the City's main wastewater system to ensure improved reliability, durability, redundancy and sustainability through preventative maintenance and upgrades. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>• S-A-4-b Lift Station #59 Improvements</li> <li>• S-A-4-c Evaluation/Replacement of Air Release Valves on Wastewater Line between Lift Station #59 and WWTP</li> <li>• S-A-4-d Wastewater Lift Stations Rehabilitation</li> </ul> <p><u>Hazards Mitigated:</u> Earthquake, Flood, Drought</p>						
New & Existing	1, 5, 6, 7, 8	Foster City		Medium	Staff Time, General Fund, Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<p><b>Action FOS 11</b> - Maintain and update the City's Emergency Operations Plan including outlining of responsibilities and procedures for responding to emergencies through participation in general mutual-aid and other agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters. Also, use established procedures and programs of ongoing training, and regular exercising of the City's Emergency Operations Plan, and mutual aid agreements. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>• S-B-1-a Emergency Response</li> <li>• S-B-1-b Emergency Plan</li> <li>• S-B-1-c Mutual Aid</li> <li>• S-C-6-a Post-Disaster Services.</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change, Dam Failure, Earthquake, Severe weather, Flood, Drought, Tsunami, Sea Level Rise</p>						
New & Existing	1, 3, 4, 5, 6, 7, 8, 9, 10	Foster City	SMCFire	Medium	Staff Time, General Fund	Short-Term
<p><b>Action FOS 12</b> - Police Services - The City will provide adequate personnel, training, and equipment to support the provision of police services for continuity of operations (S-B-1-d).</p> <p><u>Hazards Mitigated:</u> Earthquake, Severe weather</p>						
New & Existing	1, 3, 5, 6, 7, 8, 9, 11	Foster City		Low	Staff Time, General Fund	Ongoing
<p><b>Action FOS 13</b> - Maintain the City's Emergency Operations Center in a full functional state of readiness and designate a back-up Emergency Operations Center with redundant communications systems. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>• S-B-2-a Emergency Operations Center</li> <li>• S-B-2-b Back-up Emergency Operations Center</li> <li>• Develop and implement MAC policy and procedures with other SMCFire JPA cities</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change, Dam Failure, Earthquake, Severe weather, Flood, Drought, Tsunami, Sea Level Rise</p>						
New & Existing	1, 5, 6, 7, 8, 10	Foster City	SMCFire	Medium	Staff Time, General Fund, Grant Funding-EMPG and HSGP	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action FOS 14</b> – Maintain Inventory of Critical Parts for Water and Wastewater Systems – The City to prepare for emergencies will maintain an inventory of critical spare parts (e.g., valves, pumps, pipelines of critical size) at the City’s facility/facilities (S-B-2-e).</p> <p><u>Hazards Mitigated:</u> Climate Change, Earthquake, Severe weather, Flood, Drought, Tsunami, Sea Level Rise</p>						
New & Existing	1, 5, 6, 7, 8	Foster City	City of San Mateo	Medium	Staff Time, General Fund, Grant Funding-EMPG and HSGP	Ongoing
<p><b>Action FOS 15-</b> Incorporate Sea Level Rise Consideration into Planning Process- Incorporate consideration of sea level rise into the development review and infrastructure planning processes, including response strategies that increase resilience to mid-century sea level rise risks for both new and existing development (S-C-1-a).</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Sea Level Rise</p>						
New & Existing	1, 3, 5, 6, 7, 8, 11	Foster City		Medium	Staff Time, General Fund	Short-Term
<p><b>Action FOS 16-</b> The City will require site specific geotechnical and engineering reports for new structures and maintain a geotechnical report library. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>• S-C-2-b Site Specific Geotechnical Analyses</li> <li>• S-D-2-a Geotechnical Reports Library</li> </ul> <p><u>Hazards Mitigated:</u> Earthquake</p>						
New & Existing	1, 5, 6	Foster City		Medium	Staff Time, General Fund	Short-Term
<p><b>Action FOS 17 -</b> Flood Plain Regulations. The City will evaluate any proposed development within special flood hazard areas for conformance with the City’s flood plain regulations as contained in Chapter 15.36 of the Foster City Municipal Code (S-C-3-a)</p> <p><u>Hazards Mitigated:</u> Climate Change, Severe weather, Flood, Sea Level Rise</p>						
New & Existing	1, 5, 6, 7, 8,9	Foster City	FSLRRD	Medium	Staff Time, General Fund, Grant Funding-BRIC (C&CB)	Ongoing
<p><b>Action FOS 18 -</b> Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements (S-C-3-b):</p> <ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul> <p><u>Hazards Mitigated:</u> Climate Change, Earthquake, Severe weather, Flood, Tsunami, Sea Level Rise</p>						
New & Existing	1, 6, 7,8	Foster City	FSLRRD	Low	Staff Time, General Fund,	Ongoing
<p><b>Action FOS 19 -</b> Protect Flood Protection Qualities of Natural Areas. The City will protect and preserve natural features such as wetlands that serve as natural mitigation against the impacts of flooding (S-C-3-c).</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Drought, Tsunami, Sea Level Rise</p>						
New & Existing	1, 5, 6, 7, 8, 9, 14	Foster City		Medium	Staff Time, General Fund, Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<p><b>Action FOS 20–</b>Through the City’s Joint Powers Authority Fire/Rescue provider, the San Mateo Consolidated Fire Department, adopt the most current uniform codes and local regulations, conduct annual inspections of businesses and multi-family dwellings to ensure compliance with fire/life safety and hazardous materials requirements, with inspections of residential care facilities done as requested by of the Department of Social Services. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>• S-C-4-a Development Review for Fire Safety</li> <li>• S-C-4-b Annual Inspections for Fire Safety and Hazardous Materials</li> <li>• S-C-4-c Fire Sprinklers</li> <li>• S-C-5-a Hazardous Materials</li> <li>• S-D-3-a Fire Education/Prevention</li> </ul> <p><u>Hazards Mitigated:</u> Earthquake</p>						
New & Existing	1, 3, 5, 6, 7, 8, 9	Foster City	SMCFire	Low	Staff Time, JPA Budget	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action FOS 21</b> - Utilize available means to educate the public, including schools, businesses, and community groups, about emergency preparedness, including but not limited to the City's website, media, classes, and special events. This includes identified projects such as: <ul style="list-style-type: none"> <li>S-D-1-a CERT Classes</li> <li>S-D-1-b Emergency Preparedness Education and Outreach</li> <li>S-D-2-b Seismic Safety Education</li> <li>S-E-1-a Community Events.</li> <li>S-E-1-b Cross-Cultural Events</li> <li>S-D-2-d Private Utility Lines at Bridges. (Outreach to homeowner associations to educate them about the need for earthquake-resistant flexible connections when pipes enter and exit the bridges.)</li> </ul>						
<i>Hazards Mitigated:</i> Climate Change, Earthquake, Severe weather, Flood, Drought, Tsunami, Sea Level Rise						
New & Existing	1, 3, 5, 6, 7, 8, 9,11	Foster City	SMCFire	High	Staff Time, General Fund, JPA Budget	Ongoing
<b>Action FOS 22</b> - Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Foster City's General Plan.						
<i>Hazards Mitigated:</i> Hazards Mitigated: Climate Change, Dam Failure, Earthquake, Severe weather, Flood, Drought, Tsunami, Sea Level Rise						
New & Existing	1, 3, 5, 6, 7, 8, 9, 10, 11	Foster City	SMCFire	High	Staff Time, General Fund	Ongoing
<b>Action FOS 23</b> - Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Climate Change, Dam Failure, Earthquake, Severe weather, Flood, Drought, Tsunami, Sea Level Rise						
New & Existing	1, 5, 6, 7, 8, 10, 11	Foster City	SMCFire	Low	Staff Time, General Fund	Ongoing
<b>Action FOS 24</b> - Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: <ul style="list-style-type: none"> <li>Conduct Climate Action Plan (CAP) Assessment to reevaluate previous 2015 Climate Action Plan (CAP) to build off of and initiate update of CAP to reflect new State legislation, changing priorities, and environmental sustainability and greenhouse gas (GHG) reduction policies and goals</li> <li>Adopt modifications to existing plans and procedures to meet climate change issues and impacts.</li> </ul>						
<i>Hazards Mitigated:</i> Climate Change, Sea Level Rise						
New & Existing	1, 3, 5, 6, 7, 8, 9,14	Foster City		Low	Staff Time, General Fund	Short-Term
<b>Action FOS 25</b> – Evacuation Planning - Adopt current best practices for evacuation procedures and public education.						
<i>Hazards Mitigated:</i> Earthquake						
New	1, 3, 5, 6, 7, 8, 11	Foster City	SMCFire	Medium	Staff Time, General Fund	Short-Term/Ongoing
<b>Action FOS 26</b> - Community Engagement Platform – The City has identified a need for community engagement on various items of public interest to solicit feedback, including but not limited to projects for infrastructure to mitigate hazards. The platform would also help communicate and update stakeholders in these projects and development.						
<i>Hazards Mitigated:</i> Climate Change, Earthquake, Severe weather, Flood, Drought, Tsunami						
New	1, 3, 5, 6, 7, 8, 9,11	Foster City		High	Staff Time, General Fund, Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Short-Term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 9-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority
1	5	High	Medium	Yes	Yes	No	Medium	High	High
2	5	High	High	Yes	Yes	No	Medium	High	Low
3	4	Medium	Low	Yes	No	Yes	Medium	Low	High
4	4	High	Low	Yes	No	Yes	Medium	Low	High
5	4	Medium	Low	Yes	Yes	Yes	High	Medium	High
6	4	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
7	4	High	Medium	Yes	Yes	Yes	Medium	Medium	High
8	5	High	Medium	Yes	Yes	Yes	Medium	Medium	High
9	5	High	Low	Yes	No	Yes	High	Low	High
10	5	High	Medium	Yes	Yes	Yes	Medium	Medium	High
11	9	Medium	Medium	Yes	Yes	Yes	High	Medium	High
12	8	Medium	Low	Yes	No	Yes	High	Low	High
13	6	Medium	Medium	Yes	Yes	Yes	Medium	Medium	Low
14	5	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
15	7	Medium	Medium	Yes	No	Yes	Medium	Low	High
16	3	Medium	Medium	Yes	No	Yes	High	Low	High
17	6	Medium	Medium	Yes	Yes	Yes	High	Medium	High
18	4	Medium	Medium	Yes	Yes	Yes	High	Medium	High
19	7	Medium	Medium	Yes	Yes	Yes	High	Medium	High
20	7	High	Low	Yes	No	Yes	Medium	Low	High
21	8	Medium	High	No	No	No	Medium	Medium	High
22	9	High	Low	Yes	No	Yes	Medium	Low	Low
23	7	Medium	Low	Yes	No	Yes	Medium	Low	Low
24	8	Medium	Low	Yes	No	Yes	Medium	Low	High
25	7	High	Medium	Yes	No	Yes	High	Low	High
26	8	High	High	Yes	Yes	No	Medium	High	High

a. See the introduction to this volume for explanation of priorities.



**Table 9-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea Level Rise / Climate Change	2, 7, 11, 15, 17, 18, 19, 22, 23	1, 2, 5, 6, ,13 , 14, 18, 19	26	5, 14, 17, 18, 19, 24	1, 2, ,7, 11, 13	2, 5, 6	1, 5, 15, 24	16, 21, 26
<b>High-Risk Hazards</b>								
Dam Failure	11, 22, 23	13			11,13			
Earthquake	2, 7, 8, 11, 16, 18, 20, 22, 23	1, 2, 3, 4, 5, 6, 9, 10, 13, 14, 18, 20	20, 21, 25, 26	5, 14, 18	1, 2, 7, 8, 11, 12, 13, 25	2, 3, 4, 5, 6, 9,10	1, 5	21, 26
Flood	1, 2, 7, 11, 15, 16, 17, 18, 19, 22, 23	1, 2, 3, 5, 6, 10, 13, 14, 18, 19	21, 26	5, 14, 17, 18, 19	1, 2, ,7, 11, 13	2, 3, 5, 6, 10	1, 5, 15	15, 21, 26
<b>Medium-Risk Hazards</b>								
Severe weather	2, 7, 11, 17, 18, ,22,23	1, 2, 5, 6, 13, ,14,18	21, 26	5, 14, 17, 18	1, 2, 7, 11, 12, 13	2, 5, 6	1, 5	21,26
<b>Low-Risk Hazards</b>								
Drought	7, 8, 11, 19, 22	10, 13, 14, 19	21,25	14,19	7, 8, 11, 13, 25	10		21
Landslide/Mass Movement								
Tsunami	2, ,11, 18, 19, 22, 23	1, 2, 3, 5, 6, 13, 14, 18, 19	21, 26	5, 14, 18, 19	1, 2, 11, 13	2, 3, 5,6	1, 5	21,26
Wildfire								

a. See the introduction to this volume for explanation of mitigation types.

## 9.9 PUBLIC OUTREACH

Table 9-17 lists public outreach activities for this jurisdiction. Figure 9-1 shows example public outreach announcements.

**Table 9-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Distribution of Survey #1 Via City Newsletter and Social Media Platforms	May 6, 2021	94
Distribution of CERT Survey Via Neon	June 11, 2021	62

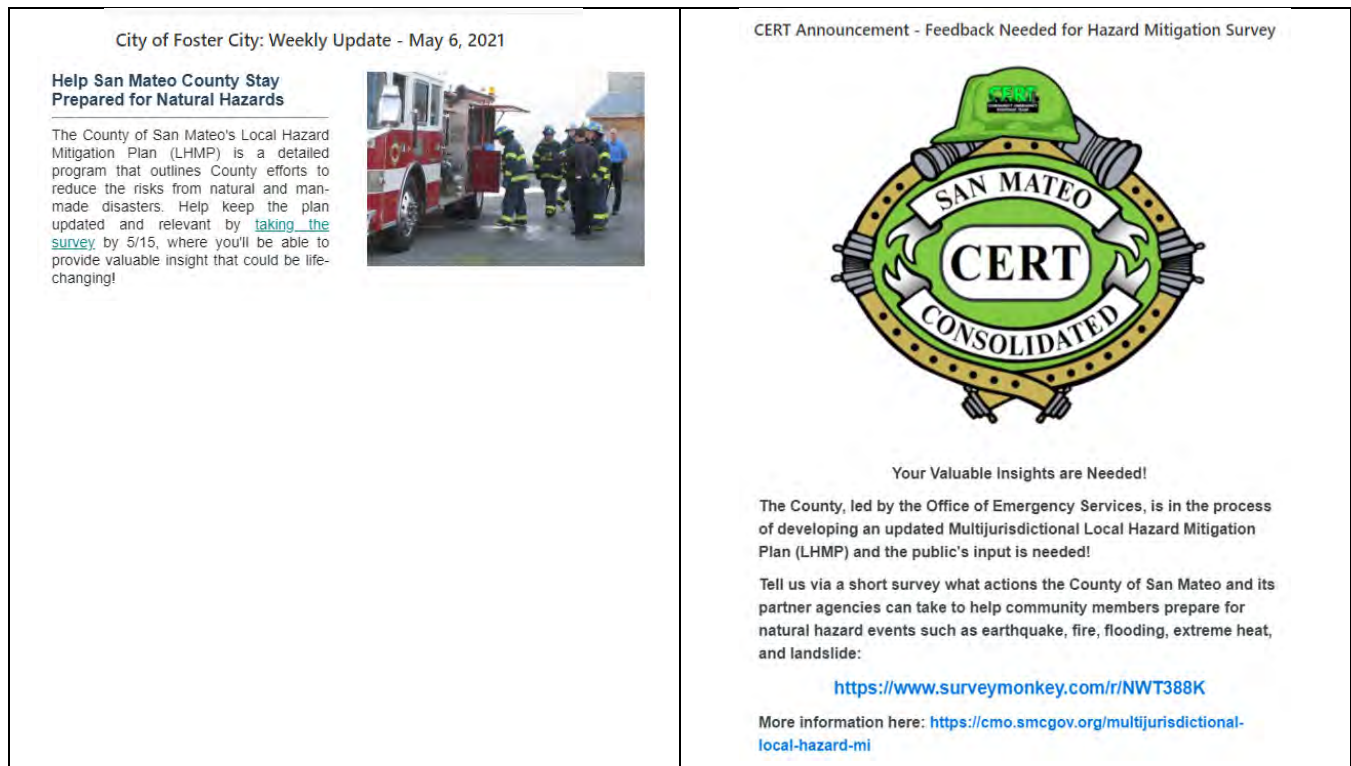


Figure 9-1. Public Outreach Announcements

## 9.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Foster City Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration. Flood damage prevention ordinance is included in Muni Code.
- **Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **City Budget** – The budget was reviewed for funding of action items and assisted with prioritization setting.
- **City Mutual Aid Agreements** – Foster City Mutual Aid Agreements were used to assess capacity.
- **City’s Emergency Operations Plan** – The City’s EOP was used when doing the assessment of action items.
- **Previous City’s LHMP** – The prior LHMP was reviewed when creating this document.
- **City’s General Plan** – The City’s General Plan was reviewed during this process for prioritization and mitigation action item building.
- **City’s Climate Action Plan** – The City’s CAP was used in the mitigation action building phase as well as to assess the City’s climate action assessment (see Table 9-10).



The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **Various San Mateo County Plans and Resources** – Resources provided from the County, including previous plans, data sources, etc. were used in analyzing and preparing this document.
- **California DWR Dam Inundation Map** – This resource was used to demonstrate to planning partners how dam inundation for the respective City appears.

## **9.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY**

An analysis of risks including but not limited to flood and dam inundation need to be adjusted for local infrastructure (pumping abilities) for a more accurate risk assessment.

Foster City based on local knowledge does not have a previous history of flooding from prior storm events. There are systems with multiple redundancies in place for this risk.

South San Francisco

# Foster City

## Critical Facilities, 1 of 2

Foster City

Redwood City

Menlo Park

San Mateo

Belmont

San Carlos

92

101

82

- Food, Water, Shelter
- Health and Medical
- Safety and Security
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD



0 0.45 0.9 1.8 Miles



South San Francisco

# Foster City

## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Foster City

San Mateo

92

101

82

Belmont

San Carlos

Redwood City

Menlo Park

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.45 0.9 1.8 Miles



South San Francisco

# Foster City

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Foster City

San Mateo

92

Redwood City

Belmont

82

101

San Carlos

Menlo Park

Data Sources: ESRI Basemap, San Mateo Co., CA DWR



0 0.45 0.9 1.8 Miles












South San Francisco

# Foster City

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Foster City

San Mateo

92

Redwood City

101

Belmont

82

San Carlos

Menlo Park

Data Sources: ESRI Basemap, San Mateo Co., CGS



0 0.45 0.9 1.8 Miles



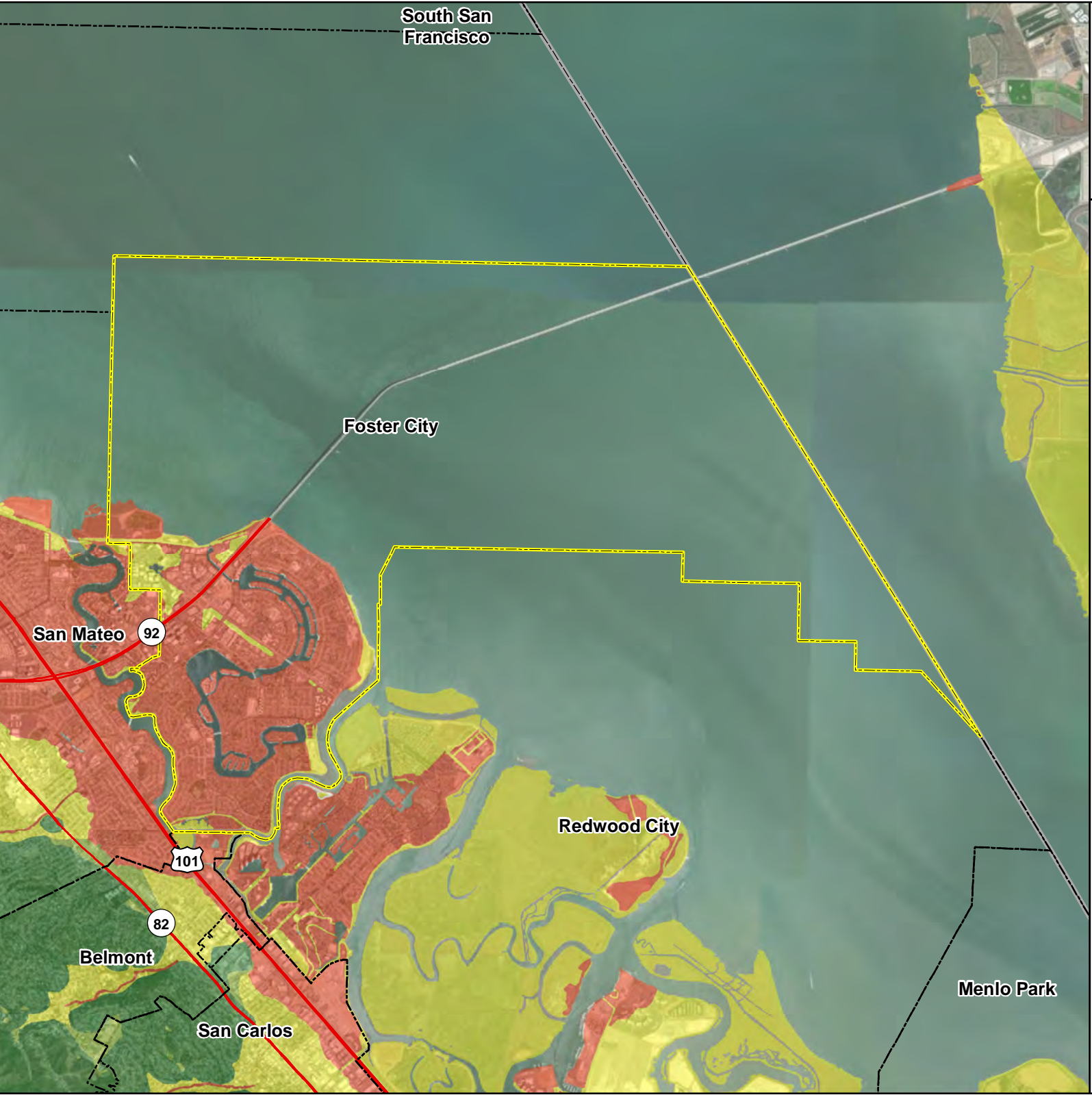
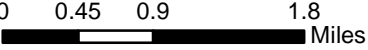
South San Francisco

# Foster City

## Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)





South San Francisco

# Foster City

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

- V (Moderate/Very Light)
- VI (Strong/Light)
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.45 0.9 1.8 Miles

Foster City

Redwood City

Menlo Park

San Mateo

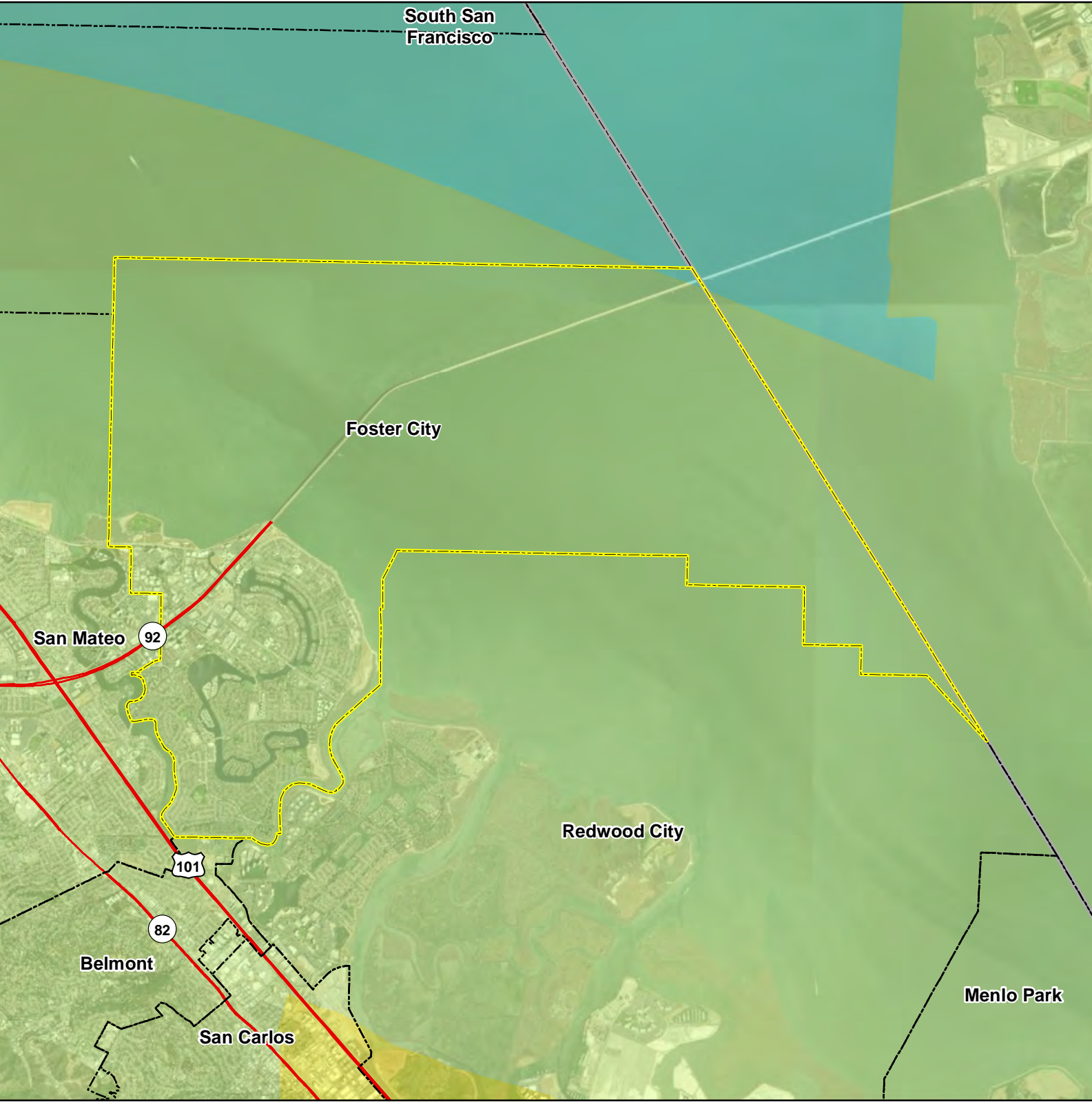
92

101

82

Belmont

San Carlos



South San Francisco

# Foster City

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)
- VIII (Severe/Moderate-Heavy)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap, San Mateo Co., USGS



0 0.45 0.9 1.8 Miles

Foster City

Redwood City

Menlo Park

San Mateo

92

101

82

Belmont

San Carlos



South San Francisco

# Foster City

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.45 0.9 1.8 Miles

Foster City

San Mateo

92

101

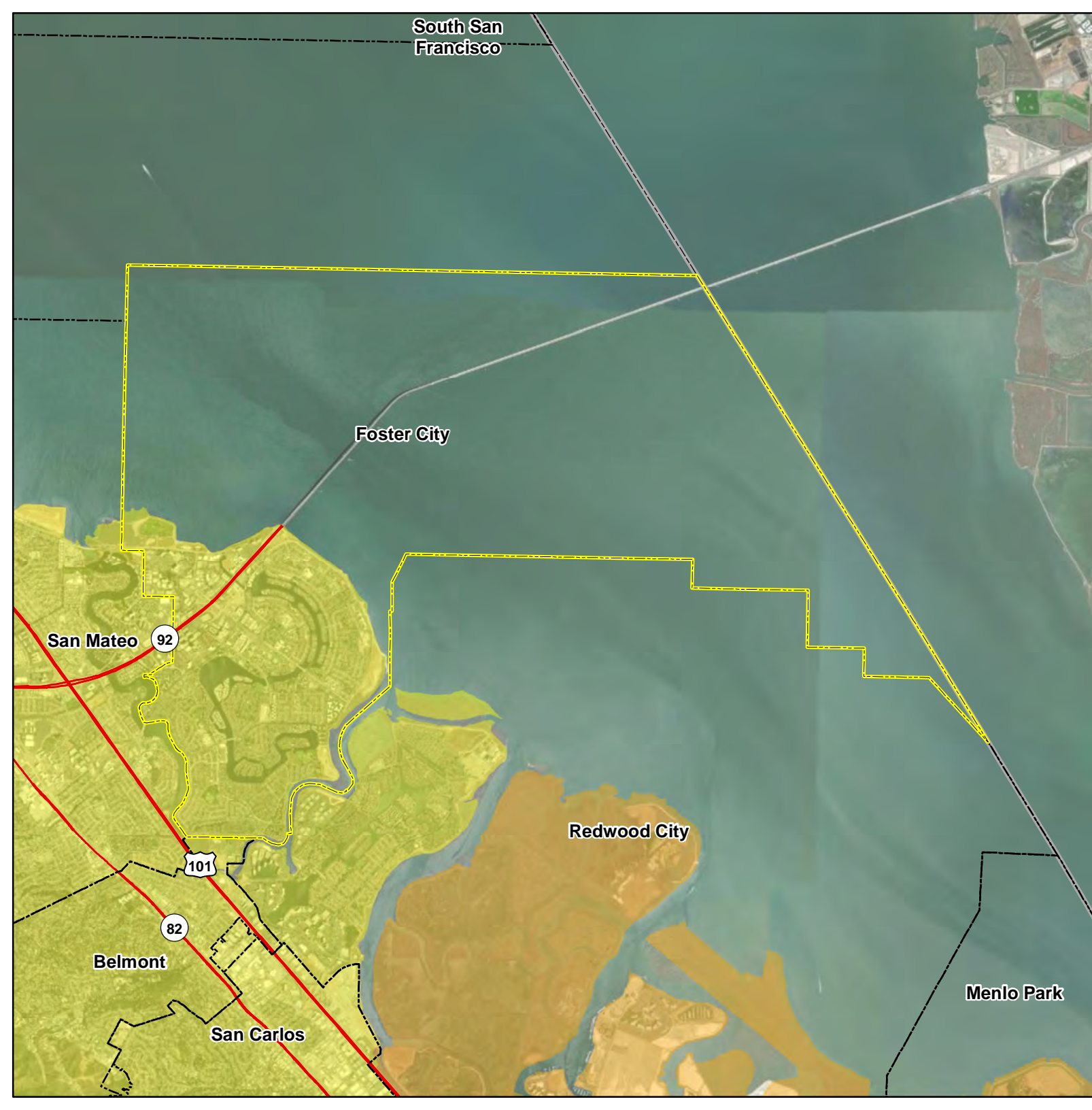
82

Belmont

San Carlos

Redwood City

Menlo Park



South San  
Francisco

# Foster City

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)
- VIII (Severe/Moderate-Heavy)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.45 0.9 1.8  
Miles

Foster City

Redwood City

Menlo Park

San Mateo

92

101

82

Belmont

San Carlos



South San  
Francisco

# Foster City

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.45 0.9 1.8  
Miles

Foster City

Redwood City

Menlo Park

San Mateo

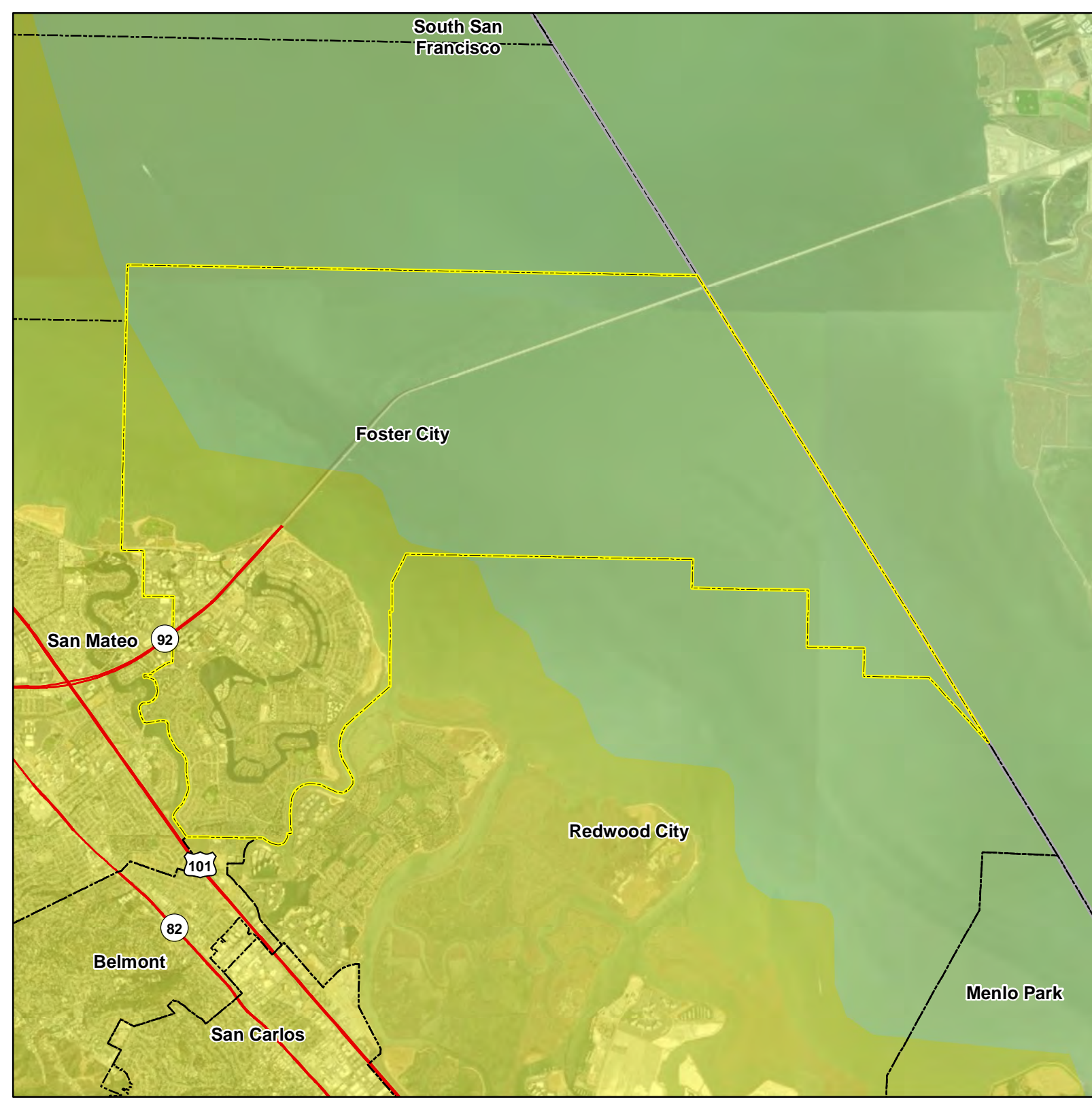
92

101

82

Belmont







San Carlos



South San Francisco

# Foster City

## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Foster City

San Mateo

92

Redwood City

101

Belmont

82

San Carlos

Menlo Park

Data Sources: ESRI Basemap, San Mateo Co., FEMA



0 0.45 0.9 1.8 Miles



South San Francisco

# Foster City

## Susceptibility to Deep-Seated Landslides

- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS



0 0.45 0.9 1.8 Miles

Foster City

San Mateo

92

Redwood City

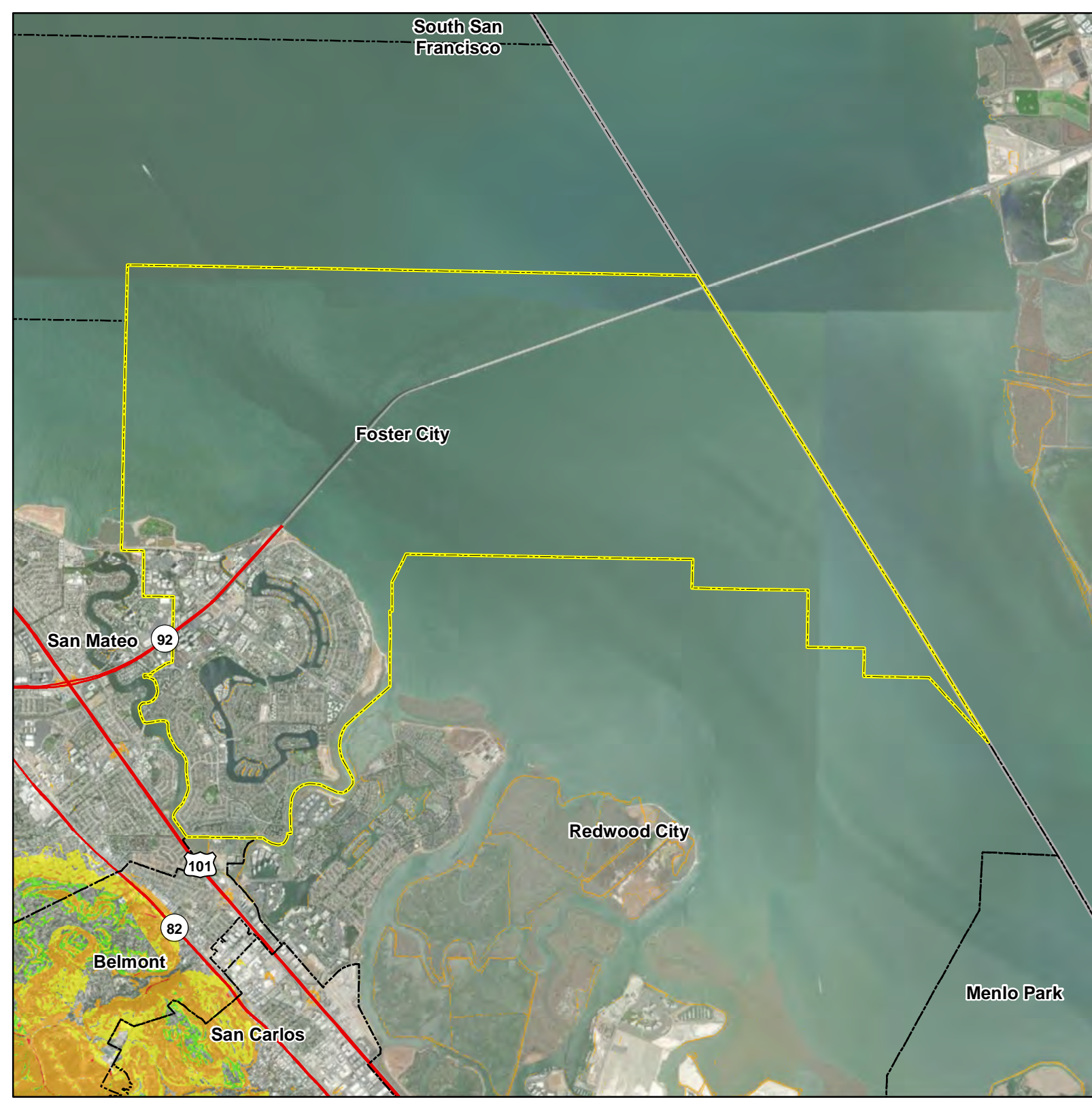
101

Belmont

82

San Carlos






Menlo Park



South San Francisco

# Foster City

## Sea Level Rise


-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF



0 0.45 0.9 1.8 Miles











South San  
Francisco

# Foster City

## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Foster City

San Mateo

92

Redwood City

101

Belmont

82

San Carlos

Menlo Park

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.45 0.9 1.8  
Miles

South San Francisco

# Foster City

## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Foster City

San Mateo

92

Redwood City

101

Belmont

82

San Carlos

Menlo Park

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.45 0.9 1.8 Miles





# 10. CITY OF HALF MOON BAY

## 10.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Corie Stocker, Management Analyst  
501 Main Street  
Half Moon Bay, CA 94404  
650-750-2002  
cstocker@hmbcity.com

### Alternate Point of Contact

Veronika Vostinak, Sustainability Analyst  
501 Main Street  
Half Moon Bay, CA 94404  
650-750-2019  
vvostinak@hmbcity.com

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 10-1.

**Table 10-1. Local Mitigation Planning Team Members**

Name	Title
Corie Stocker	Management Analyst
Veronika Vostinak	Sustainability Analyst
Matthew Chidester	Deputy City Manager
Brittney Cozzolino	Associate Planner
Jill Ekas	Community Development Director
John Doughty	Public Works Director
Lisa Lopez	Administrative Services Director

## 10.2 JURISDICTION PROFILE

### 10.2.1 Location and Features

The City of Half Moon Bay is a small city in San Mateo County, California. The City is 6.2 square miles in area and is approximately 6.5 miles long and a little less than a mile wide. It is located on the Pacific Coast 23 miles south of San Francisco. The developed portion of the City is located on relative flat land between coastal bluff tops to the west and foothills of the Santa Cruz Mountains to the east. State Route 1 provides the only contiguous access from north to south; State Route 92 provides access to the east side of the San Francisco Peninsula.

Half Moon Bay’s weather is typical of the Northern California coast, with mild summers and cool, wet winters. It rarely freezes in the winter and it is rarely hot in the summer. Annual average rainfall is over 26 inches, with 80% between November to March. The average year-round temperature is 59°F. Humidity averages 57 to 100 percent. Winds speeds vary from 0 to 19 mph (calm breeze) and rarely exceed 23 mph (fresh breeze).

## 10.2.2 History

The Planning Area is in a region historically occupied by the tribelets of the Costanoan linguistic group. Descendants of Costanoan speakers prefer to be called by the name of the tribelet from which they are descended. When their heritage is mixed or the specifics have been lost over generations, they prefer the use of a native term, Ohlone, rather than the European-imposed term Costanoan (“coastal dwellers”). The rich resources of the ocean, bays, valleys, and mountains in the region provided Ohlone-speaking peoples with food and all their material needs. The primary food staple was the acorn, supplemented by a great variety of animal and plant resources.

The Ohlones were composed of 50 or more tribes in the southern San Francisco Bay Region, ten of which were situated along the peninsula. The Portola Expedition, set out to claim land for Spanish territory, encountered several Ohlone villages after their arrival in the late 1760’s, including the Chinguan village in today’s Half Moon Bay. Spanish explorer records indicate that the Spanish received meals, directions, and guidance from the Ohlones leading up to the 1769 ascent up Sweeney Ridge. This marked the point of Spanish discovery and settlement of the San Francisco Bay. When Mexico won its independence from the Spanish crown in 1821, California fell under rule of Mexican territorial governors who granted much of the former Spanish mission lands to Mexican subjects. These land grants effectively displaced the Ohlones, ignoring any of their remaining territorial rights.

The early community became known as “Spanishtown” because of the number of Spanish-speaking inhabitants. In 1874, Spanishtown officially became known as Half Moon Bay, named for the beautiful crescent-shaped harbor that lies just north of town. The City of Half Moon Bay was incorporated in 1959. The City of Half Moon Bay still has many reminders of its early beginnings in the mid-1800s as an agricultural town.

## 10.2.3 Governing Body Format

The City of Half Moon Bay is a General Law City with a council-manager form of governance. A five-member City Council establishes policy and provides direction for all City operations; while the City Manager serves as the chief executive officer for implementation and the day-to-day provision of services. The City Planning Commission has final authority under the Municipal Code and otherwise is advisory to City Council. The Parks and Recreation Commissions advisory to the City Council. From time to time, the City Council establishes task forces and advisory committees that focus on plans and projects. The City consists of five departments: The City Manager’s Office, the Communication/City Clerk’s Office, Administrative Services, Public Works, and Community Development. The City contracts with the San Mateo County Sheriff’s Office for police services. The City is served by the Coastside Fire Protection District, the Coastside County Water District, and participates in the Sewer Authority Mid-Coastside Joint Powers Authority. Services such as library, senior services and animal control are supported by the City; however, day-to-day operations are the responsibility of the respective agencies and non-profits.

The City Council is responsible for the adoption of the Half Moon Bay Annex of the Local Hazard Mitigation Plan (Plan), and the City Manager will oversee its implementation.



## 10.3 CURRENT TRENDS

### 10.3.1 Population

According to the California Department of Finance the population of Half Moon Bay as of January 2020 was 12,431. Since 2016, the population has decreased at an average annual rate of 0.2 percent.

### 10.3.2 Development

Half Moon Bay's development pattern is largely characterized by a defined town center, alternating residential and agricultural land uses outside of the town center, and public open space and recreation lands along the shoreline. Development is primarily comprised of infill residential, small-scale commercial, and town center mixed-use projects. Residential development is paced by a voter-adopted growth control measure that provides for an annual residential growth rate of 1-1.5%, while commercial projects typically involve changing uses within existing buildings or new small-scale projects in town center infill sites. In recent years, City Council priorities have led to incentivizing development in the town center and established neighborhoods where public infrastructure and services exist. Since 2016, the City has averaged approximately fifteen (15) building permits issued per year for new construction, the majority of which are for new single-family residences.

Table 10-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 10-2. Recent and Expected Future Development Trends**

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No					
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No					
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	2016	2017	2018	2019	2020	
Single Family	10	24	11	5	15	
Multi-Family	0	0	0	1	0	
Other (commercial, mixed use, etc.)	6	3	0	1	0	
<b>Total</b>	<b>16</b>	<b>27</b>	<b>11</b>	<b>7</b>	<b>15</b>	

Criterion	Response
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 8</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 0</li> <li>• Tsunami Inundation Area: 4</li> <li>• Wildfire Risk Areas: 0</li> </ul>
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	Approximately 2,600 acres out of Half Moon Bay's total of 3,990 acres (or about 65% of the city) are occupied by open space, park land, golf course, open field agriculture, and public right-of-way (streets, easements). Of the remaining potentially buildable lands with residential, non-residential, and mixed-use zoning, there are approximately 375 vacant/undeveloped acres (or about 9% of the city).

## 10.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 10-3.
- Development and permitting capabilities are presented in Table 10-4.
- An assessment of fiscal capabilities is presented in Table 10-5.
- An assessment of administrative and technical capabilities is presented in Table 10-6.
- An assessment of education and outreach capabilities is presented in Table 10-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 10-8.
- Classifications under various community mitigation programs are presented in Table 10-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 10-10.



**Table 10-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
Building Code <i>Comment: Muni Code 14.04.020 , 2019</i>	Yes	No	Yes	Yes
Zoning Code <i>Comment: Muni Code 18, 1996</i>	Yes	Yes	Yes	Yes
Subdivisions <i>Comment: Muni Code 17, 1994</i>	Yes	Yes	Yes	Yes
Stormwater Management <i>Comment: Muni Code 13.15, 1994 LUP Chapter 6, 2020</i>	Yes	Yes	Yes	Yes
Post-Disaster Recovery <i>Comment: Emergency Operations Plan, 2017; Muni Code 2.25, 2007</i>	Yes	Yes	Yes	Yes
Real Estate Disclosure  <i>Comment: CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property. LUP Chapter 7, 2020</i>	Yes	No	Yes	Yes
Growth Management <i>Comment: Muni Code 14.38, 1989 Muni Code 17.06, 2009</i>	Yes	No	No	No
Site Plan Review <i>Comment: Muni Code 18, 1996</i>	Yes	No	No	Yes
Environmental Protection <i>Comment: CEQA Muni Code 18.38, 1996 LUP Chapter 6, 2020</i>	Yes	Yes	Yes	Yes
Flood Damage Prevention <i>Comment: Muni Code 14.34, 2002</i>	Yes	No	Yes	Yes
Emergency Management <i>Comment: Emergency Operations Plan, 2017; Muni Code 2.25, 2007</i>	Yes	Yes	Yes	Yes
Climate Change <i>Comment:</i>	No	Yes	Yes	No
Other <i>Comment:</i>	N/A	N/A	N/A	No
<b>Planning Documents</b>				
General Plan  <i>Is the plan compliant with Assembly Bill 2140? No Comment: Land Use Element update completed 2020. Safety Element update pending.</i>	Yes Update Pending	Yes	Yes	Yes
Capital Improvement Plan <i>How often is the plan updated? Annually Comment: <a href="https://www.half-moon-bay.ca.us/DocumentCenter/View/1758/CURRENT-CIP?bidId=">https://www.half-moon-bay.ca.us/DocumentCenter/View/1758/CURRENT-CIP?bidId=</a> New CIP will be published in July 2021 (will use same link)</i>	Yes	No	No	Yes
Disaster Debris Management Plan <i>Comment: San Mateo County Plan</i>	Yes	Yes	Yes	Yes
Floodplain or Watershed Plan <i>Comment: <a href="#">Storm Drain Master Plan (2016)</a></i>	Yes	No	Yes	Yes

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Stormwater Plan <i>Comment: Storm Drain Master Plan (2016), Green Infrastructure Plan 2019</i>	Yes	No	No	Yes
Urban Water Management Plan <i>Comment: 2020 UWMP pending adoption by Coastside County Water District in 2021</i>	No	Yes	Yes	No
Habitat Conservation Plan <i>Comment:</i>	No	No	No	No
Economic Development Plan <i>Comment: In progress</i>	No	No	No	Future
Shoreline Management Plan <i>Comment:</i>	No	No	No	No
Community Wildfire Protection Plan <i>Comment:</i>	No	No	No	No
Forest Management Plan <i>Comment:</i>	No	No	No	No
Climate Action Plan <i>Comment: Draft Summer 2021, pending adoption winter 2021-22</i>	Yes	No	No	No
Emergency Operations Plan <i>Comment: Emergency Operations Plan, 2017</i>	Yes	No	No	Yes
Threat & Hazard Identification & Risk Assessment (THIRA) <i>Comment: Emergency Operations Plan, 2017</i>	Yes	No	No	Yes
Post-Disaster Recovery Plan <i>Comment: In progress</i>	No	No	No	Future
Continuity of Operations Plan <i>Comment: In progress</i>	No	No	No	Future
Public Health Plan <i>Comment: San Mateo County</i>	Yes	No	No	No
Other <i>Comment:</i>	N/A	N/A	N/A	N/A

**Table 10-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Community Development Department
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	Yes



**Table 10-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes, eligible to use through the County
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes (subject to voter approval)
User Fees for Water, Sewer, Gas or Electric Service	Yes (only Sewers)
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	N/A

**Table 10-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development Director , Public Works Director, City Engineer, Senior Planner, others
Engineers or professionals trained in building or infrastructure construction practices	Yes	Building Inspector, City Engineer
Planners or engineers with an understanding of natural hazards	Yes	CDD / Community Development Director Public Works Director, Senior Planner, City Engineer
Staff with training in benefit/cost analysis	Yes	With contractors
Surveyors	Yes	With contractors
Personnel skilled or trained in GIS applications	Yes	With contractors
Scientist familiar with natural hazards in local area	Yes	With contractors
Emergency manager	Yes	Management Analyst & Deputy City Manager
Grant writers	Yes	All departments / Management Analyst
Other	Yes	With contractors

**Table 10-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes, Communications Department, Director is PIO
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes 2010 Multi-Jurisdictional Local Hazard Mitigation Plan, Storm and Tsunami readiness
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes We utilize email newsletters and various social media for community outreach, communication and for Storm and Tsunami readiness

Criterion	Response
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes Coastside Emergency Action Program
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes Coastside Emergency Action Program Emergency Operations Plan
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes San Mateo County Alert System / Tsunami Alerts Horns

**Table 10-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works
Who is your floodplain administrator? (department/position)	City Engineer
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	2002
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	May 2021
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Unknown There is insufficient data on coastal flood plain smaller creeks and streams
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	Yes FEMA Training, Association of State Floodplain Managers Training
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No N/A No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	80 \$27,080,400 \$42,629
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	8 \$56,296

<sup>an</sup> According to FEMA statistics as of March 31, 2021



**Table 10-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608131708	N/A
DUNS#	Yes	020005971	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection (Coastside FPD)	No	ISO Class 3/3X	May 2018
Storm Ready	Yes	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	Yes	N/A	N/A

**Table 10-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Climate Action and Adaptation Plan in progress</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment:</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Technical assistance available through County RICAPS program</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Available through County RICAPS program</i>	Medium
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Addressed in Land Use Plan, will be further addressed in Climate Action and Adaptation Plan</i>	High
Participation in regional groups addressing climate risks <i>Comment: Dedicated staff member actively participates in and seeks out new regional group efforts to address climate risks applicable to Half Moon Bay</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: City Council Priority</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Identified in Climate Action and Adaptation Plan draft</i>	High
Identified strategies for adaptation to impacts <i>Comment: To be identified in Climate Action and Adaptation Plan</i>	Medium
Champions for climate action in local government departments <i>Comment: Dedicated Staff member in Public Works</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: Strong public support demonstrated in past efforts</i>	Medium
Financial resources devoted to climate change adaptation <i>Comment:</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Low

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents' knowledge of and understanding of climate risk <i>Comment: Ongoing, active outreach efforts with local resident groups including those who reach vulnerable populations such as non-English speakers, youth, and seniors</i>	Medium
Local residents' support of adaptation efforts <i>Comment: High levels of participation and interest in past outreach and efforts</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: High levels of local participation and interest in climate impact outreach events</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 10.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 10.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Emergency Operations Plan** — The City integrates hazard mitigation for storm and tsunami readiness, along with annexes related to other natural disasters (i.e., earthquake, all hazard)
- **Local Coastal Land Use Plan** — The City integrates hazard mitigation relative to environmental hazards including sea level rise and other shoreline hazards, geologic and seismic hazards, fire hazards, and fluvial flooding.
- **General Plan** – The City integrates hazard mitigation for all pertinent hazards in the adopted Safety Element.

### 10.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **General Plan** — The City is currently planning to integrate hazard mitigation for all pertinent hazards in an update to the adopted Safety Element.



- **Emergency Operations Plan** — The City is currently planning to integrate the updated hazard mitigation plan. Other plans in progress include Continuity of Operations, Post Disaster recovery, etc.
- **Climate Action and Adaptation Plan** – The City is planning to integrate climate change adaptation into the Climate Action and Adaptation Plan
- **Public Outreach** – The City recognizes that there are currently opportunities available to facilitate public engagement regarding hazard mitigation. The City will continue to provide a robust and targeted program that involves using current capabilities to expand and enhance outreach to local residents.
- **Coastside Recovery Initiative-** The Coastside Recovery Initiative is a partnership between the City of Half Moon Bay, Half Moon Bay Coastside Chamber of Commerce, and San Mateo County. The goals of the Initiative are 1) to address immediate needs of business and the Coastside community to effectively recover from the impacts of COVID-19 and 2) advance strategies that lead to a more equitable, vibrant, and resilient Coastside economy. The City plans to utilize the relationships to identify areas of inequity and weakness in the community, which potentially can mitigate some of the recognized high risk category hazards.
- **Evacuation Plan-** The City is currently collaborating with the San Mateo County Department of Emergency Services on regional evacuation planning and will integrate hazard mitigation information into the final plans.

## 10.6 RISK ASSESSMENT

### 10.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 10-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 10-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
CZU Lightning Complex fires	FM-5336-CA	August 16, 2020	Over 1,400 buildings damaged, covered 86, 000 acres. County opened a Resource Center at the HMB High School
COVID-19 Pandemic	DR-4482	January 20, 2020	Not Available
PSPS Power Shut Offs	Not Available	October 25, 2020	Not Available
PSPS Power Shut Offs	Not Available	October 14, 2020	Not Available
PSPS Power Shut Offs	Not Available	October 24, 2019	Not Available
PSPS Power Shut Offs	Not Available	October 9, 2019	Community Resource Center (CRC) opened in HMB. Tom Lantos Tunnel closed temporarily. Local businesses took a loss of over \$1,000,000 in the October 2019 PSPS events combined
Severe Winter Storms, Flooding, and Coastal Erosion	DR-4308	February 1 – 23, 2017	\$411,065.50 in temporary repairs for emergency stabilization of Seymour Ditch.
Severe Winter Storms, Flooding, and Coastal Erosion	DR-4305	January 18 – 23, 2017	Not Available
Severe Storm / Flooding	Not Available	December 10, 2014	Not Available

Type of Event	FEMA Disaster #	Date	Damage Assessment
Earthquake Tsunami	Not Available	February 27, 2010	Not Available
Severe Storm	Not Available	April 1, 2006	Not Available
Severe Storm / Flooding	DR-1203	February 9, 1998	Not Available
Severe Storm / Flooding	DR-1155	January 4, 1997	Not Available
Severe Storm / Flooding	DR-1046	March 12, 1995	Not Available
Severe Storm / Flooding	DR-1044	January 10, 1995	Not Available
Earthquake	DR-845	October 18, 1989	Not Available
Flood	DR-758	February 21, 1986	Not Available
Flood	Not Available	1984	Not Available
Severe Storm	DR-677	February 9, 1983	Not Available
Flood	DR-651	January 7, 1982	Not Available
Drought	EM-3023	January 20, 1977	Not Available

## 10.6.2 Hazard Risk Ranking

Table 10-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 10-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	66	High*
2	Wildfire	72	High
3	Tsunami	27	High*
4	Severe Weather	24	High*
5	Dam Failure	46	Medium*
6	Landslide/Mass Movement	42	Medium*
7	Flood	51	Low
8	Drought	9	Low
9	Sea Level Rise/Climate Change	24	Low

\* Based on local knowledge, the following adjustments were made to the risk categories:

Earthquake was moved further up the list due to proximity to the San Andreas fault and fault lines. Evacuation for such event would be challenging.

Tsunami moves up due to our proximity to the ocean and residential properties in the new inundation maps.

Severe Weather was moved up due to the extreme heat episodes that have occurred and issues with cooling, as well as lightning storms and rainstorms.

Dam Failure's risk category was downgraded to Medium as the spread versus depth of the damage needs to be assessed.

Landslide/Mass Movement was moved down and downgraded to Medium due to the lack of property where coastal erosion occurs.

There is a low risk to life and property.

## 10.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.



## **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## **10.7 STATUS OF PREVIOUS PLAN ACTIONS**

Table 10-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 10-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
HMB 1 – Rehabilitate the Main Street Bridge over Pilarcitos Creek. <b>Comment:</b> Listed as Capital Project in CIP, some grant funding has been secured, in design, estimated construction in 2023-2024			✓	HMB-9
HMB 2 - Continue to maintain good standing and compliance under the National Flood Insurance Program (NFIP). This will be accomplished through the implementation of flood plain management programs. <b>Comment:</b> Ongoing. Community Assistance Visit (CAV) scheduled for this year			✓	HMB-4
HMB 3 - Create sea level rise vulnerability assessments of City's facilities and infrastructure. <b>Comment:</b> Ongoing. <a href="#">HMB Sea Level Rise Vulnerability Assessment (2016)</a> <a href="#">Sea Change SMC (2018)</a> – includes most of HMB but not the Ritz Carlton Hotel.			✓	HMB-14
HMB 4 - Continue to participate in developing and maintaining communications for first responders from cities, counties, special districts, state, and federal agencies. <b>Comment:</b> Ongoing.			✓	HMB-13
HMB 5 - Maintain and participate in the San Mateo County's Standardized Emergency Management System Plan. <b>Comment:</b> Ongoing, creating updated City Emergency Operations Plan.			✓	HMB-11
HMB 6 - Participate in general mutual-aid agreements with adjoining jurisdictions for cooperative responses to fires, floods, earthquakes, and other disasters. <b>Comment:</b> Ongoing.			✓	HMB-13
HMB 7 - Continue to sponsor the training and maintenance of the Community Emergency Response Team (CERT) through partnership with local businesses. <b>Comment:</b> Coastside Fire Protection District took over sponsorship of CERT moving forward.		✓		
HMB 8 –Maintain regulations to limit development in areas prone to landslide and erosion. Monitor slopes and hillsides during and after major storms. <b>Comment:</b> Done in 2020 LUP update policies and will also address in Safety Element	✓			
HMB 9 - Continue to repair and make structural improvements to storm drains, pipelines, and/or channels to enable them to perform to their capacity in handling water flows as part of regular maintenance activities. <b>Comment:</b> Ongoing.			✓	HMB-9

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>HMB 10</b> – Develop a better understanding of the earthquake hazard through data collection.</p> <p><b>Comment:</b> Ongoing.</p>			✓	
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> 2020 LUP has some policies that address this, and this may not be relevant to all hazard areas.</p>			✓	HMB 1
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b> Currently participate in StormReady; may explore participation with other programs in the future.</p>	✓			
<p><b>Action G-3</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b></p>			✓	HMB-14
<p><b>Action G-4</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Will reference in Climate Action and Adaptation Plan. Referenced in 2020 LUP update and will reference in Safety Element update.</p>	✓			
<p><b>Action G-5</b>—Consider the development and implementation of a Capital Improvements Program (CIP) to increase regulatory, financial, and technical capability to implement mitigation actions.</p> <p><b>Comment:</b> 2021 – 2026 5-year CIP adopted June 15, 2021 <a href="https://www.half-moon-bay.ca.us/DocumentCenter/View/1758/CURRENT-CIP?bidId=">https://www.half-moon-bay.ca.us/DocumentCenter/View/1758/CURRENT-CIP?bidId=</a></p>	✓			
<p><b>Action G-6</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> We have given some grant funds for rehabilitation. We don't have a lot of incentive/need for this since we don't have a lot of development in high hazard risk areas.</p>		✓		
<p><b>Action G-7</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing.</p>			✓	HMB-3
<p><b>Action G-8</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing.</p>			✓	HMB-3

## 10.8 HAZARD MITIGATION ACTION PLAN

Table 10-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 10-15 identifies the priority for each action. Table 10-16 summarizes the mitigation actions by hazard of concern and mitigation type.



**Table 10-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HMB-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Dam Failure, Earthquake, Flooding, Landslide/Mass Movements, Severe Weather, Tsunami, Wildfire						
Existing	6, 8, 9, 10, 13	Half Moon Bay	N/A	High	Grant Funding-FEMA HMA (BRIC, FAM and HMGP)	Short-term
<b>Action HMB-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Local Coastal Program, Climate Action and Adaptation Plan and Emergency Operations Plan.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Dam Failure, Earthquake, Flooding, Landslide/Mass Movements, Severe Weather, Tsunami, Wildfire						
New & Existing	1, 2, 5, 7, 8, 10	Half Moon Bay	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HMB-3</b> —Actively participate in the plan maintenance protocols and initiatives outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Flooding, Severe Weather						
New & Existing	4, 6, 10	Half Moon Bay	N/A	Low	Staff Time, General Funds	Short-term
<b>Action HMB-4</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<i>Hazards Mitigated:</i> Flooding, Severe Weather						
New & Existing	1, 2, 5, 8, 9	Half Moon Bay	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HMB-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
<ul style="list-style-type: none"> <li>• Adopt the City's first Climate Action and Adaptation Plan to outline and prioritize City strategies for adaptation to impacts</li> <li>• Analyze local economy and ecosystems capacity to adapt to climate change impacts</li> </ul>						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Flooding, Severe Weather, Wildfire						
New & Existing	1, 4, 5, 7	Half Moon Bay	N/A	Low	Staff Time, General Funds	Short-term
<b>Action HMB-6</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power, including the Half Moon Bay Library.						
<i>Hazards Mitigated:</i> Dam Failure, Earthquake, Flooding, Landslide/Mass Movements, Severe Weather, Tsunami, Wildfire						
Existing	8, 9	Half Moon Bay	N/A	Medium	General Fund	Short-term
<b>Action HMB-7</b> — Finalize the design and environmental components for permanent erosion stabilization of the Seymour Ditch including an analysis of erosion stabilization alternatives, design of the preferred alternative, permitting for the preferred alternative and ultimate construction of permanent stabilization measures for the Seymour ditch. Provide environmental recreation, community/connectivity enhancements where possible.						
<i>Hazards Mitigated:</i> Flooding, Severe Weather, Landslide/Mass Movements						
New & Existing	4, 6, 7, 8	Half Moon Bay	County of San Mateo, San Mateo Resource Conservation District, Peninsula Open Space Trust, Coastside Land Trust, FSLRRD	Medium	Capital Improvement Fund, General Fund	Short-Term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HMB-8</b> — Complete the Poplar Gateways Master Plan and implement a phased program for erosion mitigation, bluff restoration, and initiate work on the easterly re-alignment of the Coastal Trail between Poplar Street and Kelly Avenue.						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flooding, Severe Weather, Landslide/Mass Movements						
New & Existing	3, 5, 6, 7, 14	Half Moon Bay	N/A	Medium	Capital Improvement Fund, General Fund	Short-Term
<b>Action HMB-9</b> —Continue to update and implement projects outlined within the Capital Improvement Projects, including rehabilitating Main St. Bridge over Pilarcitos Bridge Creek, addressing hazard mitigation and response. These actions include but are not limited to: The urban forestry management program, repairs and rehabilitations of stormwater outfalls, corporation yard improvements, flood management and coastal bluff preservation.						
<u>Hazards Mitigated:</u> Dam Failure, Earthquake, Flooding, Landslide/Mass Movements, Severe Weather, Tsunami, Wildfire						
Enter Response	4, 5, 6, 7, 8	Half Moon Bay	N/A	Medium	Capital Improvement Fund, Grant Funding--FEMA HMA (BRIC, FAM and HMGP)	Ongoing
<b>Action HMB-10</b> — Replace the existing main electrical service equipment at the Sewer Authority of Mid-Coastside's Wastewater Treatment Plant with new equipment to mitigate arc flash hazards, remove a single point of failure by creating a "main-tie-main" configuration, and to address the potential for flooding of the main electrical service components by relocating above flood level and SLR level.						
<u>Hazards Mitigated:</u> Flooding, Severe Weather						
New & Existing	6, 7, 8, 9, 13	Half Moon Bay	Sewer Authority Midcoast	Medium	Capital Improvement Fund	Short-term
<b>Action HMB-11</b> —Update the City's Emergency Operations Plan and work in tandem with the County on an Evacuation Plan. These documents will be continuously updated and address actions from mitigation all the way through recovery.						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Tsunami, Severe Weather, Flood, Dam Failure, Landslide/Mass Movements						
Enter Response	1, 2, 5, 7, 8, 10, 11	Half Moon Bay	County	Low	Staff time, General Fund	Short-Term
<b>Action HMB-12</b> — Continue to monitor bluff and drainage system regressions and continue to assess appropriate mitigation opportunities (such as clean closure) for the closed Half Moon Bay landfill located on the coastal bluffs near Poplar Beach.						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Earthquake, Landslide/Mass Movements						
Enter Response	1, 5, 10	Half Moon Bay	County	Medium	General fund, Grant Funding--FEMA HMA (BRIC, FAM and HMGP)	Long-Term
<b>Action HMB-13</b> —Create broadband redundancy to allow for better digital infrastructure. The City plans to add additional connectivity on the coastside for communication prior to, during and after an emergency. This includes working with other agencies, participating in mutual aid agreements, and identifying weak signal areas to prevent hazard related disruptions						
<u>Hazards Mitigated:</u> Dam Failure, Earthquake, Flooding, Landslide/Mass Movements, Severe Weather, Tsunami, Wildfire						
New & existing	4, 8, 11	Half Moon Bay	County	Medium	Grant Funding-EMPG and HSGP	Short-term
<b>Action HMB-14</b> — Develop and implement a program to capture perishable data after significant events (e.g., sea level rise, high water marks, preliminary damage estimates, damage photos) and critical facilities assessment to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather, Tsunami						
New & Existing	1, 5, 6, 7, 8	FSLRRD, County	Half Moon Bay	Medium	General Fund	Short Term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action HMB-15</b>— Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather</p>						
New & Existing	1, 2, 5, 6, 7, 8, 9, 13, 14	FSLRRD, County	Half Moon Bay	Low	General Fund, Private Developers, City Capital Project Funding	Ongoing
<p><b>Action HMB-16</b>— Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including pump stations, generators, tide gates, stream gages, open channel, and culvert/pipeline infrastructure.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather</p>						
New & Existing	2, 6, 7, 8	FSLRRD, County	Half Moon Bay	Medium	Tax-Funded Flood Zones, Grant Funding-FEMA HMA (BRIC, FAM and HMGP)	Ongoing
<p><b>Action HMB-17</b>— Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide, Flood, Severe Weather, Drought</p>						
New & Existing	2, 6, 7, 8, 14	FSLRRD, County	Half Moon Bay	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding-EPA Grants (Section 319 grants, CWSRF), City Capital Project Funding	Ongoing
<p><b>Action HMB-18</b>— Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to San Mateo County Flood and Sea Level Rise Resiliency District Flood Zone channels and infrastructure.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather</p>						
New & Existing	1, 2, 4, 6, 7, 8	FSLRRD, County	Half Moon Bay	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding-FEMA HMA (BRIC, FAM and HMGP), City Capital Project Funding	Ongoing
<p><b>Action HMB-19</b>— Plan, design, and implement long-term resilience to sea level rise, extreme storms, and coastal erosion for culverts, roadways, and bridges in the vicinity of other flood protection projects, including assets identified in the Caltrans District 4 Adaptation Priorities Report.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Landslide, Flood, Severe Weather</p>						
New & Existing	2, 4, 6, 7, 8, 13	FSLRRD, County	Half Moon Bay	Medium	Grant Funding-FEMA HMA (BRIC, FAM and HMGP)	Ongoing
<p><b>Action HMB-20</b>— Identify and pursue strategies to enhance recycled water infrastructure planning/implementation in the vicinity of San Mateo County Flood and Sea Level Rise Resiliency District projects.</p> <p><u>Hazards Mitigated:</u> Drought</p>						
New & Existing	1, 6, 7, 8	FSLRRD, County	Half Moon Bay	Medium	Grant Funding-FEMA HMA (BRIC, FAM and HMGP)	Ongoing
<p><b>Action HMB-21</b>— Advance long-term resilience to sea level rise, extreme storms, and coastal erosion for Pillar Point Harbor and the surrounding area.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather</p>						
New & Existing	6, 7, 8, 13, 14	FSLRRD, County	Half Moon Bay, San Mateo County Harbor District, San Mateo Resource Conservation District	Medium	County Funding (Measure K), Grant Funding-FEMA HMA (BRIC, FAM and HMGP)	Long-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HMB-22</b> — Advance long-term resilience to sea level rise, extreme storms, and coastal erosion for the California Coastal Trail.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Flood, Severe Weather						
New & Existing	6, 7, 8, 10, 13, 14	FSLRRD, County	Half Moon Bay, Caltrans, California State Coastal Conservancy	Low	County Funding (Measure K), Grant Funding-FEMA HMA (BRIC, FAM and HMGP)	Long-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 10-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	3	High	High	Yes	Yes	No	Medium	High	High
2	7	Medium	Low	Yes	No	Yes	High	Low	Low
3	3	Low	Low	Yes	No	Yes	High	Low	Low
4	6	Medium	Low	Yes	No	Yes	High	Low	Low
5	7	Medium	Low	Yes	No	Yes	High	Medium	Medium
6	3	High	Medium	Yes	Yes	No	Medium	High	High
7	4	Medium	Medium	Yes	Yes	Yes	High	High	Low
8	5	Medium	Medium	Yes	Yes	Yes	High	Medium	Low
9	5	High	Medium	Yes	Yes	Yes	High	High	High
10	5	High	Medium	Yes	Yes	Yes	High	High	High
11	7	High	Low	Yes	No	Yes	High	Low	High
12	3	Medium	Medium	Yes	Yes	Yes	High	Low	Low
13	3	Medium	Medium	Yes	Yes	No	Medium	High	High
14	5	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
15	9	High	Low	Yes	Yes	Yes	High	High	Medium
16	4	High	Medium	Yes	Yes	Yes	High	High	Medium
17	5	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
18	6	High	Medium	Yes	Yes	Yes	High	High	Medium
19	6	High	Medium	Yes	Yes	Yes	High	High	Medium
20	4	Medium	Medium	Yes	Yes	Yes	High	Medium	Low
21	5	High	Medium	Yes	Yes	Yes	High	High	Medium
22	6	High	High	Yes	Yes	No	Medium	High	Medium

a. See the introduction to this volume for explanation of priorities.



**Table 10-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	HMB-1, 9, 12, 13	HMB-1,9	HMB-11		HMB-6, 9, 11, 13	HMB-9		HMB-2, 11, 13
Wildfire	HMB-1, 9, 13	HMB-1,9	HMB-5,11		HMB-6, 9, 11, 13	HMB-9	HMB-2, 5	HMB-2, 11, 13
Tsunami	HMB-1, 9, 13	HMB-1,9	HMB-11,14		HMB-6, 9, 11, 13	HMB-9		HMB-2, 11, 13
Severe Weather	HMB-1, 3, 4, 7, 9, 10, 13, 14, 5, 16, 17, 18, 21, 22	HMB-1, 4, 9, 10, 18	HMB-4, 5, 11, 14, 16	HMB-7,8	HMB-6, 9, 11, 13	HMB-9, 10, 16, 19	HMB-2, 5, 19, 21, 22	HMB-2, 11, 13
<b>Medium-Risk Hazards</b>								
Dam Failure	HMB-1, 9, 13	HMB-1,9	HMB-11		HMB-6, 9, 11, 13	HMB-9		HMB-2, 11, 13
Landslide/ Mass Movement	HMB-1, 7, 9, 12, 13, 17	HMB-9	HMB-5,11	HMB-7,8	HMB-6, 9, 11, 13	HMB-9, 19	HMB-2,5, 19	HMB-2, 11, 13
<b>Low-Risk Hazards</b>								
Flood	HMB-1, 3, 4, 7, 9, 10, 13, 15, 16, 17, 18, 21, 22	HMB-1, 4, 9, 10, 1	HMB-4, 5, 11, 14, 16	HMB-7,8	HMB-6, 9, 11, 13	HMB-9, 10, 16, 19	HMB-2, 5, 19, 21, 22	HMB-2, 11, 13
Drought	HMB-17,20							
Sea Level Rise/ Climate Change	HMB-12, 15, 16, 17, 18, 21, 22	HMB-18	HMB-5, 14, 16	HMB-8		HMB-16,19	HMB-2, 5, 19, 21, 22	HMB-2

a. See the introduction to this volume for explanation of mitigation types.

## 10.9 PUBLIC OUTREACH

Table 10-17 lists public outreach activities for this jurisdiction.

**Table 10-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Presentation/Discussion at Evergreen Coastsiders	May 13, 2021	11

## 10.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City of Half Moon Bay Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **City of Half Moon Bay Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.

- **City of Half Moon Bay Local Coastal Land Use Plan**—Chapter 7. Environmental Hazards of the Local Coastal Land Use Plan was utilized to identify hazards and land use policies for avoiding hazards in new development projects.
- **City of Half Moon Bay Emergency Operations Plan**-The Emergency Operations Plan was utilized to identify hazards and determine mitigation efforts.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.








## 10.11 ADDITIONAL COMMENTS

Changes to the hazard risk rankings and categories noted in comments in that section.



# Half Moon Bay

## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



0 0.375 0.75 1.5  
Miles





# Half Moon Bay

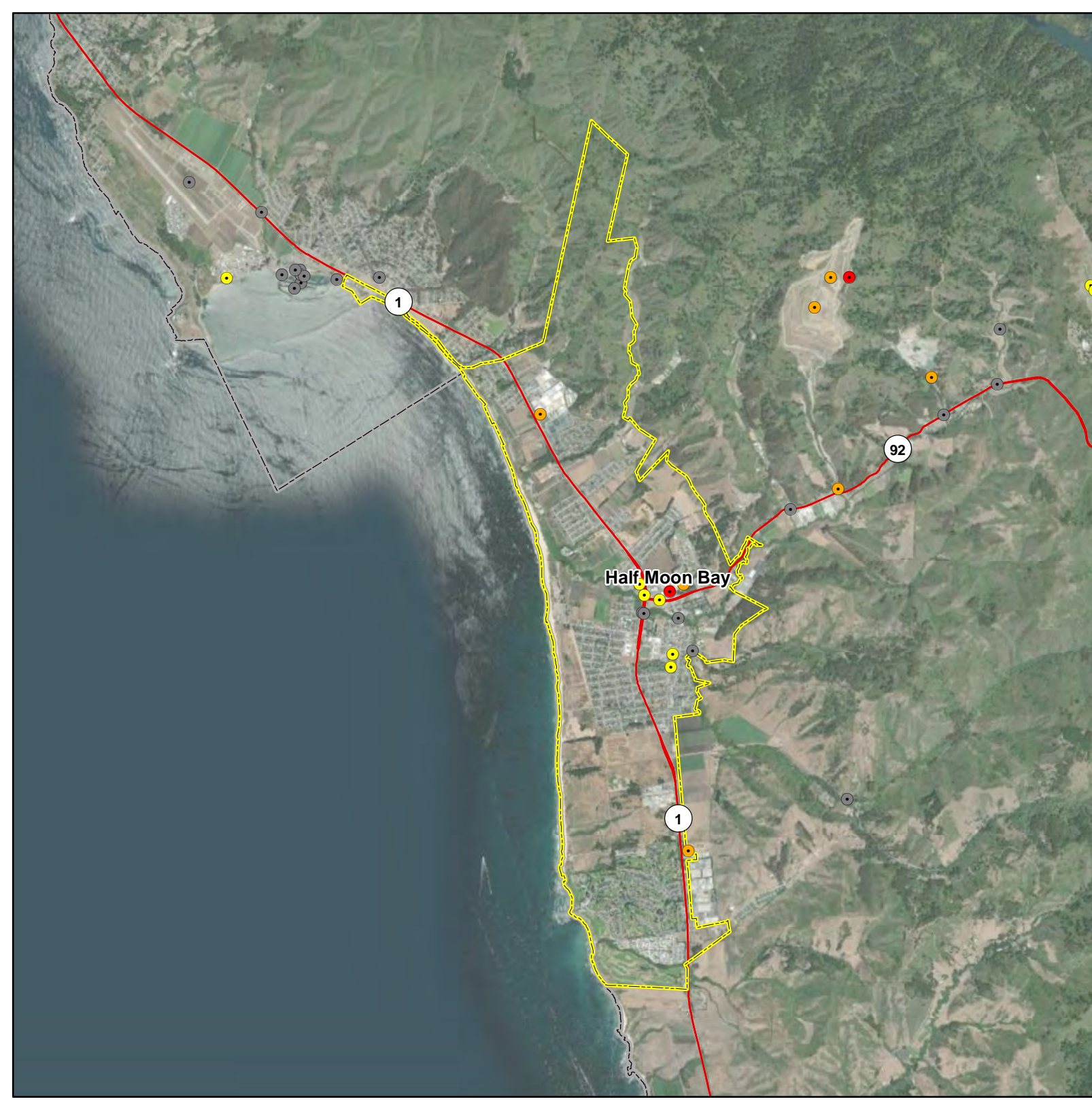
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.375 0.75 1.5 Miles





# Half Moon Bay

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










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Miles





# Half Moon Bay

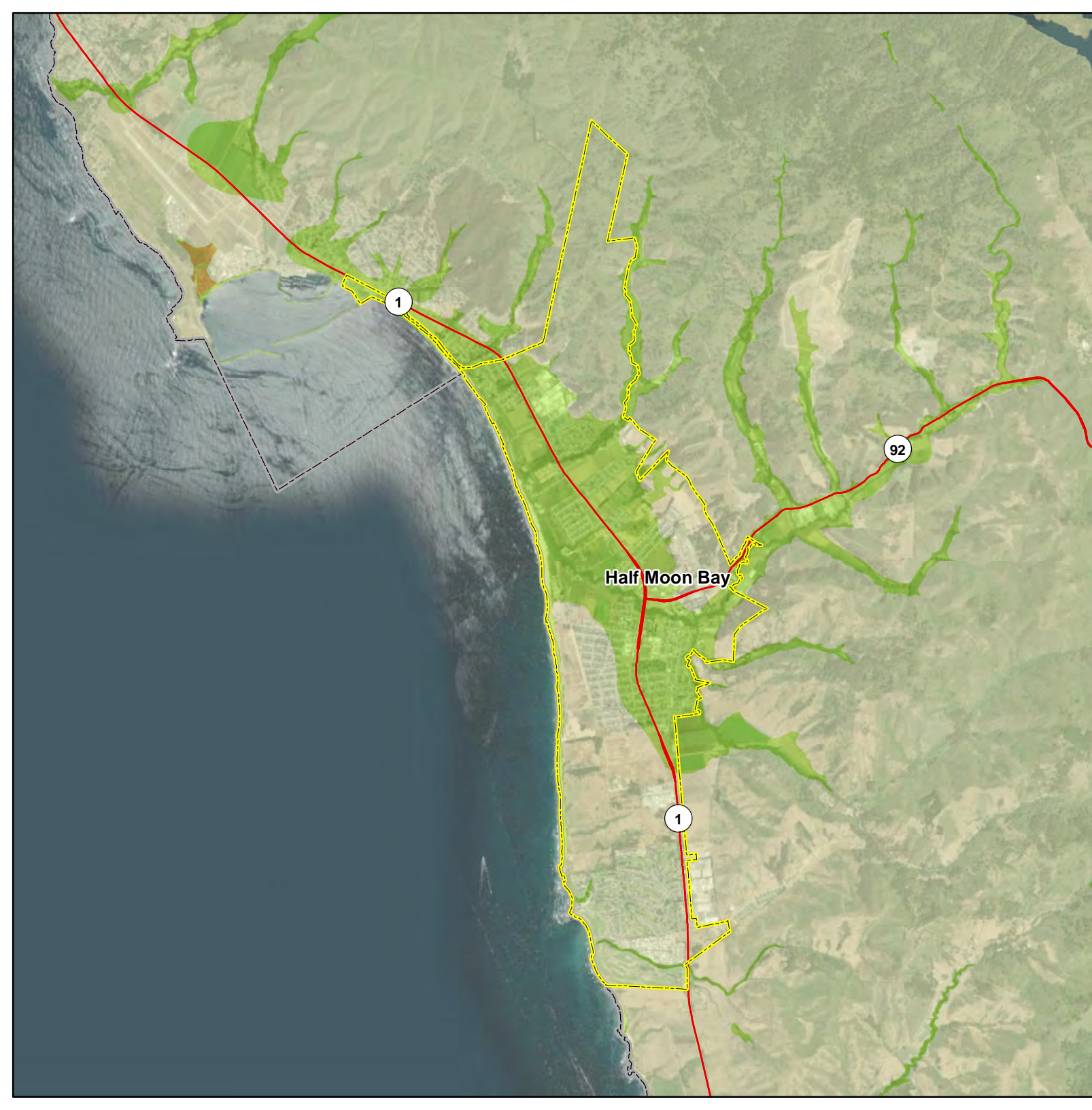
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.375 0.75 1.5  
Miles





# Half Moon Bay

## Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)



0 0.375 0.75 1.5 Miles





# Half Moon Bay

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

 VI (Strong/Light)

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.375 0.75 1.5  
Miles









# Half Moon Bay

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.375 0.75 1.5  
Miles





# Half Moon Bay

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.375 0.75 1.5  
Miles





# Half Moon Bay

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.375 0.75 1.5  
Miles







# Half Moon Bay

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.375 0.75 1.5  
Miles





# Half Moon Bay

## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.375 0.75 1.5 Miles





# Half Moon Bay

## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








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Miles





# Half Moon Bay

## Sea Level Rise

-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.375 0.75 1.5  
Miles





# Half Moon Bay

## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.375 0.75 1.5  
Miles





# Half Moon Bay

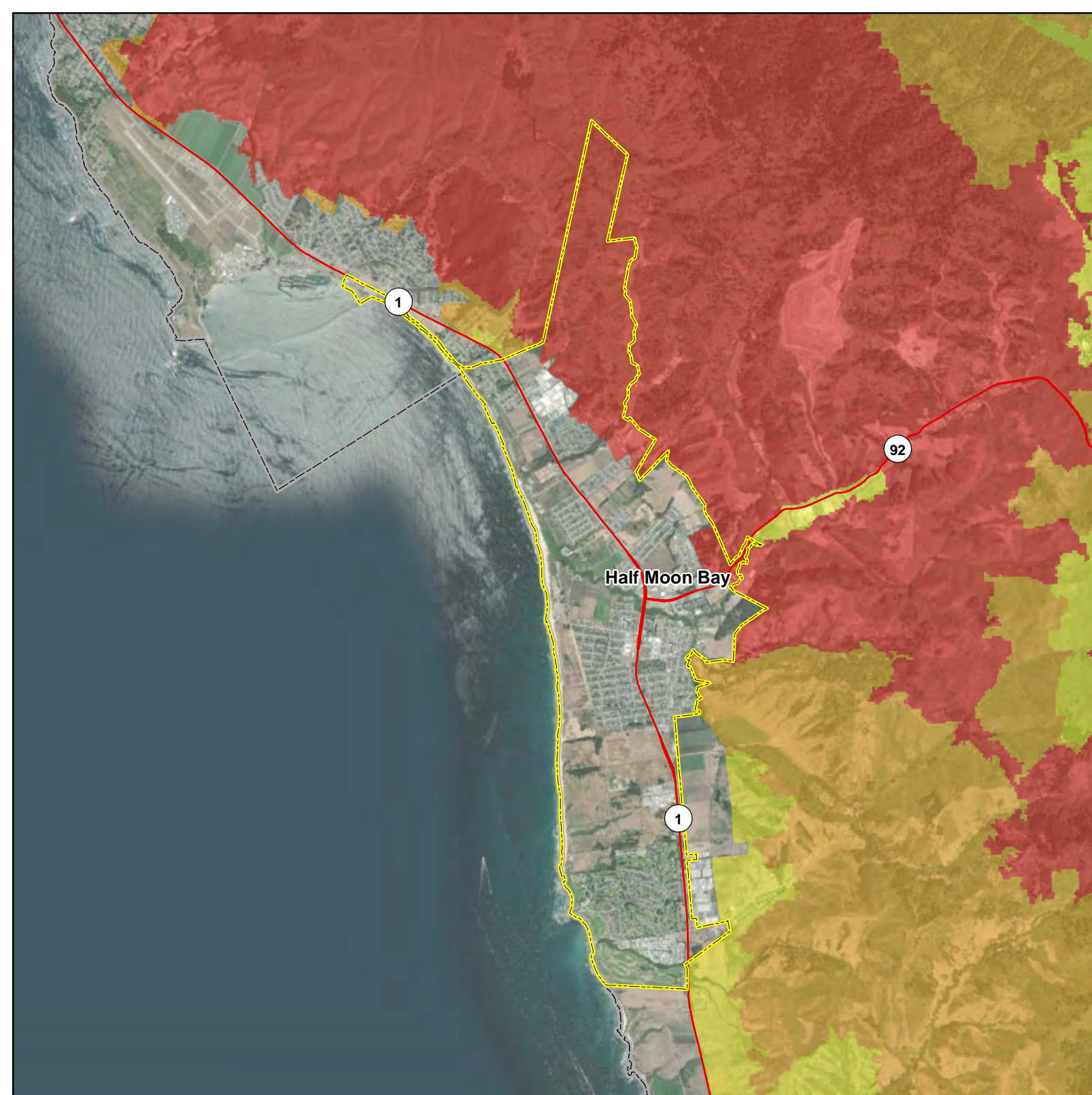
## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.375 0.75 1.5 Miles







# 11. TOWN OF HILLSBOROUGH

## 11.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Mandy Brown, Senior Management Analyst  
1600 Floribunda Avenue  
Hillsborough, CA 94010  
(650) 375-7409  
mbrown@hillsborough.net

### Alternate Point of Contact

Dena Gunning, Community Risk & Resilience Specialist  
1399 Rollins Road  
Burlingame, CA  
(650) 558-7609  
dgunning@ccfd.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 11-1.

**Table 11-1. Local Mitigation Planning Team Members**

Name	Title
Ann Ritzma	City Manager, Hillsborough
Bruce Barron	Fire Chef, CCFD
Mandy Brown	Senior Management Analyst, Hillsborough
Dena Gunning	Community Risk and Resiliency Specialist
Christine Reed	Fire Marshal
Paul Willis	Director of Public Works
Sarah Fleming	Director of Building & Planning

## 11.2 JURISDICTION PROFILE

### 11.2.1 Location and Features

The Town of Hillsborough is a residential community located in San Mateo County, California. It is west of U.S. Highway 101 and El Camino Real and east of Interstate 280 within a short commute to San Francisco and minutes from San Francisco International Airport. The Town is bordered on the north and east by the City of Burlingame, to the east and south by the City of San Mateo, and to the west by the San Francisco Peninsula watershed. The Town maintains about 250 acres of open space; the local police station has historic significance connected to the early days of Southern Pacific Railroad.

Hillsborough has a Mediterranean climate with the vast majority of the precipitation from the months of November to April. On average, Hillsborough receives 17 inches of rain. With coastal mountains to the west of Hillsborough, it is blocked in the winter from much of the rainfall over Half Moon Bay, and in the summer it is blocked from virtually all the fog of the coast. Hillsborough receives an average of 307 days of sunshine annually, with 52 days of recordable precipitation per year.

## 11.2.2 History

William Davis Merry Howard, son of a wealthy Hillsboro, New Hampshire shipping magnate, sailed on one of his father's ships from Boston around Cape Horn to the West Coast. Upon returning home, he convinced his father of the fortunes to be made in the West and returned to California some 15 years later. Howard became a partner in a general merchandising firm in 1845.

The following year, he purchased "Rancho San Mateo" from the Mexican governor, Pio Pico. The Rancho was a tract of land that became the city of San Mateo. He paid \$25,000 for the tract, or approximately \$3.88 an acre. For the next few years, Howard and his wife, Agnes, lived in a comfortable life on the isolated Peninsula. Here they built a fine home which they called "El Cerrito" and made San Mateo a successful working ranch.

When the gold rush began a few years later, the thousands of prospectors flooding California needed provisions and only a few outlets were present. In a short span of time, Howard and his partner became wealthier than even the most successful gold seekers.

As San Mateo and Burlingame continued to grow, the need for money to make improvements became acute, and the residents began to show interest in annexing the estate owners' lands. The owners of the estates were not well disposed to contributing tax dollars toward the improvement of neighboring city life; nor were they interested in any of the benefits incorporation would bring, e.g., sidewalks and other amenities which would detract from the rural atmosphere of their area. Accordingly, in 1910, residents filed incorporation papers with the County Board of Supervisors and on April 25 of the same year, by popular vote of 60-1 a "perfumed city" (as one San Francisco newspaper put it) was born. "Hillsborough" had 89 registered voters at the time out of an estimated population of 750. Women, children, and servants did not participate in the election. Hillsborough was incorporated on May 5, 1910.

Between 1910 and 1938, Hillsborough's population grew from an estimated 750 to over 2,500, but the era of large estates came a close. Uplands, Home Place, La Dolphine, and other classic estates were gradually subdivided into smaller lots, usually leaving the original house and several acres intact.

## 11.2.3 Governing Body Format

The Town is a general law city operating with a Council / Manager form of government. Policy-making and legislative authority are vested in the governing City Council, which consists of a Mayor, a Vice-Mayor and three City Council members. City Council members are elected to overlapping 4-year terms, in even numbered years. The City Council members select the Mayor and Vice-Mayor every year. The City Council is responsible, among other things, for passing ordinances, adopting the budget, appointing committee and board members, and hiring the City Manager and the City Attorney. The City Manager is responsible for carrying out the policies and ordinances of the City Council, for overseeing the day-to-day operations and for appointing department heads. Central County Fire Department (a separate agency) provides fire and emergency management services for the city.

The Town of Hillsborough assumes responsibility for the adoption of this plan; the Central County Fire Department will oversee its implementation.



## 11.3 CURRENT TRENDS

### 11.3.1 Population

According to the California Department of Finance, the population of Hillsborough as of January 2020 was 11,418. Since 2016, the population has decreased at an average annual rate of 0.59 percent.

### 11.3.2 Development

The Town has one zoning district, “Residence District” or RD. Permitted uses within RD include single family homes and related accessory structures, public schools, private schools, open space, parks, Town facilities, one golf course and one country club. Future development is anticipated to be limited to replacement of existing homes, additions, and accessory dwelling units. The RD zone does allow multifamily rental housing to be developed on private school sites via a special permit, and the country club site by right. However, the Town has received no development applications for such housing in recent years and is not anticipating any submissions in the near future.

It is important to note that in recent years the State of California has become increasingly fixated on addressing the State’s housing shortage through the bills aimed at deregulating land use and abrogating local control over such decisions. Given this, it is possible in the near future that the Town will be required to make changes to its development regulations in order to accommodate additional density as mandated by the State.

Table 11-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 11-2. Recent and Expected Future Development Trends**

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No					
	N/A					
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No					
	N/A					
	N/A					
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes					
	Potential redevelopment of Town Hall campus to upgrade facilities and possibly incorporate housing to address RHNA 6 allocation requirements– The campus is directly adjacent to El Camino Real, and is not in the Wildland Urban Interface (WUI) designated area, flood zone or other hazard risk area.					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	2016	2017	2018	2019	2020	
Single Family	1	3	3	4	5	
Multi-Family	0	0	0	0	0	
Other (commercial, mixed use, etc.)	0	0	0	0	0	
<b>Total</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>5</b>	

Criterion	Response
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 0</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 0</li> <li>• Tsunami Inundation Area: 0</li> <li>• Wildfire Risk Areas: 15</li> </ul>
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	While no buildable lands inventory exists, the Town is generally considered to be at maximum build out for net new homes. Occasionally a property will be purchased and subdivided, however that is the exception and not the rule. The Town does expect to see continued increase in Accessory Dwelling Unit development on existing single-family lots.

## 11.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 11-3.
- Development and permitting capabilities are presented in Table 11-4.
- An assessment of fiscal capabilities is presented in Table 11-5.
- An assessment of administrative and technical capabilities is presented in Table 11-6.
- An assessment of education and outreach capabilities is presented in Table 11-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 11-8.
- Classifications under various community mitigation programs are presented in Table 11-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 11-10.



**Table 11-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
Building Code	Yes	No	Yes	Yes
<i>Comment: Last updated 2013. Municipal code Title 15</i>				
Zoning Code	Yes	No	No	Yes
<i>Comment: Last updated 2016. Municipal code Title 17</i>				
Subdivisions	Yes	No	Yes	No
<i>Comment: Last updated 2011. Municipal code Title 16; State gov't code section 66410 et seq</i>				
Stormwater Management	Yes	No	Yes	No
<i>Comment: Annual program NPDS. Municipal code Title 13; state gov't</i>				
Post-Disaster Recovery	No	Yes	No	No
<i>Comment: Managed by Central County Fire Department. EOP currently being revised. Managed by Central County Fire Department</i>				
Real Estate Disclosure	No	No	Yes	No
<i>Comment: CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.</i>				
Growth Management	Yes	No	No	No
<i>Comment: Last Building Code update 2013. Local zoning code &amp; general plan</i>				
Site Plan Review	Yes	No	Yes	No
<i>Comment: Last Building Code update 2013. Local municipal code and state codes</i>				
Environmental Protection	Yes	No	Yes	No
<i>Comment: Title 14 last updated in 2004; Title 17 in 2008. General Plan scheduled for update in 2017. Local municipal code (Titles 14, 17) General Plan and state laws.</i>				
Flood Damage Prevention	Yes	No	No	No
<i>Comment: Last updated 2014. Municipal code title 15</i>				
Emergency Management	Yes	Yes	No	No
<i>Comment: Municipal code Title 2; chapter 2 – updated in 2005. Managed by Central County Fire Department</i>				
Climate Change	Yes	No	Yes	No
<i>Comment: Local climate plan and general plan; state laws</i>				
Wildland-Urban Interface Code	Yes	Yes	No	No
<i>Comment: Municipal code Title 15; Chapter 21 – Adopted in 2018. Managed by Central County Fire Department</i>				
<b>Planning Documents</b>				
General Plan	Yes	No	No	Yes
<i>Is the plan compliant with Assembly Bill 2140? Yes</i>				
<i>Comment: General Plan update beginning 2022</i>				
Capital Improvement Plan	Yes	No	No	No
<i>How often is the plan updated? Reviewed annually</i>				
<i>Comment: CIP reviewed and updated annually</i>				
Disaster Debris Management Plan	No	No	No	Yes
<i>Comment: San Mateo County Debris Management Plan currently out for RFP. Completion anticipated in early 2022.</i>				
Floodplain or Watershed Plan	Yes	No	No	No
<i>Comment: Ongoing program/plan (updated every 2 - 3 years)</i>				
Stormwater Plan	Yes	No	No	No
<i>Comment: Annual review. 2 year master department plan – Stormwater Master Plan</i>				
Urban Water Management Plan	Yes	Yes	Yes	No
<i>Comment:</i>				
Habitat Conservation Plan	Yes	No	No	No
<i>Comment: Habitat conservation policy</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Economic Development Plan</b> <i>Comment: Does not have a plan</i>	No	No	No	No
<b>Shoreline Management Plan</b> <i>Comment: N/A – Town has no shoreline</i>	No	Yes	No	No
<b>Community Wildfire Protection Plan</b> <i>Comment: Annual review. *Managed by Central County Fire Department (CCFD) In 2010, a collaborative group consisting of CAL FIRE, Resource Conservation District of Santa Cruz County, San Mateo Resource Conservation District, and the US Fish and Wildlife Service worked together to create a draft Community Wildfire Protection Plan (CWPP). The Plan identifies fire protection agencies with jurisdiction, volunteer organizations, large landowners, communities, neighborhoods, open spaces, and other environmental resources in the planning area that may be at risk of fire hazards. Community Risk Assessment In August 2018, the Central County Fire Department (CCFD) contracted with Anchor Point Group to perform a wildfire risk assessment for the three cities in its jurisdiction.</i>	No	Yes*	No	Yes
<b>Forest Management Plan</b> <i>Comment: None</i>	No	Yes	No	No
<b>Climate Action Plan</b> <i>Comment: Climate Action Plan 2010 CCFD Emergency Management integrating Climate Adaptation Planning for EOP completed training 06/2019</i>	Yes	No	No	Yes
<b>Emergency Operations Plan</b> <i>Comment: Managed by Central County Fire Department; current being updated; last revision 2007 CCFD hired a full time Community Risk &amp; Resiliency Specialist to manage all aspects of the Emergency Management Plan for Burlingame/Hillsborough in January 2019.</i>	No	Yes	No	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment: CCFD, Public Works, and Building Departments CCFD continues to assess all threats, hazards and risks including those that have climate change impacts such as severe weather and drought. CCFD continues to participate in the Northern California Regional Intelligence Center to stay informed of trends and local threats. CCFD also utilizes Haystax (Cal COP) to maintain current critical infrastructure inventory and provide a common operating picture.</i>	Yes	No	No	Yes
<b>Post-Disaster Recovery Plan</b> <i>Comment: Included with the EOP. Managed by Central County Fire Department; current being updated; last revision 2007 In process. Due to COVID-19 will look at establishing Disaster Recovery Planning Team in early 2022.</i>	No	Yes	No	Yes
<b>Continuity of Operations Plan</b> <i>Comment: Included with the EOP. Managed by Central County Fire Department; current being updated; last revision 2007 Updating current plan and compiling department continuity plans from the last 18 months of COVID-19 response. In progress of updating Critical Transportation and Supply chain information based on the current regional trainings and exercise coming up in November.</i>	No	Yes	No	Yes
<b>Public Health Plan</b> <i>Comment: Managed by County Health agency</i>	No	Yes	No	No
<b>Other</b> <i>Comment:</i>				

**Table 11-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Building & Planning
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	No



**Table 11-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes – Water and Sewer
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes

**Table 11-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Planning & Public Works
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering / Public Works
Planners or engineers with an understanding of natural hazards	Yes	Public Works
Staff with training in benefit/cost analysis	Yes	Public Works
Surveyors	Yes	Contractors
Personnel skilled or trained in GIS applications	Yes	Public Works
Scientist familiar with natural hazards in local area	No	N/A
Emergency manager	Yes	Central County Fire Dept. (CCFD) – Community Risk & Resiliency Specialist/ Emergency Manager
Grant writers	Yes	Public Works, CCFD (Community Risk & Resiliency Specialist/Emergency Manager/CERT Program Manager)

**Table 11-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes – Hillsborough Police Captain and Senior Management Analyst
Do you have personnel skilled or trained in website development?	No
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Link under Current Town Projects
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Through neighbor network program and the emergency and disaster information webpage.

Criterion	Response
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes  Neighborhood network program; drought advisory board; Firewise USA community group FireSAFE San Mateo County; Zonehaven (evacuation management software)
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes  Neighborhood network program; Firewise USA community group; CERT Program
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes  SMC Alert ( <a href="https://cmo.smcgov.org/smc-alert">https://cmo.smcgov.org/smc-alert</a> ) is an opt-in countywide notification system that can alert mobile devices, landlines and send emails Alert Center ( <a href="http://www.hillsborough.net/AlertCenter.aspx">http://www.hillsborough.net/AlertCenter.aspx</a> ) allows residents to sign up for notifications or to check on Town website for emergency alerts, heat advisories, severe drought notices, severe weather advisories, traffic advisories, and urgent public meeting information. Zonehaven Evacuation Management Platform which is linked to our SMCAAlert mass notification system.

**Table 11-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works
Who is your floodplain administrator? (department/position)	Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	Yes
What is the date that your flood damage prevention ordinance was last amended?	2014
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meets
When was the most recent Community Assistance Visit or Community Assistance Contact?	2014
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No  No – flood plain area is too small
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	51 \$16,715,300 \$26,817
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	12 \$58,359

a. According to FEMA statistics as of May 14, 2021



**Table 11-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608133798	2021
DUNS#	Yes	004952255	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	Yes	2	2010
Public Protection	Yes	ISO 3	2012
Storm Ready	No	N/A	N/A
Firewise	Yes	Firewise Community	2020

**Table 11-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment:</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: Utilizing and monitoring data from the National Weather Service (NWS) on changing conditions such as Drought and Wildfire risks.</i>	High
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment:</i>	Medium
Capital planning and land use decisions informed by potential climate impacts <i>Comment:</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: Emergency Manager has attended Climate adaptation course and continues to participate in Climate change discussions locally and regionally. Participation in the Bay Area UASI planning efforts that include climate change.</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	Medium
Identified strategies for adaptation to impacts <i>Comment:</i>	Medium
Champions for climate action in local government departments <i>Comment:</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment:</i>	High
Financial resources devoted to climate change adaptation <i>Comment:</i>	Medium
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Medium

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Residents engaged and educated through various community groups: Hillsborough Neighborhood Network, CERT Program, and Firewise. Facilitate various community events throughout the year to promote emergency preparedness, including topics related to climate risk.</i>	High
Local residents support of adaptation efforts <i>Comment:</i>	High
Local residents’ capacity to adapt to climate impacts <i>Comment:</i>	High
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	High
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	High

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 11.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 11.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Retroactive Fire Sprinkler Program** – This plan has a retroactive requirement for commercial and residential occupancies to be retroactively equipped with fire sprinklers. The next planned review is 2017.
- **SAFER Smoke Alarm Program** – Our fire department engine companies retroactively install fire smoke alarms in existing dwelling units as needed upon discovery during incident calls.
- **CA Bolt & Brace Program** – CA mitigation program to strengthen house foundations.
- The current General Plan is AB 2140 compliant.
- **Interdepartmental Departmental Development Program** utilizing CRW software that analyzes and update local hazard information
- **Burlingame/Hillsborough Emergency Operations Plan** - The Burlingame/Hillsborough Emergency Operations Plan (EOP) provides the structure and processes that the jurisdictions utilize to respond to and initially recover from an incident and/or event.
- **Firewise** — The national Firewise USA recognition program provides a collaborative framework to help neighbors in a geographic area get organized, find direction, and take action to increase the ignition



resistance of their homes and community and to reduce wildfire risks at the local level. Any community that meets a set of voluntary criteria on an annual basis and retains an “In Good Standing Status” may identify itself as being a Firewise® Site.

## 11.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Public Outreach** – The Town of Hillsborough recognizes that there are currently public information opportunities available to facilitate public engagement regarding hazard mitigation. The Town will look into developing a more robust and targeted program that involves using current capabilities to expand and enhance outreach to local residents.
- **General Plan update** is proposed to begin in fiscal year 2022/2023 and may include programs and/or ordinances related to resiliency, strategies, climate adaptations, water conservation plan (drought), and storm water management. Emergency Operation Plan – update planned for 2023 to include any updates from hazard mitigation plan and climate adaptations.
- **Building Code** review proposed
- **Zoning Code** – Update is proposed to occur in conjunction with the General Plan Update in FY 2022/23 and will likely include updates to/creation of ordinances related to water conservation, water efficient landscaping, and/or prevention of hazards attributed to the built environment.
- **Disaster Debris Management Plan** - San Mateo County Debris Management Plan. This annex will provide a framework for organizing the rapid, safe, and cost-effective separation, removal, collection, recycling, and disposal of disaster related debris; and minimizing debris-related threats to public health, safety, and the environment following an event or a major disaster.
- **Community Wildfire Protection Plan** – The Plan identifies fire protection agencies with jurisdiction, volunteer organizations, large landowners, communities, neighborhoods, open spaces, and other environmental resources in the planning area that may be at risk of fire hazards.
- **Climate Action Plan** – The County of San Mateo has an Office of Sustainability. There may be opportunities for future partnerships with this County agency.
- **Comprehensive Emergency Management Plan** – a comprehensive plan to manage multiple uses and activities to protect and conserve natural and cultural resources.
- **Threat & Hazard Identification & Risk Assessment (THIRA)** – Future assessments could be done in conjunction with State agencies, such as the State Water Board, who currently provide advice and guidance. Future integration could involve a more hands on approach by the State to prevent potential vulnerabilities to the local drinking water sources. The SFPUC, who provides the wholesale water to the Town could also be an active participant in the future.
- **Post-Disaster Recovery Plan** – Includes a set of strategies to assist a community in rebuilding after a disaster occurs. This also can include either preventive or corrective actions to lessen the impacts of a reoccurring disaster, such as severe weather.
- **Continuity of Operations Plan** – A continuity of operations plan addresses emergencies from an all-hazards approach. It establishes policy and guidance ensuring that critical functions continue, and that personnel and resources are relocated to an alternate facility in case of emergencies. The plan has procedures for alerting, activating, and deploying employees, identifying critical business functions, establishing an alternate facility, and roster of personnel with authority and knowledge of functions.

## 11.6 RISK ASSESSMENT

### 11.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 11-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 11-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
COVID-19 Pandemic	DR-4482	January 20, 2020 - present	Unknown
Severe Storms	N/A	2011	Not collected
Severe Storms	N/A	2006	Not collected
Severe Storms	N/A	2005	Not collected
Severe Storms	N/A	1998	Not collected
Severe Storms	N/A	1997	Not collected
Severe Storms	N/A	1995	Not collected
Earthquake (Loma Prieta)	DR-845	1989	Not collected
Severe Storms	N/A	1983	Not collected
Severe Storm	N/A	1982	Not collected

### 11.6.2 Hazard Risk Ranking

Table 11-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 11-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	51	High
2	Wildfire	51	High
3	Earthquake	36	High
4	Dam Failure	24	Medium
5	Severe weather	24	Medium
6	Flood	15	Low
7	Drought	9	Low
8	Sea level Rise / Climate Change	0	Low
9	Tsunami	0	Low

### 11.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.



## **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

## **Other Noted Vulnerabilities**

No jurisdiction-specific issues were identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources.

## **11.7 STATUS OF PREVIOUS PLAN ACTIONS**

Table 11-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 11-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
HLS 1- Establish open space fire fuels management – fire zones <b>Comment:</b> The Town continues its annual open space vegetation management and wildfire preparation outreach.			✓	HLS-7
HLS 2 – Develop and monitor a Storm Water Improvement Plan <b>Comment:</b> Plan developed in 2014; continuous monitoring/updating should occur.			✓	HLS-8
HLS 3 - Retrofit of historic buildings (old fire and police station) – wood and stucco construction <b>Comment:</b> Building assessment completed in October 2018			✓	HLS-9
HLS 4 – Develop Water Conservation Plan Outreach & Education <b>Comment:</b> Ongoing outreach and education; still a priority, should remain.			✓	HLS-10
HLS 5 – Develop Urban Forest Maintenance and Management Plan <b>Comment:</b> The Town completed a windshield tree maintenance survey, identified numerous right-of-way potential tree hazards and is noticing property owners. The Town has conducted an inventory of all Town-owned trees on Town property and has implemented a priority-based maintenance plan/schedule for them.			✓	HLS-11
HLS 5 – Continue to participate in developing and maintaining communications for first responders from cities and counties, special districts, state, and federal agencies. <b>Comment:</b> CCFD Community Risk and Resiliency Specialist continues to serve as Vice President on the Board of the San Mateo County Emergency Managers Association (EMA) and participates on the Bay Area Urban Area Security Initiative (UASI) Alert & Warning and Golden Eagle Exercise workgroups and serves on the Bay Area Joint Information System leadership committee to assist with improvement and utilization of Mass Notification and Response Systems that include SMCAlert, WebEOC and Zonehaven throughout the Bay Area Region. In November 2020 the Town hosted two Zonehaven “Know Your Zone” information sessions prior to the launch of the outreach campaign.			✓	HLS-12

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>HLS 6</b> – Continue to sponsor the training and maintenance of CERT Program with residents</p> <p><b>Comment:</b> CCFD continues to sponsor the CERT Program for the Town of Hillsborough in collaboration with the Hillsborough Neighborhood Network volunteers and CERT Volunteer Coordinators to provide ongoing training opportunities for residents virtually. The program secured funding from Cal OES for FY 2019/2020 for training equipment and supplies. In June 2021, the program conducted the first in person hands-on skills day since COVID-19 began. The CCFD CERT Program will continue to provide a hybrid CERT online curriculum via the Cal OES Learning Management System as well as in person training to reach more residents.</p>			✓	HLS-13
<p><b>HLS 7</b> – Update GIS Mapping Storage and Accessibility</p> <p><b>Comment:</b> Regularly updated and integrated with other systems (e.g., Zonehaven)</p>			✓	HLS-14
<p><b>HLS 8</b> – Conduct sod removal / turf replacement plan through BAWSCA</p> <p><b>Comment:</b> Completed in 2015.</p>	✓			
<p><b>HLS 9</b> – Integrate updated hazard mitigation plan into plans, ordinances, and codes</p> <p><b>Comment:</b> The Town continues to update its hazard mitigation plan into plans, ordinances, and codes. The Town City Council adopted the revised Emergency Operations Plan (EOP) on September 9, 2019 which integrates the San Mateo County LHMP.</p>			✓	HLS-15
<p><b>HLS 10</b> – Maintain and monitor Wildland Urban Fire Interface</p> <p><b>Comment:</b> City Council adopted the revised WUI ordinance that confirms structure hardening and fuel modification on properties in the WUI areas. The revised ordinance went into effect January 1, 2021 due to COVID-19. Ongoing inspections by CCFD Fire Prevention staff continue. Town staff continues to conduct fuel modification and reduction on Town open space to reduce the wildfire risk.</p>			✓	HLS-16
<p><b>HLS 11</b> – Conduct Street improvements and mitigation measures from flood waters and landslides</p> <p><b>Comment:</b> Still relevant – should remain.</p>			✓	HLS-17
<p><b>HLS 12</b> – Develop a Water Supply Improvement Plan</p> <p><b>Comment:</b> Plan developed in 2016 – still relevant, should remain.</p>			✓	HLS-18
<p><b>HLS 13</b> – Strengthen Fire Hydrant Distribution System</p> <p><b>Comment:</b> Still relevant – should remain.</p>			✓	HLS-19
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> The Town continues to work on this project and is reviewing options for grant funding. The Town continues to support and promote community education and involvement in programs such as California Earthquake Authority's Earthquake Brace &amp; Bolt (EBB) Program. General Plan Update process to occur, action should remain.</p>			✓	HLS-20
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b> The Town receives annual grant funding from Plan JPA, formally ABAG. The Town received annual grant funding from Plan JPA, formally ABAG to consider CRS, Tree City, and a Storm Ready programs.</p>			✓	HLS-21
<p><b>Action G-3</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.</p> <p><b>Comment:</b> Program reviewed by FEMA (approx. 2016) ordinance updated. We have very few properties impacted by the Flood Zone</p>			✓	HLS-22
<p><b>Action G-4</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> NA - We don't have homes/ structures in the flood zone, just a few back yard areas.</p>				



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action G-5</b> —Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment. <b>Comment:</b> No record of progress on this to date – General Plan Update process to occur, action should remain.			✓	HLS-23
<b>Action G-6</b> —Consider the development and implementation of a Capital Improvements Program (CIP) to increase regulatory, financial, and technical capability to implement mitigation actions. <b>Comment:</b> Master plans done in 2015 to develop a proper CIP in sewer, water, and storm	✓			
<b>Action G-7</b> —Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting. <b>Comment:</b> No record of progress on this to date – should remain.			✓	HLS-24
<b>Action G-8</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan. <b>Comment:</b> Ongoing support of LHMP maintenance program.			✓	HLS-25
<b>Action G-9</b> — Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan. <b>Comment:</b> Attendance at MJLHMP virtual steering committee meetings.			✓	HLS-26

## 11.8 HAZARD MITIGATION ACTION PLAN

Table 11-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 11-15 identifies the priority for each action. Table 11-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 11-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HLS-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas. <u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe Weather						
Existing	7, 8, 9, 13	Public Works	CCFD	High	HMGP, BRIC, FMA	Short-term
<b>Action HLS-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including General Plan Update, Housing Element, and Zoning Code <u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New & Existing	3, 5, 6, 7, 10	Building & Planning	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HLS-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan. <u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New & Existing	9, 10, 12	Public Works	CCFD	Low	Staff Time, General Funds	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HLS -4</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>Enforce the flood damage prevention ordinance.</li> <li>Participate in floodplain identification and mapping updates.</li> <li>Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<u>Hazards Mitigated:</u> Flood						
New & Existing	1, 8, 14	Public Works	City Manager's Office	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
<ul style="list-style-type: none"> <li>Continue partnership with Peninsula Clean Energy</li> <li>Comply with SB 1383 requirements to reduce organics disposal</li> <li>Others?</li> </ul>						
<u>Hazards Mitigated:</u> Climate Change						
New & Existing	5, 7	City Manager's Office	Public Works	Low	Staff Time, General Funds	Short-term
<b>Action HLS-6</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power, including Public Works Administration (SCADA), Police Department, Fire Stations, Town Hall						
<u>Hazards Mitigated:</u> Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire						
Existing	9, 11	Public Works	City Manager's Office			
<b>Action HLS -7</b> —Continue open space fire fuels management – fire zones						
<u>Hazards Mitigated:</u> Wildfire						
Existing	8, 9, 14	CCFD	Public Works	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -8</b> —Monitor and update Storm Water Improvement Plan						
<u>Hazards Mitigated:</u> Flood, Earthquake, Severe/Extreme Weather						
New & Existing	6, 7, 8, 9	Public Works	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -9</b> —Retrofit of historic buildings (old fire and police station) – wood and stucco construction						
<u>Hazards Mitigated:</u> Earthquake, Severe weather						
New	6, 8, 10, 13	City Manager's Office	CCFD	High	Outside funding staff time	Long-term
<b>Action HLS -10</b> —Execute Water Conservation Plan outreach and education						
<u>Hazards Mitigated:</u> Drought, Flood, Severe/Extreme Weather						
Existing	1, 2, 3	Public Works	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -11</b> —Develop Urban Forest Maintenance and Management Plan						
<u>Hazards Mitigated:</u> Severe/Extreme Weather, Drought						
Existing	1, 6, 7, 8, 9, 10, 11, 13	Public Works	N/A	Medium	Staff Time, General Funds	Ongoing
<b>Action HLS -12</b> — Continue to participate in developing and maintaining communications for first responders from cities and counties, special districts, state, and federal agencies						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
Existing	2, 10, 12	CCFD	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -13</b> — Continue to sponsor the training and maintenance of CERT Program with residents						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
Existing	1, 2, 3, 4, 5, 8, 10	CCFD	N/A	Low	Staff Time, General Funds	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HLS -14—</b> Update GIS Mapping Storage and Accessibility						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New & Existing	1, 2, 3, 4, 5, 7, 8, 10, 11	Public Works	N/A	Medium	Staff Time, General Funds	Ongoing
<b>Action HLS-15—</b> Integrate updated hazard mitigation plan into plans, ordinances, and codes						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New	1, 2, 5, 6, 7, 8, 10, 13	Building & Planning	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HLS-16—</b> Maintain and monitor Wildland Urban Fire Interface						
<u>Hazards Mitigated:</u> Wildfire, Severe weather						
New & Existing	1, 5, 6, 8, 13, 14	CCFD	City Manager's Office	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -17—</b> Conduct Street improvements and mitigation measures from flood waters and landslides						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Flood						
New & Existing	6, 8, 13, 14	Public Works	N/A	High	FEMA Hazard Mitigation Grants (BRIC, FMA, HMGP)	Long-Term
<b>Action HLS -18—</b> Implement Water Supply Improvement Plan						
<u>Hazards Mitigated:</u> Wildfire, Drought						
Existing	1, 2, 3, 5, 6, 7, 8, 10	Public Works	CCFD	High	General Fund	Long-Term
<b>Action HLS -19—</b> Strengthen Fire Hydrant Distribution System						
<u>Hazards Mitigated:</u> Wildfire, Drought						
Existing	2, 6, 7, 8, 10, 11	Public Works	CCFD	High	General Fund	Long-Term
<b>Action HLS-20—</b> Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New & Existing	6, 8, 10, 11, 13	City Manager's Office	N/A	High	FEMA Hazard Mitigation Grants (BRIC, FMA, HMGP)	Long-Term
<b>Action HLS -21—</b> Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New & Existing	1, 2, 5, 10, 11, 12	CCFD	N/A	Low	Staff Time, General Funds	Long-term
<b>Action HLS -22—</b> Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.						
<u>Hazards Mitigated:</u> Flood						
New & Existing	1, 2, 4, 5, 6	Public Works	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -23—</b> Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New & Existing	1, 2, 6, 7, 8, 9, 10	Building & Planning	City Manager's Office	Low	Staff Time, General Funds	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HLS -24</b> — Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe Weather, Flood						
New & Existing	6, 8, 9, 13	Building & Planning	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -25</b> —Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New & Existing	1, 2, 12	City Manager's Office	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -26</b> — Ongoing support of LHMP maintenance program.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Wildfire, Earthquake, Dam Failure, Severe Weather, Flood, Drought, Climate Change, Tsunami						
New & Existing	1, 2, 3, 10, 11, 12	City Manager's Office	CCFD, San Mateo County	Low	Staff Time, General Funds	Ongoing
<b>Action HLS -27</b> — Develop and implement a program to capture perishable data after significant events (e.g. high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather, Tsunami						
New & Existing	1, 5, 6, 7, 8	Flood & Sea Level Rise Dist. (FSLRRD)	County, all municipalities including Hillsborough	Medium	General Funds	Short-Term
<b>Action HLS -28</b> — Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather						
New & Existing	1, 2, 5, 6, 7, 8, 9, 13, 14	FSLRRD	County, all municipalities including Hillsborough	Low	General Fund, Private Developer, Town Capital Project Funding	Ongoing
<b>Action HLS -29</b> — Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including pump stations, generators, tide gates, stream gages, open channel, and culvert/pipeline infrastructure.						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather						
New & Existing	2, 6, 7, 8	FSLRRD	County, all municipalities including Hillsborough, San Mateo Resource Conservation District	Medium	Tax-Funded Flood Zones, State Grants, Federal Grants (FEMA BRIC/HMGP)	Ongoing
<b>Action HLS -30</b> — Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Landslide, Flood, Severe Weather, Drought						
New & Existing	2, 6, 7, 8, 14	County, C/CAG (Action will be jointly implemented by both agencies)	FSLRRD, all municipalities including Hillsborough, San Mateo Resource Conservation District	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, State Grants (Caltrans, CA DWR), Federal Grants (EPA), City Capital Project Funding	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HLS -31</b> — Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to FSLRRD Flood Zone channels and infrastructure.						
<i>Hazards Mitigated:</i> Climate Change/Sea Level Rise, Flood, Severe Weather						
New & Existing	1, 2, 4, 6, 7, 8	FSLRRD	All municipalities including Hillsborough, County	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, State Grants (Caltrans, CA DWR), EPA Grants, City Capital Project Funding	Ongoing
<b>Action HLS -32</b> — Plan, design, and implement long-term resilience to sea level rise, extreme storms, and coastal erosion for culverts, roadways, and bridges in the vicinity of other flood protection projects, including assets identified in the Caltrans District 4 Adaptation Priorities Report.						
<i>Hazards Mitigated:</i> Climate Change/Sea Level Rise, Landslide, Severe Weather						
New & Existing	2, 4, 6, 7, 8, 13	FSLRRD	Caltrans, County, all municipalities including Hillsborough, San Mateo Resource Conservation District	Medium	State Grants (Caltrans), Federal Grants (FEMA BRIC/HMGP)	Ongoing
<b>Action HLS -33</b> — Identify and pursue strategies to enhance recycled water infrastructure planning/implementation in the vicinity of FSLRRD projects.						
<i>Hazards Mitigated:</i> Drought						
New & Existing	1, 6, 7, 8	FSLRRD	County, all municipalities including Hillsborough, San Mateo Resource Conservation District	Medium	State Grants (CA Resilience Challenge, CA DWR, Prop 68), Federal Grants (EPA, FEMA BRIC/HMGP)	Ongoing
<b>Action HLS -34</b> — Improve community response to flood emergencies in various ways, including but not limited to:						
<ul style="list-style-type: none"> <li>• Upgrade and expand the countywide flood early warning system.</li> <li>• Conduct community flood preparation, education, and recovery outreach.</li> </ul>						
<i>Hazards Mitigated:</i> Climate Change/Sea Level Rise, Flood, Severe Weather						
New & Existing	2, 3, 7, 8, 9, 10, 11	FSLRRD	County, all municipalities including Hillsborough	Low	State Grant (CA DWR SWERG)	Short-term
<b>Action HLS -35</b> — Advance the long-term resilience of Hillsborough and Portola Valley to extreme storms, as well as provide environmental, recreation, and community/connectivity enhancements where possible. This may include regional stormwater capture projects that also benefit downstream, flood-prone communities.						
<i>Hazards Mitigated:</i> Flood, Severe Weather						
New & Existing	2, 4, 6, 7, 8, 14	FSLRRD, San Mateo Resource Conservation District (Action will be jointly implemented by both agencies)	Hillsborough, Portola Valley, C/CAG	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, State Grants (Caltrans, CA DWR), Federal Grants (EPA), City Capital Project Funding	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 11-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	3	High	High	Yes	Yes	No	Medium	High
2	7	Medium	Low	Yes	No	Yes	High	Low
3	3	Low	Low	Yes	No	Yes	High	Low
4	6	Medium	Low	Yes	No	Yes	High	Low
5	7	Medium	Low	Yes	No	Yes	High	Medium
6	3	High	Medium	Yes	Yes	No	Medium	High
7	3	High	High	Yes	Yes	Yes	Medium	High
8	4	High	High	Yes	Yes	Yes	Medium	High
9	4	Low	High	No	Yes	Yes	Low	Low
10	3	Medium	Medium	Yes	No	Yes	Medium	Medium
11	8	High	Low	Yes	No	Yes	High	Low
12	3	High	Low	Yes	No	Yes	High	Low
13	7	Medium	Medium	Yes	No	Yes	High	Low
14	9	Low	Low	Yes	Yes	Yes	High	Medium
15	8	High	Low	Yes	No	Yes	High	Low
16	6	High	High	Yes	No	Yes	High	Low
17	4	Medium	High	No	Yes	No	Medium	Low
18	8	Medium	High	No	Yes	No	Medium	Low
19	6	Medium	High	No	Yes	No	Medium	Low
20	5	High	High	Yes	Yes	No	High	High
21	6	High	Low	Yes	No	Yes	High	Low
22	5	Medium	Low	Yes	No	Yes	High	Low
23	7	Medium	Low	Yes	No	No	Medium	Low
24	4	Low	Low	Yes	No	Yes	Low	Low
25	3	Low	Low	Yes	No	Yes	High	Low
26	6	Low	Low	Yes	No	Yes	High	Low
27	5	Medium	Medium	Yes	Yes	Yes	High	Medium
28	9	High	Low	Yes	Yes	Yes	High	High
29	4	High	Medium	Yes	Yes	Yes	High	High
30	5	Medium	Medium	Yes	Yes	Yes	High	Medium
31	6	High	Medium	Yes	Yes	Yes	High	High
32	6	High	Medium	Yes	Yes	Yes	High	High
33	4	Medium	Medium	Yes	Yes	Yes	High	Medium
34	7	High	Low	Yes	Yes	Yes	High	Low
35	6	Medium	Medium	Yes	Yes	Yes	High	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 11-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Landslide/ Mass Movements	HLS-2, HLS-3, HLS-13, HLS-15, HLS-23, HLS-24, HLS-25, HLS-26, HLS-30, HLS-32	HLS-1, HLS-2, HLS-6, HLS-15, HLS-17, HLS-23, HLS-24	HLS-13, HLS-14, HLS-21, HLS-23, HLS-24	HLS-2, HLS-15, HLS-23, HLS-32	HLS-6, HLS-12, HLS-23	HLS-1, HLS-17, HLS-20, HLS-23, HLS-24, HLS-30	HLS-23, HLS-30, HLS-32	HLS-3, HLS-14, HLS-21, HLS-23
Wildfire	HLS-2, HLS-3, HLS-7, HLS-13, HLS-15, HLS-16, HLS-18, HLS-23, HLS-25, HLS-26	HLS-2, HLS-6, HLS-7, HLS-15, HLS-16, HLS-19, HLS-23	HLS-13, HLS-14, HLS-16, HLS-21, HLS-23	HLS-2, HLS-7, HLS-15, HLS-16, HLS-18, HLS-23	HLS-6, HLS-7, HLS-12, HLS-16, HLS-19, HLS-23	HLS-16, HLS-20, HLS-23	HLS-16, HLS-18, HLS-23	HLS-3, HLS-14, HLS-16, HLS-21, HLS-23
Earthquake	HLS-2, HLS-3, HLS-8, HLS-9, HLS-13, HLS-15, HLS-23, HLS-24, HLS-25, HLS-26	HLS-1, HLS-2, HLS-9, HLS-15, HLS-17, HLS-23, HLS-24	HLS-13, HLS-14, HLS-21, HLS-23, HLS-24	HLS-2, HLS-15, HLS-23	HLS-12, HLS-23	HLS-1, HLS-8, HLS-9, HLS-17, HLS-20, HLS-23, HLS-24	HLS-23	HLS-3, HLS-14, HLS-21, HLS-23
<b>Medium-Risk Hazards</b>								
Dam Failure	HLS-2, HLS-3, HLS-13, HLS-15, HLS-23, HLS-25, HLS-26	HLS-2, HLS-6, HLS-15, HLS-23	HLS-13, HLS-14, HLS-21, HLS-23	HLS-2, HLS-15, HLS-23	HLS-6, HLS-12, HLS-23	HLS-20, HLS-23	HLS-23	HLS-3, HLS-14, HLS-21, HLS-23
Severe weather	HLS-2, HLS-3, HLS-8, HLS-9, HLS-10, HLS-11, HLS-13, HLS-15, HLS-16, HLS-23, HLS-24, HLS-25, HLS-26, HLS-27, HLS-28, HLS-30, HLS-32	HLS-1, HLS-2, HLS-6, HLS-9, HLS-10, HLS-15, HLS-16, HLS-23, HLS-24	HLS-13, HLS-14, HLS-16, HLS-21, HLS-23, HLS-24, HLS-34	HLS-2, HLS-10, HLS-11, HLS-15, HLS-16, HLS-23, HLS-32, HLS-35	HLS-6, HLS-12, HLS-16, HLS-23	HLS-1, HLS-8, HLS-9, HLS-16, HLS-20, HLS-23, HLS-24, HLS-27, HLS-30, HLS-31	HLS-10, HLS-11, HLS-16, HLS-23, HLS-27, HLS-28, HLS-29, HLS-30, HLS-31, HLS-32, HLS-35	HLS-3, HLS-14, HLS-16, HLS-21, HLS-23, HLS-27, HLS-28, HLS-29, HLS-34



Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>Low-Risk Hazards</b>								
Flood	HLS-2, HLS-3, HLS-4, HLS-8, HLS-10, HLS-13, HLS-15, HLS-21, HLS-22, HLS-23, HLS-24, HLS-25, HLS-26, HLS-27, HLS-28, HLS-30, HLS-32	HLS-2, HLS-6, HLS-10, HLS-15, HLS-17, HLS-21, HLS-22, HLS-23, HLS-24	HLS-4, HLS-13, HLS-14, HLS-21, HLS-22, HLS-23, HLS-24, HLS-34	HLS-2, HLS-4, HLS-10, HLS-15, HLS-23, HLS-32, HLS-35	HLS-6, HLS-12, HLS-23	HLS-8, HLS-17, HLS-20, HLS-23, HLS-24, HLS-27, HLS-29, HLS-30, HLS-31	HLS-10, HLS-23, HLS-27, HLS-28, HLS-29, HLS-30, HLS-31, HLS-32, HLS-35	HLS-3, HLS-14, HLS-21, HLS-23, HLS-27, HLS-28, HLS-34
Drought	HLS-2, HLS-3, HLS-10, HLS-11, HLS-13, HLS-15, HLS-18, HLS-23, HLS-25, HLS-26, HLS-30, HLS-33	HLS-2, HLS-15, HLS-19, HLS-23	HLS-10, HLS-13, HLS-14, HLS-21, HLS-23	HLS-2, HLS-10, HLS-11, HLS-15, HLS-18, HLS-23	HLS-12, HLS-19, HLS-23	HLS-20, HLS-23, HLS-30	HLS-10, HLS-11, HLS-18, HLS-23, HLS-30, HLS-33	HLS-3, HLS-14, HLS-21, HLS-23
Sea Level Rise/Climate Change	HLS-2, HLS-3, HLS-5, HLS-13, HLS-15, HLS-23, HLS-25, HLS-26, HLS-27, HLS-28, HLS-30, HLS-32	HLS-2, HLS-15, HLS-23	HLS-13, HLS-14, HLS-21, HLS-23, HLS-34	HLS-2, HLS-15, HLS-23, HLS-32	HLS-12, HLS-23	HLS-20, HLS-23, HLS-27, HLS-29, HLS-30, HLS-31	HLS-5, HLS-23, HLS-27, HLS-28, HLS-29, HLS-30, HLS-31, HLS-32, HLS-34	HLS-3, HLS-5, HLS-14, HLS-21, HLS-23, HLS-27, HLS-28
Tsunami	HLS-2, HLS-3, HLS-13, HLS-15, HLS-23, HLS-25, HLS-26, HLS-27	HLS-2, HLS-6, HLS-15, HLS-23	HLS-13, HLS-14, HLS-21, HLS-23	HLS-2, HLS-15, HLS-23	HLS-6, HLS-12, HLS-23	HLS-20, HLS-23, HLS-27	HLS-23, HLS-27	HLS-3, HLS-14, HLS-21, HLS-23, HLS-27

a. See the introduction to this volume for explanation of mitigation types.

## 11.9 PUBLIC OUTREACH

Table 11-17 lists public outreach activities for this jurisdiction.

Table 11-17. Local Public Outreach

Local Outreach Activity	Date	Number of People Involved
LHMP Survey #1 – advertised in weekly town e-announcements	March - April	~ 20
LHMP Survey #1 – advertised in weekly town e-announcements	June	~20
LHMP Public meeting	3/25/2021	Unknown
Neighborfest Annual Preparedness Event	9/22/2019, 9/12/2020	800, 82
Hillsborough neighborhood network	Ongoing	~500
CERT Program (monthly newsletter)	Ongoing	165
Assemblyman Kevin Mullins Events: (1) Are You Ready? (2) Wildfire Preparedness	10/29/2020, 5/26/2021	424, 433
Firewise USA Group	Ongoing	~14

## 11.10 INFORMATION SOURCES USED FOR THIS ANNEX

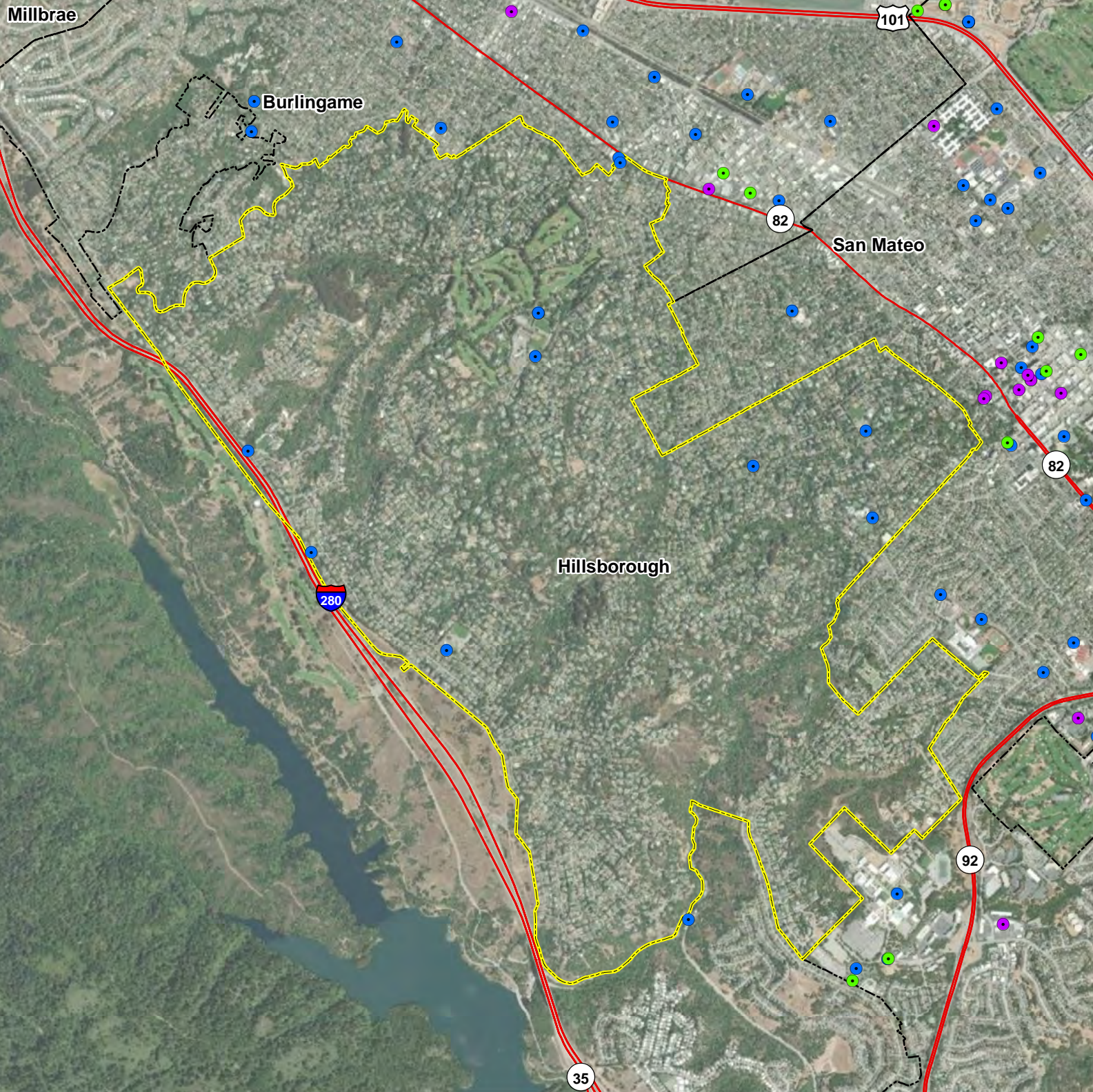
The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Town of Hillsborough Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **Town of Hillsborough Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **Town of Hillsborough General Plan (Housing Element)** – Existing General Plan was reviewed to identify opportunities for action plan integration.
- **Town of Hillsborough Climate Action Plan** – The Climate Action Plan was reviewed to identify opportunities for plan integration.
- **Bay Area Earthquake Plan** – The Bay Area Earthquake Plan is a component of the Concept of Operations for the joint state and federal response to a catastrophic incident in California.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.



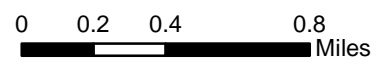


# Hillsborough

## Critical Facilities, 1 of 2

- Food, Water, Shelter
- Health and Medical
- Safety and Security
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD





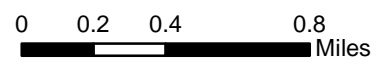


# Hillsborough

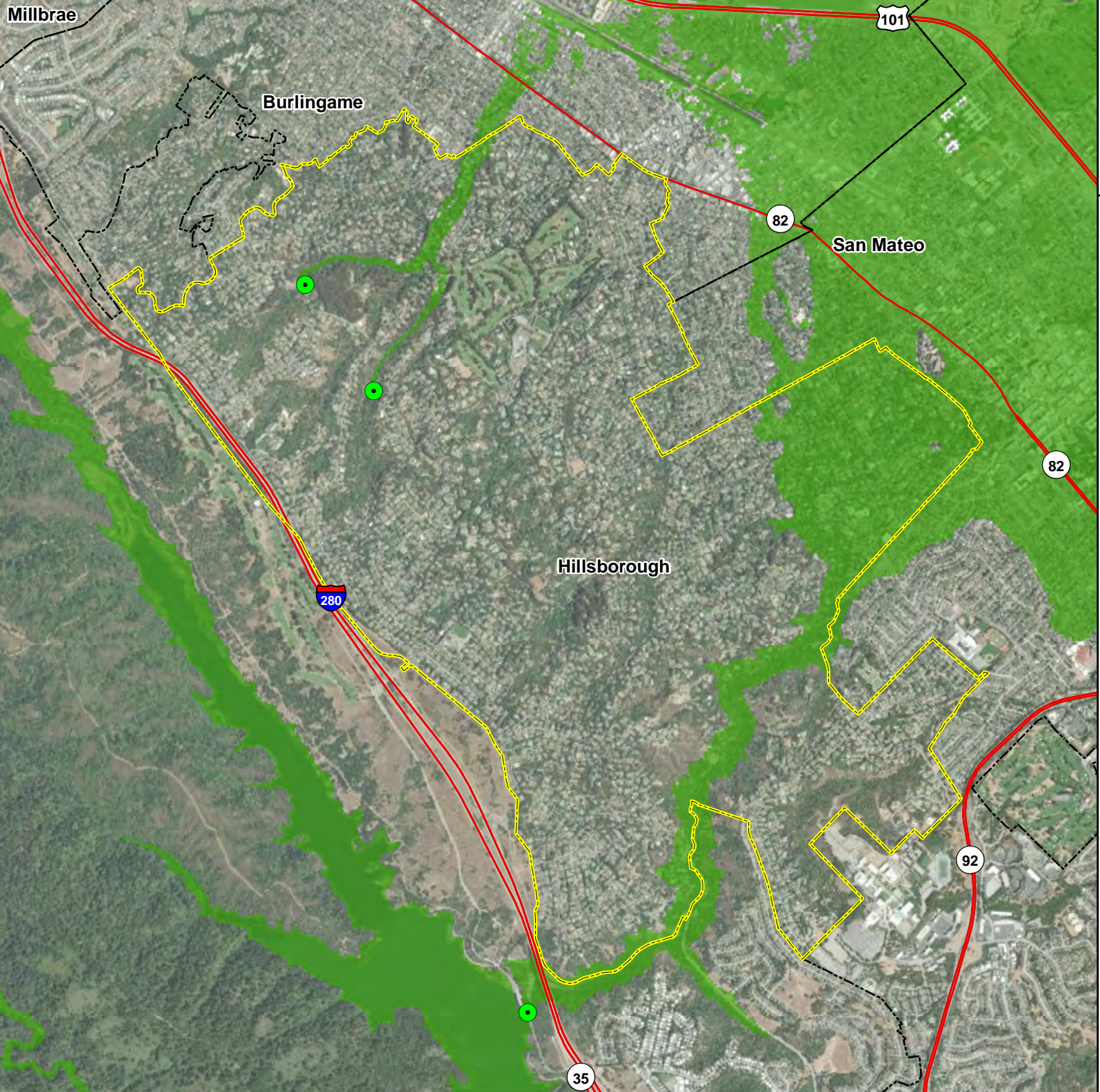
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD







# Hillsborough

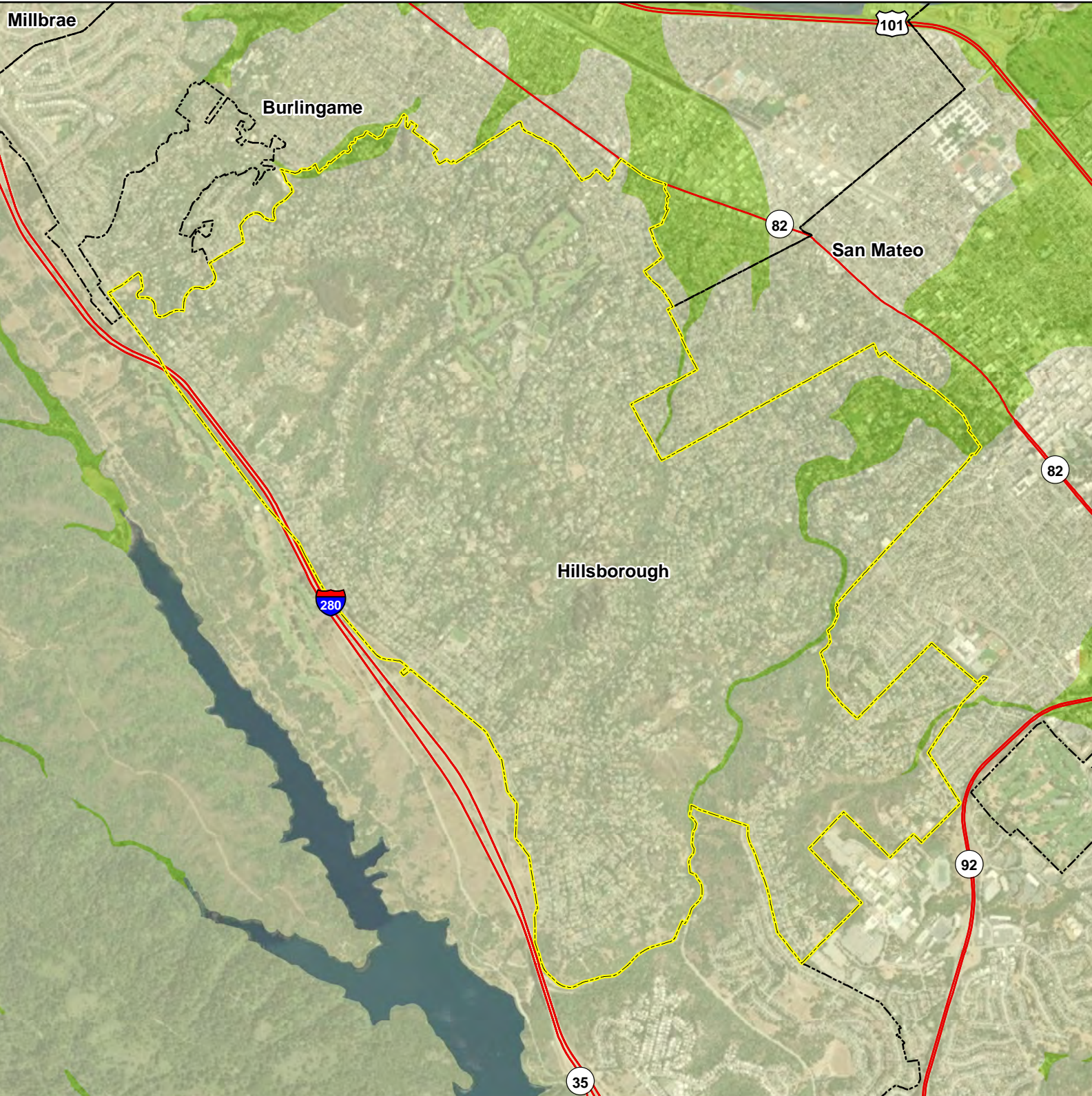
## Dam Failure Inundation Area Used for Risk Assessment

- Inundation Area
- Dam
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CA DWR












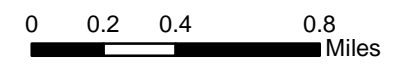


# Hillsborough

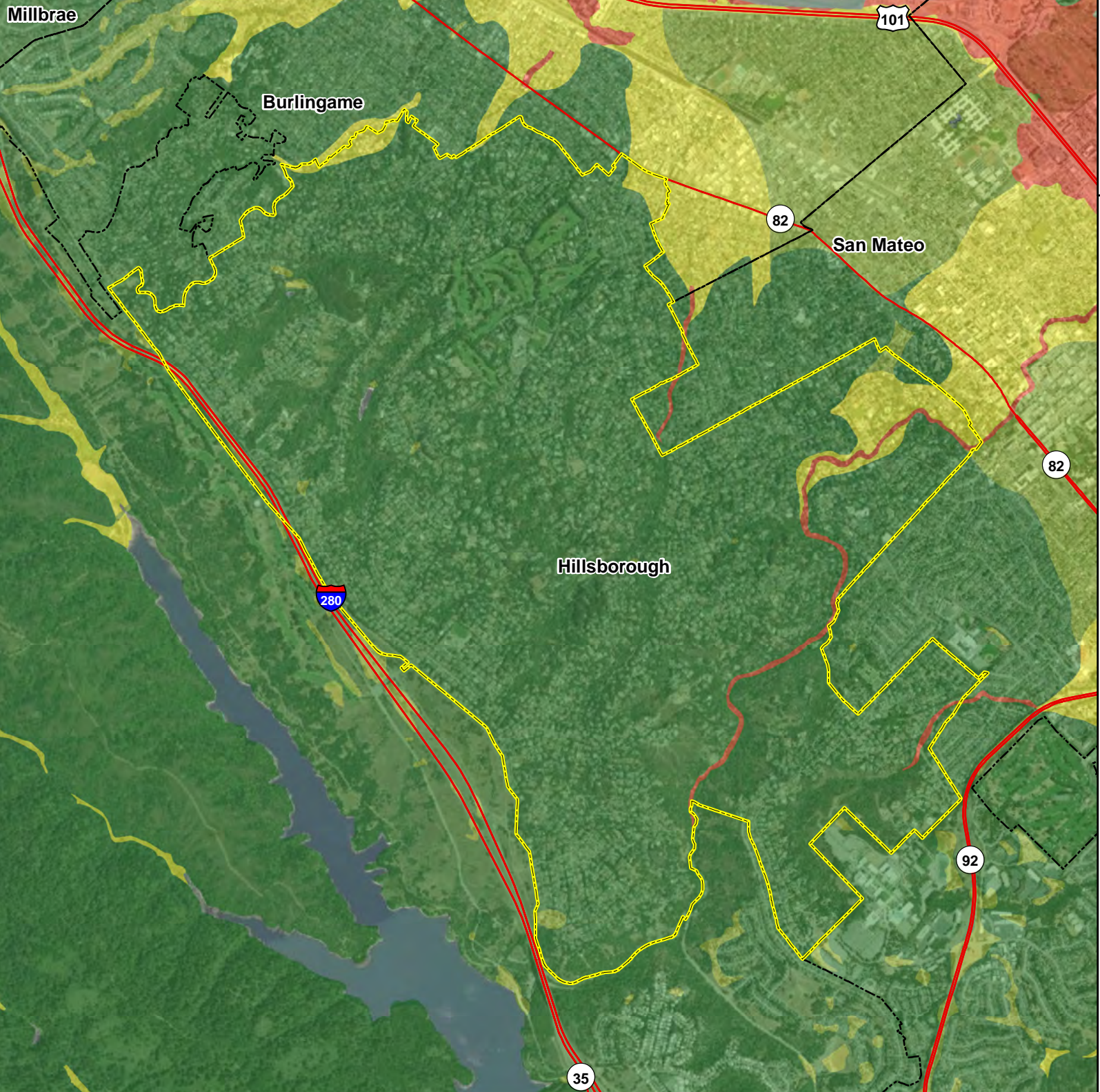
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS







# Hillsborough

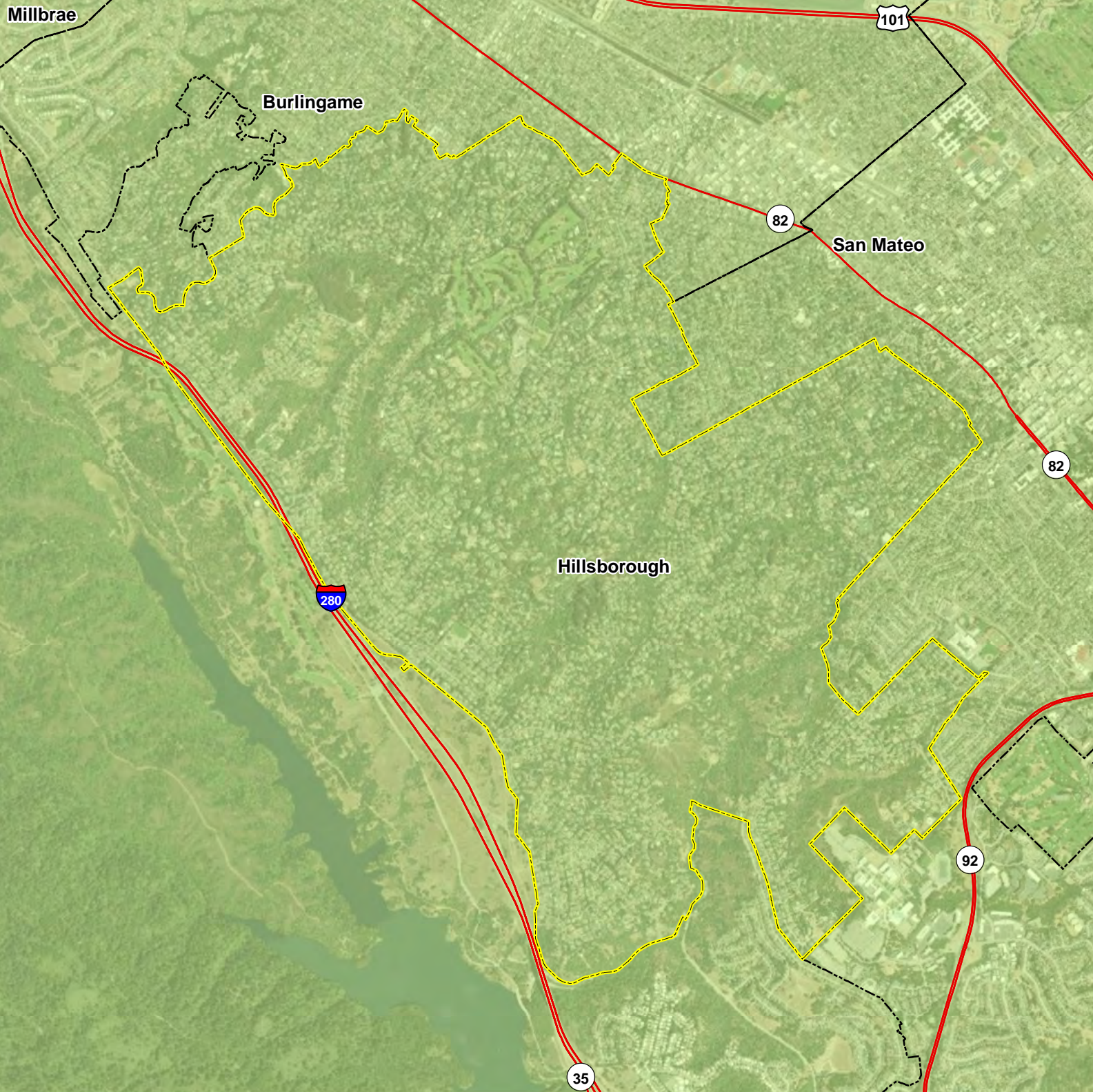
## Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)







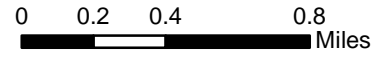
# Hillsborough

## Butano M6.93 Earthquake Scenario

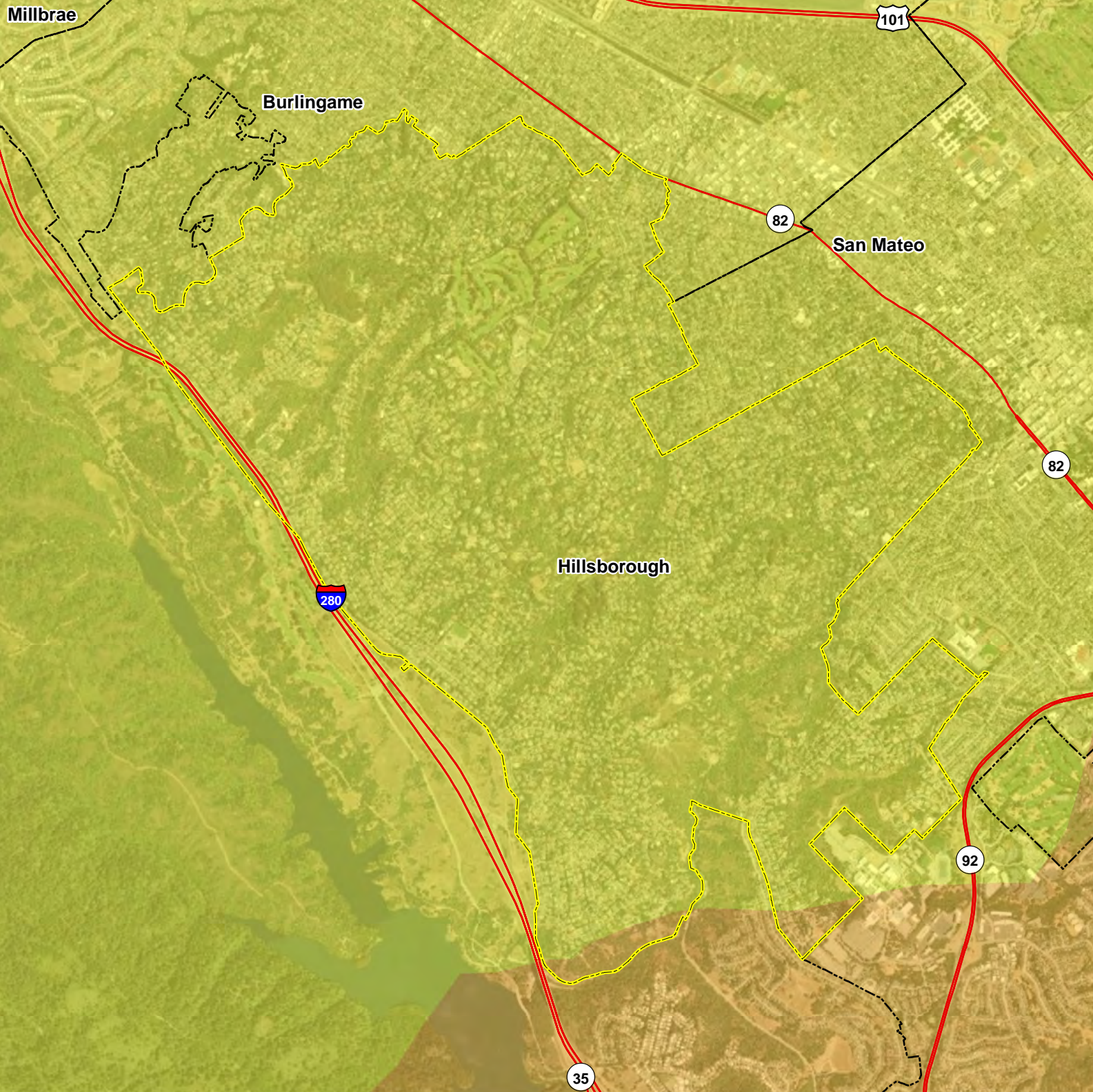
- Mercalli Intensity Scale**
- VI (Strong/Light)
  - Selected City
  - Incorporated Cities
  - County Boundary
  - Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS







# Hillsborough

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

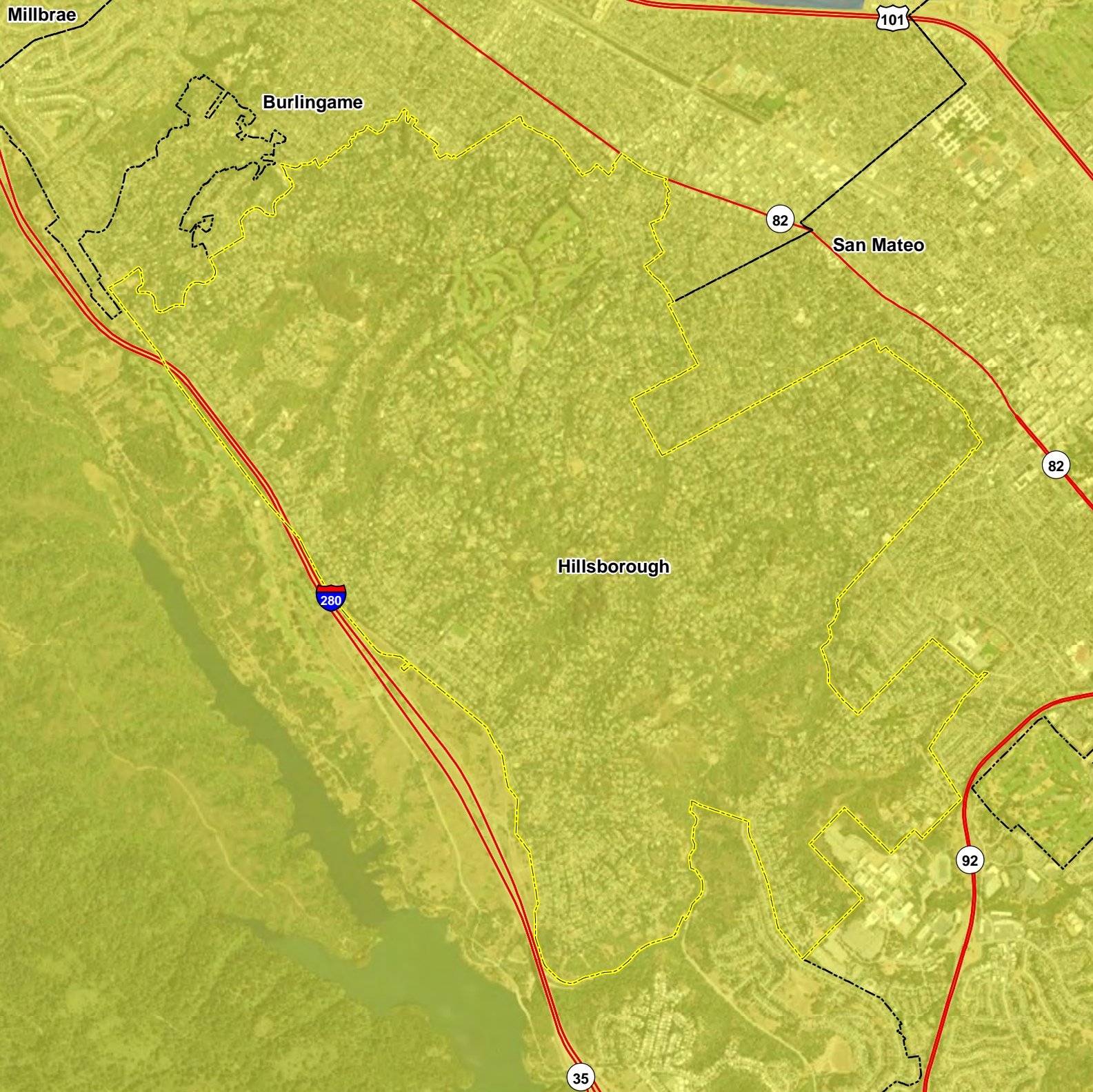
- VII (Very Strong/Moderate)
- VIII (Severe/Moderate-Heavy)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS







# Hillsborough

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

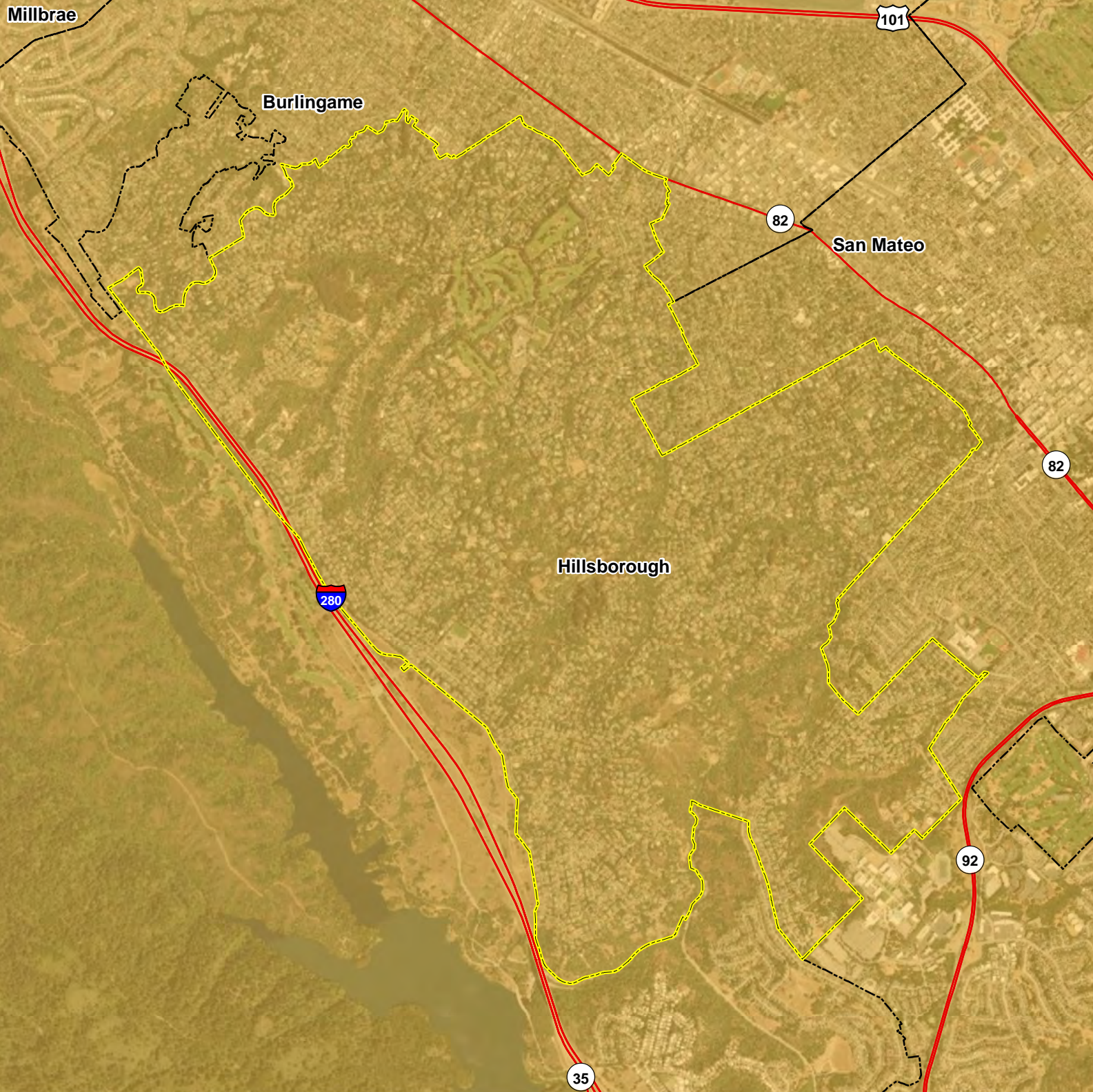
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS












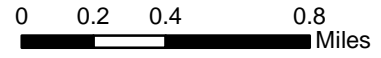
# Hillsborough

San Andreas Peninsula M7.38  
Earthquake Scenario

- Mercalli Intensity Scale**
-  VIII (Severe/Moderate-Heavy)
  -  Selected City
  -  Incorporated Cities
  -  County Boundary
  -  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS







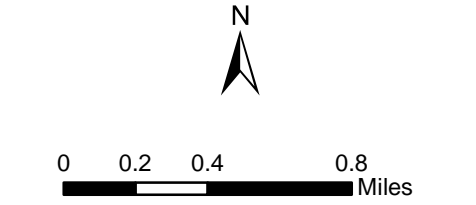
# Hillsborough

## San Gregorio North M7.44 Earthquake Scenario

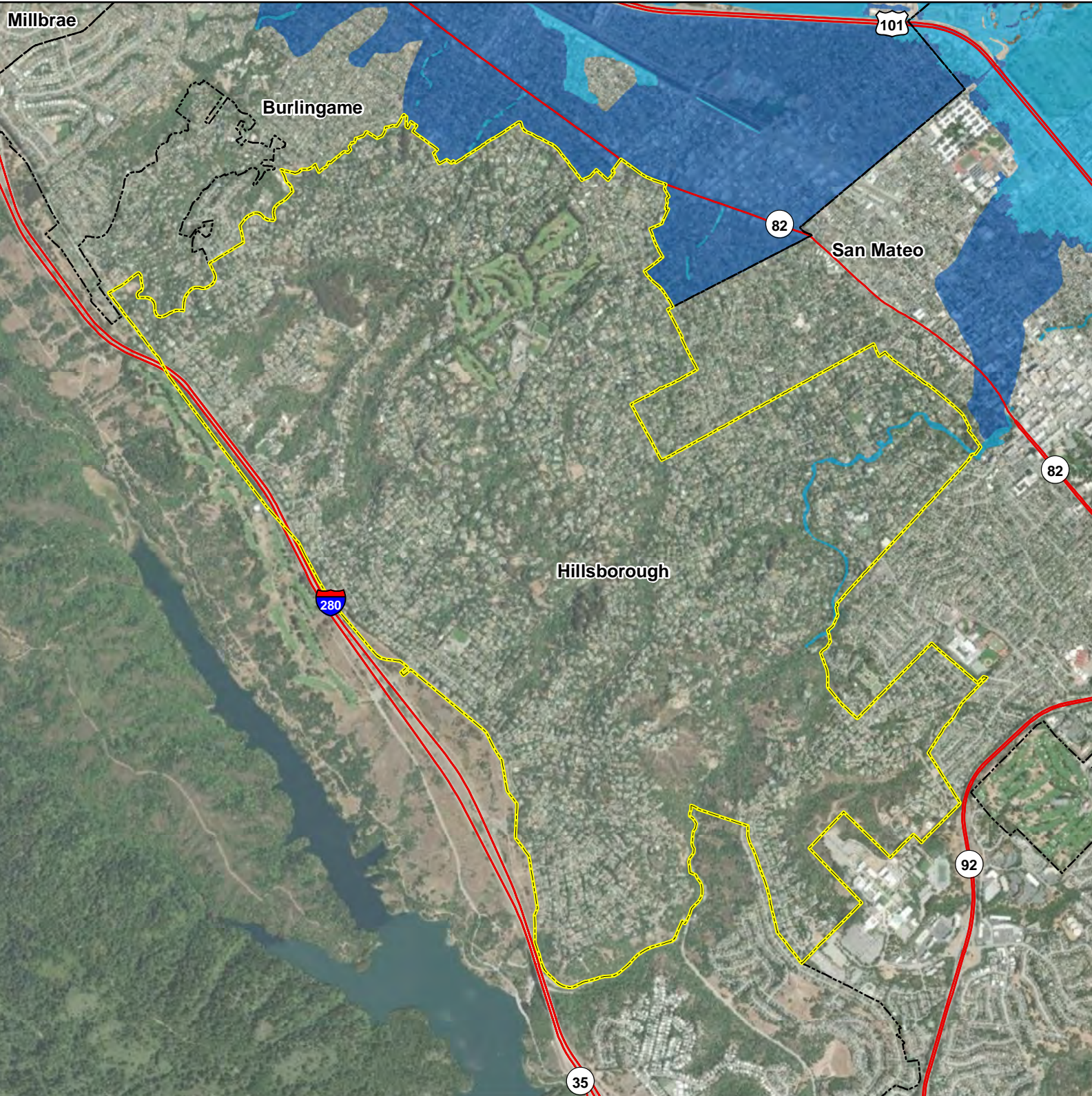
- Mercalli Intensity Scale**
- VII (Very Strong/Moderate)
  - Selected City
  - Incorporated Cities
  - County Boundary
  - Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS











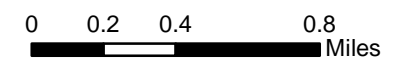


# Hillsborough

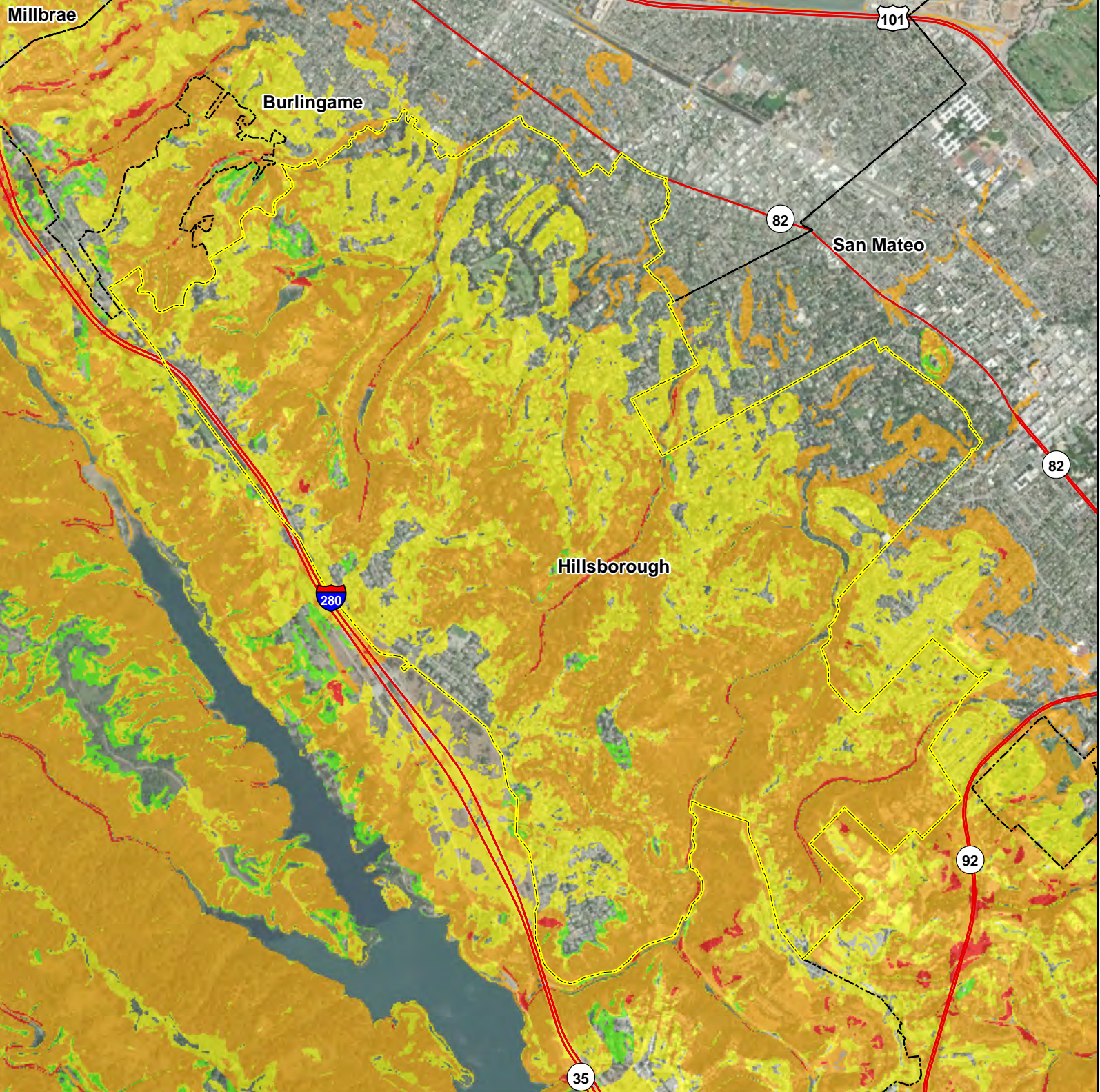
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA







# Hillsborough

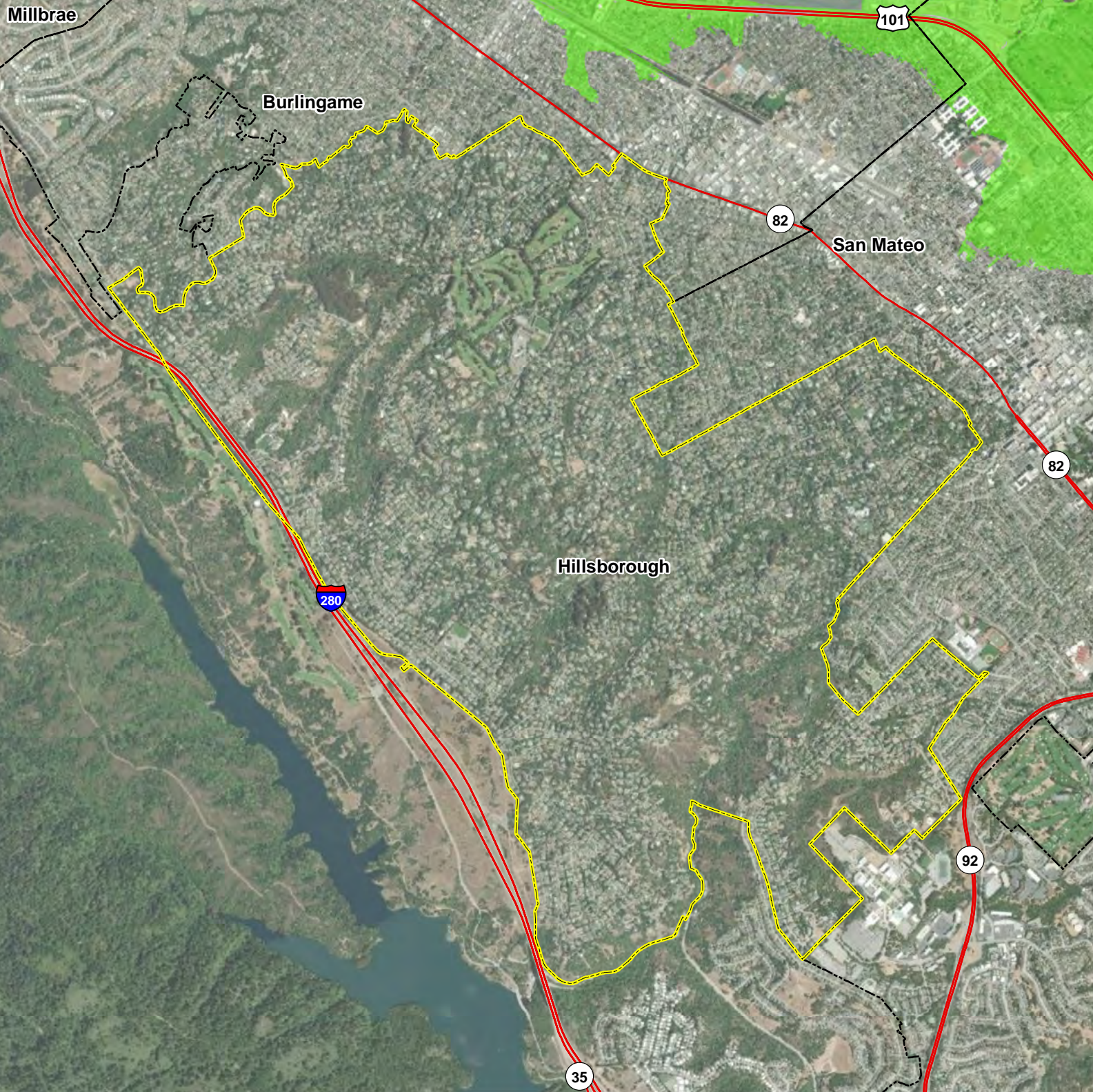
## Susceptibility to Deep-Seated Landslides

- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS












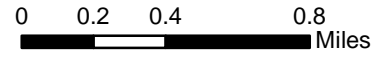
# Hillsborough

## Sea Level Rise

-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF










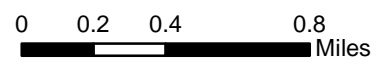


# Hillsborough

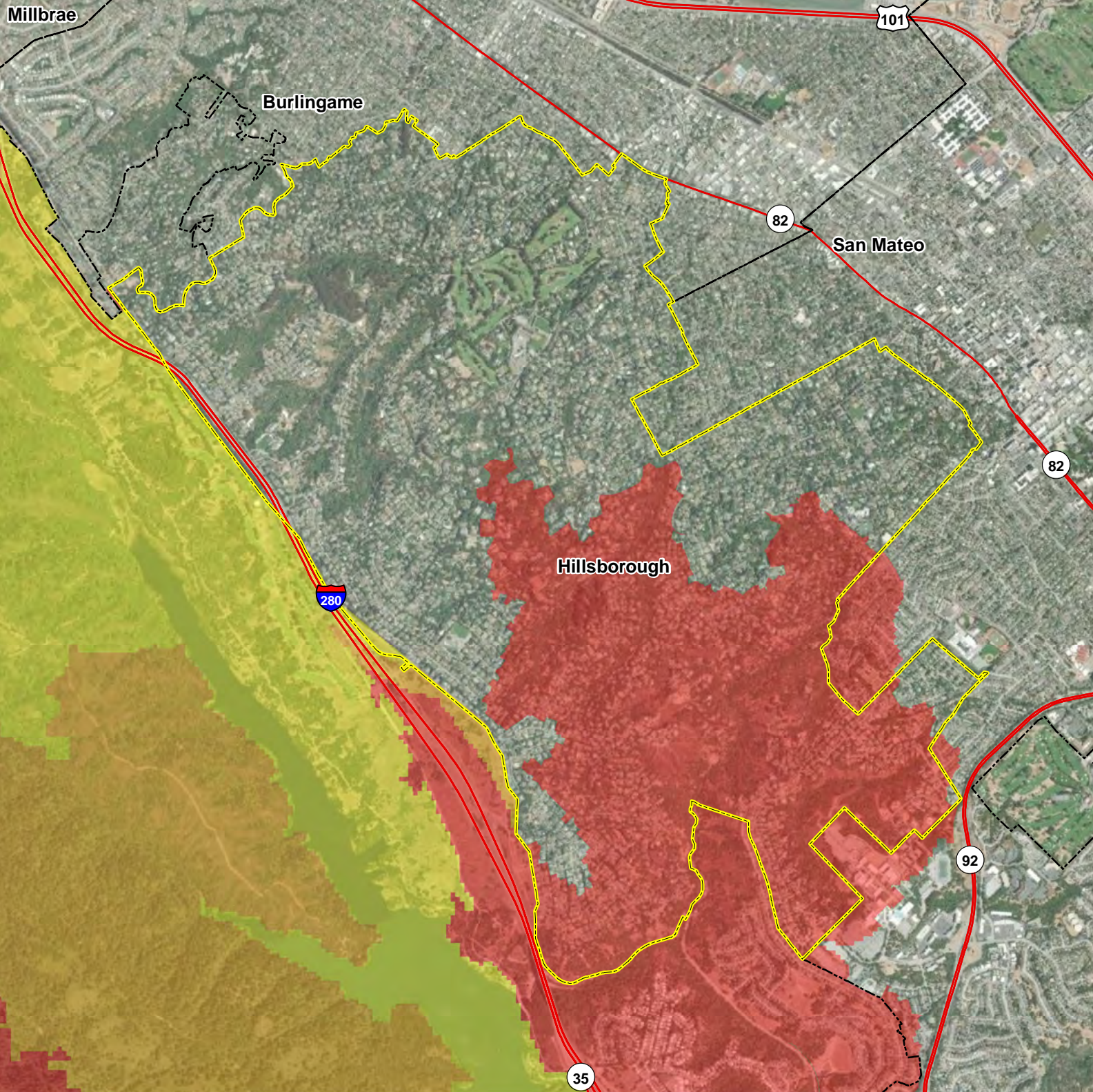
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS












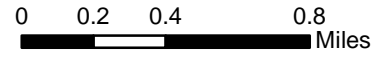


# Hillsborough

## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE





# 12. CITY OF MENLO PARK

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## 12.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Brian Henry  
Assistant Public Works Director  
701 Laurel Avenue  
Menlo Park, CA 94025  
650-330-6799  
E-mail: bphenry@menlopark.org

### Alternate Point of Contact

Chuck Andrews  
Assistant Community Development Director  
701 Laurel Avenue  
Menlo Park, CA 94025  
650-330-6757  
E-mail: chandrews@menlopark.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 12-1.

**Table 12-1. Local Mitigation Planning Team Members**

Name	Title
Chuck Andrews	Assistant Community Development Director
Calvin Chan	Senior Planner
Joanna Chen	Management Analyst I
Brian Henry	Assistant Public Works Director
Chris Lamm	Assistant Public Works Director
Scott Mackdanz	Police Dept. Administrative Sergeant
Justin Murphy	Deputy City Manager
Nicole Nagaya	Public Works Director
Ryan Zollicoffer	Fire District Disaster Response Manager

## 12.2 JURISDICTION PROFILE

### 12.2.1 Location and Features

Menlo Park is a city of beautiful, tree-lined neighborhoods and active commercial districts. Located conveniently between the major metropolitan areas of San Francisco and San Jose, Menlo Park is home to over 35,000 residents in its approximately 19 square miles. The stunning natural surroundings of the city afford views of the San Francisco Bay to the east and the Pacific Coast Range to the west.

The city's proximity to Stanford University and Menlo College provide a multitude of academic, cultural, and athletic event opportunities. Located in the heart of Menlo Park is a downtown featuring unique and upscale shops and restaurants, though many local businesses have struggled during the COVID-19 pandemic in the last two years. Known worldwide as the "Capital of Venture Capital," Menlo Park is well situated to benefit from and

shape new technologies originating from Silicon Valley. The city is home to such notable employers as SRI, Facebook, and Pacific Biosciences.

The City of Menlo Park climate is mild during the summer when temperatures tend to be in the 60's and cool during the winter when temperatures tend to be in the 50's. The warmest month of the year is July with an average maximum temperature of 78 degrees Fahrenheit, while the coldest month of the year is December with an average minimum temperature of 39 degrees Fahrenheit. On average, there are 265 sunny days per year with 56 days of measurable precipitation.

## **12.2.2 History**

In 1854, Menlo Park received its official name when two Irishmen, Dennis J. Oliver and D. C. McGlynn, whose wives were sisters, purchased 1,700 acres (some sources say it was 640 acres) bordering County Road, now El Camino Real, and built two houses with a common entrance.

Across the drive, they erected a huge wooden gate with tall arches on which the name of their estate was printed in foot-high letters: "MENLO PARK," with the date, August 1854, underneath it. When the railroad came through in 1863, this station had no name, it was just the end of the line, but it needed a designation. During a discussion about the choice of a name, a railroad official looked over at the gates and decided that "MENLO PARK" would be appropriate, and so the name was officially adopted. This station is now California State Landmark No. 955, the oldest California station in continuous operation.

On March 23, 1874, Menlo Park became the second incorporated city in San Mateo County, although only for a short time. The purpose was to provide a quick way to raise money for road repairs.

This incorporation, which included Fair Oaks (later Atherton) and Ravenswood (later East Palo Alto) lasted only until 1876. Little occurred to change the rural flavor of the community until the first World War when, almost overnight, Menlo Park was populated by 43,000 soldiers in training at Camp Fremont, on land which extended from Valparaiso Avenue to San Francisquito Creek, and El Camino Real to the Alameda de las Pulgas, with the Base Hospital and other facilities on Willow Road where the Veterans Administration Medical Center now stands.

Following the war, enough service center activity remained to prompt an effort to reincorporate Menlo Park in 1923 with much the same boundaries as the earlier town. Incorporation planning involving Menlo Park and Atherton culminated in a dramatic race to the County Courthouse to file differing plans. Atherton representatives arrived only minutes before those from Menlo Park who had wished to include Atherton in their plans. Final incorporation of Menlo Park took place in November 1927.

A history of redlining and racial inequity will be developed for the City's Environmental Justice element and can be incorporated here in the next update of the hazard mitigation plan.

## **12.2.3 Governing Body Format**

Menlo Park is a general law city under the State of California and operates under the Council-Manager form of government. The City Council is the city's governing body for the City of Menlo Park. In general, municipal elections, its members are elected from five districts to four-year overlapping terms. The mayor and mayor pro tempore (vice mayor) each serve one-year terms and are selected annually by the City Council at its first regular



meeting in December. The Mayor, who represents the City of Menlo Park at ceremonial and public functions, also serves as the presiding officer of the City Council.

The City Council appoints the City Manager and the City Attorney. The City is organized into operating departments including Administrative Services, City Manager’s Office, Community Development, Library and Community Services, Police, and Public Works. The City of Menlo Park assumes responsibility for the adoption of this plan; the Community Development, Public Works, and Police Departments will oversee its implementation.

## 12.3 CURRENT TRENDS

### 12.3.1 Population

According to the California Department of Finance, the population of Menlo Park as of January 2020 was 35,254 persons. Since 2016, the population has grown at an average annual rate of 0.99 percent.

### 12.3.2 Development

Table 12-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 12-2. Recent and Expected Future Development Trends**

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	None The City has had interest from the West Menlo Park triangle area to be annexed by the City. The area represents approximately 14 acres of residential property. The City does not believe the area has been identified as any type of hazard risk, but additional investigations would be required prior to annexation. Reference Staff Report 11/5/2019 (19-230-CC).
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes Menlo Park has ongoing development in both the Bayfront and Downtown areas of the city. Of these two areas, Bayfront is more prone to hazard risks, such as flooding and sea level rise. Projects in the Bayfront area must comply with special hazard flood area construction requirements as required by City ordinance. Development projects can be found at: <a href="https://www.menlopark.org/projects">https://www.menlopark.org/projects</a> .  The City is in the process of updating the General Plan Housing Element for the planning period of 2023-2031, which is expected to identify additional areas for residential development.

Criterion	Response					
	2016	2017	2018	2019	2020	
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	Single-Family	19	32	44	54	50
	Multi-Family	1	10	1	3	3
	Other (commercial, mixed use, etc.)	1	5	7	8	7
	<b>Total</b>	<b>21</b>	<b>47</b>	<b>52</b>	<b>65</b>	<b>60</b>
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 74</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 162</li> <li>• Tsunami Inundation Area: 0</li> <li>• Wildfire Risk Areas: 0</li> </ul> These numbers are cumulative since 2016					
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	Not applicable – There is no more land to be developed in non-hazard areas.					

## 12.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 12-3.
- Development and permitting capabilities are presented in Table 12-4.
- An assessment of fiscal capabilities is presented in Table 12-5.
- An assessment of administrative and technical capabilities is presented in Table 12-6.
- An assessment of education and outreach capabilities is presented in Table 12-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 12-8.
- Classifications under various community mitigation programs are presented in Table 12-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 12-10.



**Table 12-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	No	Yes	No
<i>Comment:</i> Menlo Park Municipal Code, Title 12, CA Building Code 2019. The Community Development, Building and Planning Divisions, adopted the code on 12/17/2019 and it became effective on 1/1/2020.				
<b>Zoning Code</b>	Yes	No	No	Yes
<i>Comment:</i> Menlo Park Municipal Code, Title 16. The Community Development, Planning Division, implements this code. The Zoning Ordinance was adopted in November 2016.				
<b>Subdivisions</b>	Yes	No	No	No
<i>Comment:</i> Menlo Park Municipal Code, Title 15, adopted in 1977. The Community Development, Planning Division, and the Public Works, Engineering Division, implement this code.				
<b>Stormwater Management</b>	Yes	Yes	Yes	Yes
<i>Comment:</i> Menlo Park Municipal Code, Title 7.42, adopted in 1994. Stormwater Management Program complies with the California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit. Updated permit requirements were last issued in November 2015, and further updates are currently being considered and are expected to be adopted in late 2021 or early 2022. The Public Works, Engineering & Maintenance Divisions, and the City Manager's Office, Sustainability Programs, implement this permit.				
<b>Real Estate Disclosure</b>	No	No	Yes	No
<i>Comment:</i> California Civil Code Section 1103 <a href="https://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=1103.&amp;lawCode=CIV">https://leginfo.ca.gov/faces/codes_displaySection.xhtml?sectionNum=1103.&amp;lawCode=CIV</a>				
<b>Growth Management</b>	Yes	No	No	Yes
<i>Comment:</i> Between 2015 and 2020, Menlo Park saw a population increase of 5.4 percent (compared to a 1.5 percent increase countywide) and an increase in the number of households of 5.6 percent (compared to a 1.5 percent increase countywide). Average persons per household remained relatively the same for both Menlo Park and countywide, with Menlo Park having 2.64 persons per household and 2.88 persons per household countywide in 2020 (CA Department of Finance, E-5 Report).				

According to Association of Bay Area Governments (ABAG) projections for the nine counties that make up the Bay Area, total population increased 4.3 percent between 2015 and 2020, and total households increased 4.4 percent. Average persons per household remained the same during this time period, at 2.69 persons per household (ABAG Projections 2040).

The city's development pipeline includes 3,878 residential units, 4.9 million square feet of office space, 317,000 square feet of retail space, 40,000 square feet of school space, and 642 hotel rooms (December 2020).

In early 2021, Menlo Park began to update the General Plan Housing Element for the sixth cycle of State review, covering the time period of 2023-2031. In each Housing Element, a city must plan for its fair share of the region's housing need for all income categories. The City of Menlo Park is exploring eight potential housing opportunity site strategies to meet the Regional Housing Need Allocation, informed by extensive community outreach and engagement.

- Reusing fifth cycle Housing Element sites that have not redeveloped with housing
- Consideration of pipeline projects
- Religious facilities pursuant to AB 1851
- Redeveloping commercial sites
- New housing in/around El Camino Real and the Downtown area
- Encouraging Accessory Dwelling Unit production
- Exploring additional housing types in traditionally single-family residential areas
  - Using publicly owned land for housing.

The Housing Element Update is anticipated for adoption in the winter of 2022 (Housing Commission August 4, 2021 staff report: [https://www.menlopark.org/DocumentCenter/View/29271/D2-20220804\\_Housing-Element-update-review?bidId=](https://www.menlopark.org/DocumentCenter/View/29271/D2-20220804_Housing-Element-update-review?bidId=)).

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Post-Disaster Recovery</b>	Yes	No	No	Yes
<p><b>Comment:</b> The City does not have a specific Municipal Code or ordinance for Post Disaster Recovery. The City activates the emergency operations center for oversight and tasks related to recovery actions and activities working alongside partner agencies. The City Emergency Operation Plan addresses establishing a Recovery Task Force to commence planning for transition to long term recovery. The City is also working with the County on turning the Countywide Debris Management Plan into a stand-alone jurisdictional annex. The City will align its recovery actions with the National and State Disaster Recovery Framework Plan.</p> <p>Menlo Park Municipal Code Chapter 2.44, Emergency Services:  <a href="https://www.codepublishing.com/CA/MenloPark/#!/html/MenloPark02/MenloPark0244.html">https://www.codepublishing.com/CA/MenloPark/#!/html/MenloPark02/MenloPark0244.html</a></p>				
<b>Site Plan Review</b>	Yes	No	No	No
<p><b>Comment:</b> The Building Division of Community Development reviews all site plans for conformance to the Menlo Park Municipal Code, Title 12. The Planning Division of Community Development reviews all site plans for conformance to the Menlo Park Municipal Code, Title 15, and Title 16. The Engineering Division of the Public Works Department reviews site plans for all projects for conformance to the Menlo Park Municipal Code, Title 7.</p>				
<b>Environmental Protection</b>	Yes	No	No	Yes
<p><b>Comment:</b> The City has several ordinances and policies related to environmental protection:</p> <ul style="list-style-type: none"> <li>• In 2015, the Integrated Pest Management Policy was updated. Currently, all City parks are herbicide- and pesticide-free.</li> <li>• In January 2020, the City adopted reach codes for new construction to reduce greenhouse gas emissions from the building sector and to encourage the use of renewable and clean energy. Menlo Park residents receive energy from Peninsula Clean Energy, which provides a minimum of 50% renewable energy and 90% greenhouse gas (carbon) free electricity at a cost slightly less than PG&amp;E. Electrifying buildings would maximize the community's renewable power available and reduce GHG emissions by slowly phasing out the use of natural gas.</li> <li>• The City's Climate Action Plan was adopted in July 2020 and several of its goals are related to environmental protection. Two of the goals are related to electric vehicles: to promote the purchase of electric vehicles and increase EV charging stations in multi-family and commercial buildings; and to reduce greenhouse gas emissions and improve air quality. The City adopted a Sustainable Vehicle Fleet Policy to increase the number of zero-emission City fleet vehicles. Another goal is to eliminate the use of natural gas from municipal operations. As a pilot program in 2021, Public Works maintenance staff is in the process of converting gas-powered maintenance equipment to electric to reduce noise pollution and greenhouse gas emissions.</li> </ul>				
<b>Flood Damage Prevention</b>	Yes	No	No	Yes
<p><b>Comment:</b> Menlo Park Municipal Code, Title 12.42, adopted in 1988 and amended in 2016. The Public Works Department, Engineering Division, implements this Code section.</p>				
<b>Emergency Management</b>	Yes	No	Yes	Yes
<p><b>Comment:</b> Menlo Park Municipal Code, Chapter 2.44 Emergency Services  <a href="https://www.codepublishing.com/CA/MenloPark/html/MenloPark02/MenloPark0244.html">https://www.codepublishing.com/CA/MenloPark/html/MenloPark02/MenloPark0244.html</a></p>				
<b>Climate Change</b>	Yes	Yes	Yes	Yes
<p><b>Comment:</b> The 2030 Climate Action Plan (CAP) was adopted in July 2020. One of the CAP goals and City Council 2021 work plan priority projects is to develop a climate adaption plan to address sea level rise and flooding. Staff plans to:</p> <ul style="list-style-type: none"> <li>• Update the Safety Element in Menlo Park's General Plan to bring it into compliance with recent changes in General Plan law, including SB 379</li> <li>• Await notification on the SAFER Bay grant application from the FEMA Building Resilient Infrastructure and Communities program</li> <li>• Continue progress on identifying funding and partnership opportunities for implementing SAFER Bay; and</li> <li>• Continue to participate in and monitor with San Mateo County Flood and Sea Level Rise District.</li> </ul>				



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
<b>General Plan</b>	Yes	No	Yes	Yes
<i>Is the plan compliant with Assembly Bill 2140? Yes</i>				
<i>Comment:</i> The City's General Plan can be accessed at: <a href="https://www.menlopark.org/146/General-Plan">https://www.menlopark.org/146/General-Plan</a> . The Open Space/Conservation, Noise, and Safety Elements (adopted May 21, 2013) address safety and emergency preparedness, specifically Section IV (Safety Goals, Policies, and Implementing Programs) and Section VII (Safety Background). The Plan "provides policies and standards for the type, location, intensity and design of development in areas of potential hazards" (Safety Goal S1).				
Other General Plan Elements include: Land Use and Circulation Elements (adopted November 29, 2016) and the 2015-2023 Housing Element (adopted April 1, 2014). The City is in the process of updating the Housing Element for the period of 2023-2031 and will concurrently prepare updates to the Safety Element and the preparation of a new Environmental Justice Element.				
<b>Capital Improvement Plan</b>	Yes	No	No	Yes
<i>How often is the plan updated? Annually</i>				
<i>Comment:</i> The Capital Improvement Plan involves the implementation of infrastructure projects, such as the upgrade of storm water pumping facilities and the construction of emergency wells, to improve the City's resiliency to hazards. One emergency well is located at the Corporation Yard and is substantially complete. The City is waiting for permits from the state before it can be operable. Other sites, such as SRI, are currently being explored. Planning is made on a 5 year basis, with annual updates.				
<b>Disaster Debris Management Plan</b>	Yes	No	No	Yes
<i>Comment:</i> The City is also working with the County on turning their Countywide Debris Management Plan into a stand-alone debris management annex for Menlo Park. According to the City's franchise agreement, Recology may provide emergency services, such as assistance handling, salvaging, processing, composting, recycling materials, or disposing solid waste after a major accident, disruption, or natural calamity.				
<b>Floodplain or Watershed Plan</b>	No	Yes	No	No
<i>Comment:</i> The City maintains FEMA floodplain maps and provides information related to flood zones to the public when requested.				
<b>Stormwater Plan</b>	Yes	Yes	No	Yes
<i>Comment:</i> The engineering division is in the process of updating its 2003 stormwater master plan. The plan, when completed, will model the entire City storm drain network and identify areas vulnerable to localized flooding and identify capital projects to mitigate the flooding in these areas. The plan also identifies measures to comply with State mandated requirements under the NPDES permitting requirements.				
<b>Urban Water Management Plan</b>	Yes	Yes	Yes	No
<i>Comment:</i> The City will be updating its 2015 UWMP with a 2020 UWMP by July 1, 2021. The plan additionally identifies water conservation measures that will be taken in the event of a drought with 'stages' identified at 10%, 20%, 30%, 40%, 50%, and greater than 50% reduction.				
<b>Economic Development Plan</b>	Yes	No	No	No
<i>Comment:</i> The City's Economic Development Plan (adopted July 2015) can be accessed at: <a href="https://www.menlopark.org/1123/Economic-development-plan-and-goals">https://www.menlopark.org/1123/Economic-development-plan-and-goals</a> . The Plan consists of three main elements: a Comparative Economic Advantages Study (CEAS), the Goals, and a series of Strategic Policy Recommendations towards implementing the Goals. The CEAS lays the foundation for the Economic Development Plan by outlining Menlo Park's economic advantages, opportunities, and challenges in relation to other similar cities in the Silicon Valley region and the broader San Francisco Bay Area.				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Habitat Conservation Plan</b>	No	No	No	No
<p><i>Comment:</i> While the City does not have a Habitat Conservation Plan, the City amended its Heritage Tree Ordinance in 2019 and implemented it on July 1, 2020, to help preserve the Menlo Park’s urban canopy. In 2021, Menlo Park has been recognized as a Tree City USA for 21 years and as a member of the Arbor Day Foundation’s “Growth” group for 5 years. The City also partners with Canopy, a nonprofit organization, to help plant street trees around the neighborhoods to provide shade, habitat for the wildlife, and add beautification in the area.</p> <p>As part of the South Bay Salt Pond Restoration project, the Ravenswood Ponds Levee Maintenance and Habitat Enhancement project is currently underway and will enhance the habitat environment at the Refuge’s Ravenswood Ponds, on lands south of Bedwell Bayfront Park.</p> <p>The Open Space/Conservation Element of the General Plan combines the Open Space and Conservation Elements required by State law. Open Space issues include policies and programs to maintain, expand and improve Menlo Park’s open space and recreation areas (including parks) while Conservation institutes policies and programs to conserve natural resources. Preservation of scenic, habitat, and recreational resources in Menlo Park is key to retaining the city’s special sense of place. Among its many natural features, Menlo Park is known for its high-quality active and passive recreation areas, including Bedwell Bayfront Park, which is a regional draw. Menlo Park highly values ongoing restoration and conservation efforts in the Baylands, which provide habitat for a wide variety of plants and animals in the Don Edwards National Wildlife Refuge.</p> <p>The Zoning Code (Municipal Code Title 16) includes an Open Space and Conservation District (Chapter 16.48). The purpose and intent of this district is:</p> <ul style="list-style-type: none"> <li>• To protect the public health, safety and welfare</li> <li>• To protect and preserve open space land as a limited and valuable resource</li> <li>• To assure its continued availability for the following: As agricultural land, scenic land, recreation land, conservation, or natural resource land; for the containment of urban sprawl and the structuring of urban development, and for the retention of land in its natural or near natural state to protect life and property in the community from the hazards of fire, flood, and seismic activity; and</li> <li>• To coordinate with and carry out federal, state, regional, county and city open space plans.</li> </ul>				
<b>Shoreline Management Plan</b>	Yes	Yes	No	Yes
<p><i>Comment:</i> The City of Menlo Park shoreline is subject to San Francisco Bay Conservation &amp; Development Commission regulations. The City does not have a Shoreline Management Plan; however, the City has several ongoing projects to help manage the risks associated with the shoreline along the Bayfront Canal-Atherton Channel and the former salt ponds.</p> <ul style="list-style-type: none"> <li>• The SAFER Bay project objective is to protect against 100-year flood, remove properties from FEMA floodplain, sustain marsh habitat, and facilitate marsh restoration. The plan identifies protection measures for 3-feet of sea level rise.</li> <li>• The FEMA Building Resilience Infrastructure and Communities (BRIC) grant project would provide levee improvements along the majority of Menlo Park’s shoreline. The grant awards up to \$50 million, but the project cost estimate is \$66 million, including matching funds from private partners. This would help provide flood protection and sea level rise resiliency while preserving habitat restoration of over 550 acres of former salt ponds. If awarded, the estimated project timeline is five years, including design and construction.</li> <li>• The Bayfront Canal and Atherton Channel Flood Management and Restoration project is anticipated to begin construction this year (2021) and involves installing underground pipes connecting Bayfront Canal to the Ravenswood Ponds to reduce the impact of flooding.</li> <li>• One of City Council’s 2021 work plan project is to develop a climate adaption plan.</li> </ul>				
<b>Community Wildfire Protection Plan</b>	No	No	No	No
<p><i>Comment:</i> The Fire District provides fire suppression and fire protection services to the City of Menlo Park. The California Department of Forestry and Fire Protection does not acknowledge the City of Menlo Park as being in an area known to be considered as a “wildland urban interface” environment. The Fire District boundaries do not warrant a Community Wildfire Protection Plan.</p>				
<b>Forest Management Plan</b>	No	No	No	No
<p><i>Comment:</i> The Menlo Park Fire District provides fire suppression and fire protection services to the City of Menlo Park. The California Department of Forestry and Fire Protection (Cal Fire) does not acknowledge the City of Menlo Park as being in an area known to be considered as a “wildland urban interface” environment. The Fire District boundaries do not warrant a Forest Management Plan.</p>				



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Climate Action Plan</b>	Yes	No	Yes	Yes
<p><i>Comment:</i> The purpose of the Climate Action Plan (CAP) is to present researched strategies that will help reduce greenhouse gas emissions originating in Menlo Park, based on the findings of the City's greenhouse gas emissions inventory analysis that is completed annually. The plan provides strategies that may be implemented over the next few years by the City, its residents, and its businesses. The CAP is updated every year as research continues to provide more emissions reduction data and as new technologies arise and economic conditions change.</p> <p>The Menlo Park City Council adopted the 2030 Climate Action Plan (CAP) in July 2020 and approved amendments to it in April 2021. The CAP outlines six goals to reach zero carbon by 2030. For 2021, one of the City Council priorities is to explore policy/program options to convert 95 percent of existing buildings to all-electric by 2030. The remaining CAP goals are to:</p> <ul style="list-style-type: none"> <li>• Increase electric vehicle ownership and decrease gasoline sales</li> <li>• Increase access to EV charging infrastructure in multi-family and commercial properties</li> <li>• Reduce vehicle miles traveled by 25 percent or an amount recommended by the Complete Streets Commission</li> <li>• Eliminate the use of fossil fuels from municipal operations; and</li> <li>• Develop a climate adaption plan.</li> </ul>				
<b>Emergency Operation Plan</b>	Yes	No	Yes	Yes
<p><i>Comment:</i> City adopted an Emergency Operation Plan in 2014. The plan still aligns with the National Incident Management System (NIMS) and the California Standardized Emergency Management System (SEMS). The Plan provides the City of Menlo Park Emergency Operations Center (EOC) responders with procedures, documentation, and user friendly checklists to effectively manage emergencies, and it also provides detailed information of supplemental requirements such as Public Information, Damage Assessment, and Recovery Operations.</p>				
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b>	Yes	Yes	No	Yes
<p><i>Comment:</i> The City utilizes the Local Hazard Mitigation Plan and the Fire District's Community Risk Assessment: Standards of Coverage report to support the THIRA process. A consultant has not been selected to conduct an independent THIRA for the City.</p>				
<b>Post-Disaster Recovery Plan</b>	No	Yes	No	Yes
<p><i>Comment:</i> The City Emergency Operation Plan addresses establishing a Recovery Task Force to commence planning for transition to long term recovery. The City is also working with the County on turning their Countywide Debris Management Plan into a stand-alone jurisdictional annex. The City will align its recovery actions with the National and State Disaster Recovery Framework Plan. The City is working toward developing a stand-alone Post Disaster Recovery Plan. City staff have been assigned training in G270 Disaster Recovery as part of their State EOC Credentialing Training Plan.</p>				
<b>Continuity of Operations Plan</b>	Yes	No	No	Yes
<p><i>Comment:</i> Within the City of Menlo Park, the following offices: Human Resources, City Clerk, and City Manager's Office, are responsible for the preservation of vital records. The City will follow standard practices or policies according to the lines of succession in the absence of the City Manager based on organization hierarchy. Each department has a continuity plan for maintaining essential services during a significant event. COOP was exercised during the COVID-19 pandemic.</p>				
<b>Public Health Plan</b>	No	Yes	No	No
<p><i>Comment:</i> The City follows San Mateo County Public Health guidelines</p>				

**Table 12-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Community Development Department, Building Division
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	No

**Table 12-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes (Utility users' tax on all except sewer)
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	Yes (City Council authorization required)
State-Sponsored Grant Programs	Yes Office of Traffic Safety Citizens Options for Public Safety Supplemental Law Enforcement Services Fund California Governor's Office of Emergency Services Alcoholic Beverage Control Funding for Belle Haven Child Development Center childcare
Development Impact Fees for Homebuyers or Developers	Yes
Flood Control / Sea Level Rise Hazard District	No

**Table 12-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Public Works; Community Development (Planning & Building Divisions)
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works; Community Development, (Planning & Building Divisions)
Planners or engineers with an understanding of natural hazards	Yes	Public Works; Community Development, (Planning & Building Divisions)
Staff with training in benefit/cost analysis	Yes	Public Works (Engineering Division), Community Development
Surveyors	Yes	Public Works and Consultants
Personnel skilled or trained in GIS applications	Yes	Public Works, Community Development, Information Technology Division
Scientist familiar with natural hazards in local area	No	N/A
Emergency manager	Yes	Police Department and Menlo Park Fire District
Grant writers	Yes	Police, Public Works, Community Development, Management Analysts (various departments) Menlo Park Fire District
Other		



**Table 12-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes  The City of Menlo Park has three designated Public Information Officers. These individuals train for and execute their PIO roles during EOC exercises and are aligned with meeting the PIO State EOC credentialing requirement.
Do you have personnel skilled or trained in website development?	Yes  The City Manager’s Office maintains the City website and is tasked with updating and coordinating public information. Personnel are trained and skilled in website use.
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes  The City of Menlo Park has hazard mitigation information available on its website. The City also has second party web links available (Menlo Park Fire, American Red Cross, Federal Emergency Management Agency, etc.) for more information. Hazard Mitigation information is posted based on relevance of the season: <ul style="list-style-type: none"> <li>• Summer: Extreme heat, wildland fire and water drought hazard mitigation information may be posted.</li> <li>• Winter: Storm/flooding hazard mitigation information may be posted.</li> <li>• Fall: National preparedness month may include hazard mitigation information on earthquake safety.</li> <li>• Spring: An all hazard mitigation campaign may be posted on “Get Ready” and “What to do in the next 72 hours” for citizens to take advantage of the FEMA Community Emergency Response Team training provided by the Menlo Park Fire District.</li> </ul> The City is transitioning to a new website provider in fall 2021.
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes  The City of Menlo Park primarily uses Facebook, Nextdoor and Twitter accounts. The City posts relevant hazard mitigation educational information to the public through these social media and alert notification platforms.
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes  The Planning Commission serves as a recommending body to the City Council for major subdivisions, rezoning, conditional development permits, Zoning Ordinance amendments, General Plan amendments and the environmental reviews. The Environmental Quality Commission advises the City Council on matters involving environmental protection, sustainability, and sea level rise. The City of Menlo Park, in partnership with the Fire District, participates in volunteer forum meetings to discuss emergency preparedness and mitigation efforts within the City.
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Nixle, programmable message boards
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes  In addition to social media and the City website, the City also participates in and uses the countywide SMC Alert system that provides emergency notifications via voice calls, SMS texts, and email.  City also participates in and uses Zonehaven, which is an evacuation platform that is tied into SMC Alert for providing emergency notifications.

**Table 12-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works, Engineering Division
Who is your floodplain administrator? (department/position)	Assistant Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	1988 (with amendments in 1993, 1999, 2002, 2005)
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meets minimum requirements of 44 CFR 60.3 (e)
When was the most recent Community Assistance Visit or Community Assistance Contact?	2/16/2011
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	Yes  The City of Menlo Park would require another Certified Floodplain Manager in the Engineering Division to assist with additional floodplain improvement projects.
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	Yes  The City of Menlo Park attained a CRS rating of 8 in October 2020.
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	640 \$181,612,000 \$887,969
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	29 \$219,273

a. According to FEMA statistics as of March 31, 2019

**Table 12-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608146870	N/A
DUNS#	Yes	958191975	N/A
Community Rating System	Yes	8	10/2020
Building Code Effectiveness Grading Schedule	Yes	03	12/2/2020
Public Protection	Yes	2	2013
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A



**Table 12-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
<b>Jurisdiction-level understanding of potential climate change impacts</b>	Medium
<p><i>Comment:</i> Environmental Quality Commission (EQC) and sustainability staff update the Climate Action Plan annually based on the findings of the community's greenhouse gas emissions inventory analysis. The Plan outlines strategies that may take several years to implement by the City, its residents, and businesses.</p>	
<p>Building reach codes were implemented on January 1, 2020 to restrict all new construction to be all-electric with some exceptions. This ordinance would reduce greenhouse gas emissions from the building sector and encourage residents to use renewable energy. Staff is working on the next building cycle to update its reach codes, which may include, but not limited to, some restrictions for existing buildings or more stringent reach codes for new construction.</p>	
<p>One of the primary anticipated impacts of climate change is sea level rise and more frequent and severe flooding. The City is pursuing the SAFER Bay project through a grant application to FEMA's Building Resilient Infrastructure and Communities (BRIC) program to protect the community from sea level rise and flooding. This is consistent with the General Plan Land Use Element Goal LU-7: Promote the implementation and maintenance of sustainable development, facilities, and services to meet the needs of the Menlo Park community. This project application proposes to construct approximately 3.7 miles of nature-based flood control and sea level rise barriers along the San Francisco Bay shoreline. This would be a significant advancement toward the ultimate goal of providing full flood protection for the residents and business near the Bay. As of July 2021, FEMA has selected the SAFER Bay project for further evaluation. Staff has incorporated funding to support this work into the fiscal year 2021-22 capital improvement program. This project aligns with the City's 2030 CAP goal to develop a climate action adaption plan. Because this is a large project, more staff capacity may be needed and is being assessed as the City awaits notification from FEMA regarding the grant award.</p>	
<b>Jurisdiction-level monitoring of climate change impacts</b>	Medium
<p><i>Comment:</i> The City implemented an online permitting system (Accela), which helps staff analyze the number of projects that trigger the all-electric reach code restrictions. The data collected in Accela would also help analyze and develop a policy/program to help convert 95% of existing buildings to all-electric by 2030.</p>	
<p>In partnership with the County, air quality monitors were installed for public health and safety and the data is available on publicly accessible portals. More capacity would be needed to increase monitoring the impacts of climate change.</p>	
<b>Technical resources to assess proposed strategies for feasibility and externalities</b>	Low
<p><i>Comment:</i> The City could use more technical resources to assess the proposed strategies for feasibility and externalities.</p>	
<b>Jurisdiction-level capacity for development of greenhouse gas emissions inventory</b>	Medium
<p><i>Comment:</i> The City could use some improvement in developing the community's greenhouse gas emissions inventory.</p>	

Criterion	Jurisdiction Rating <sup>a</sup>
<p><b>Capital planning and land use decisions informed by potential climate impacts</b></p> <p><i>Comment:</i> The City has a number of ordinances, plans, and projects to address climate impacts through capital planning and land use decisions:</p> <ul style="list-style-type: none"> <li>•Municipal Code Section 16.43.140 is a green and sustainable building ordinance, which requires developers to submit zero waste management plans to showcase how the project will reduce waste during the construction and occupancy phase. This ordinance will help the City meet its zero waste goal of 90% diversion by 2035.</li> <li>•The City is updating the Safety Element to comply with the new changes to SB 379.</li> <li>•Development projects, both commercial and residential, need to be assessed by the standards set by the California Environmental Quality Act, which may require preparation of environmental impact reports.</li> <li>•According to Municipal Code Section 12.16.010, new construction is required to be all-electric, with a few exceptions. For example, the Menlo Park Community Center will be an all-electric building to eliminate the use of natural gas.</li> <li>•The City adopted the sustainable fleet policy in 2020, a minimum 50 percent vehicles purchased will be zero-emission by 2025 and 75 percent by 2030.</li> <li>•The City has undertaken master planning efforts in most capital planning areas in the last five years. These efforts have helped identify funding and project needs (e.g., facilities, streets, transportation, parks, stormwater, etc.), but additional resources (funding and staff or consultants) will be needed to deliver the needed projects to address expected climate impacts. Funds to operate and maintain new infrastructure for adapting to climate change will also be needed.</li> <li>•Potentially more staff resources are needed to process building permits and more outreach is needed to educate the public about the reach codes.</li> </ul>	<p>Medium</p>
<p><b>Participation in regional groups addressing climate risks</b></p> <p><i>Comment:</i></p> <ul style="list-style-type: none"> <li>• A councilmember is a board member of Peninsula Clean Energy, which offers renewable energy to Menlo Park residents. Peninsula Clean Energy offers at minimum 50% renewable energy and 90% greenhouse gas free electricity. With renewable energy powering an all-electric building, the occupants and indoor air quality may significantly improve health and safety.</li> <li>• Both councilmember and staff participate in South Bay Waste Management Authority and Technical Advisory Committee monthly meets to discuss innovative waste reduction and recycling programs. For instance, the group is discussing the upcoming Senate Bill 1383, which is to enforce a more stringent organics program and surplus food recovery. When food waste decomposes in the landfill without air, it creates methane, which is harmful to the environment.</li> <li>• Staff and a councilmember liaison participate in with San Mateo Flood &amp; Sea Level Rise District to discuss climate change impacts of sea level rise and flooding across jurisdictional boundaries. Menlo Park City Council also supported pursuit of the SAFER Bay project for a FEMA BRIC grant application, which proposes to construct approximately 3.7 miles of nature-based flood control and sea level rise barriers along the San Francisco Bay shoreline. This would be a significant advancement toward the ultimate goal of providing full flood protection for the residents and business near the Bay. As of July 2021, FEMA has selected the SAFER Bay project for further evaluation. Staff has incorporated funding to support this work into the fiscal year 2021-22 capital improvement program.</li> <li>• The City partners with local organizations to help monitor and implement climate change goals. For instance, Joint Venture Silicon Valley will assist in reaching the goal to increase EV of new vehicle ownerships to 100% by 2025 and to reduce gasoline sales by 10% a year from the 2018 baseline.</li> <li>• City/County Association of Governments of San Mateo County (C/CAG) staff manage the County's stormwater program and permitting requirements. City staff actively participate in C/CAGs stormwater committees, and a City Councilmember serves on the C/CAG board.</li> <li>• ICLEI is an international non-governmental organization that promotes sustainable development and provides technical consulting to help the City meet its sustainability initiatives.</li> <li>• BAWSCA and Flows to Bay offer various water conservation programs, such as rain barrel rebates and Lawn Be Gone programs.</li> </ul>	<p>Medium</p>
<p><b>Implementation Capacity</b></p> <p><b>Clear authority/mandate to consider climate change impacts during public decision-making processes</b></p> <p><i>Comment:</i> On December 10, 2019, the City Council adopted Resolution No. 6535 declaring a climate emergency. During public decision-making processes, internal and external stakeholders must comply with the City's sustainability-related policies and ordinances. The City would need more capacity or to reduce other projects and priorities to adopt and implement programs, ordinances, or solutions to further advance in climate change adaptation.</p>	<p>Medium</p>



Criterion	Jurisdiction Rating <sup>a</sup>
<p><b>Identified strategies for greenhouse gas mitigation efforts</b></p> <p><i>Comment:</i> Menlo Park City Council adopted the 2030 Climate Action Plan (CAP) in July 2020 and approved amendments to it in April 2021. The CAP outlines six goals to reach zero carbon by 2030. Five of these goals address mitigation, as listed below. The CAP goals are to:</p> <ul style="list-style-type: none"> <li>• Explore policy/program options to convert 95 percent of existing buildings to all-electric by 2030</li> <li>• Increase electric vehicle ownership and decrease gasoline sales</li> <li>• Increase access to EV charging infrastructure in multi-family and commercial properties</li> <li>• Reduce vehicle miles traveled by 25 percent or an amount recommended by the Complete Streets Commission</li> <li>• Eliminate the use of fossil fuels from municipal operations.</li> </ul> <p>The scope of work for 2021 implementation are the following:</p> <ul style="list-style-type: none"> <li>• Complete a cost effectiveness analysis on various policy/program pathways towards achieving 95% electrification by 2030.</li> <li>• Collaborate with Joint Venture Silicon Valley to increase the number of new vehicle purchase to be electric vehicles (EV) and decrease the gasoline sales by 10%.</li> <li>• Promote and market incentives to expand access to EV charging stations in multi-family and commercial properties.</li> <li>• Reduce vehicle miles traveled through SB2 Housing grant, completion of Transportation Management Association feasibility study, and implementation of vehicle miles traveled guidelines for new development.</li> <li>• Update the Safety Element of Menlo Park's General Plan to respond to SB 379.</li> </ul>	High
<p><b>Identified strategies for adaptation to impacts</b></p> <p><i>Comment:</i> The sixth goal from the City's Climate Action Plan is to develop a climate adaptation plan. The City has participated in past regional efforts to develop adaptation plans for sea level rise, including the SAFER Bay Feasibility Study, led by the San Francisquito Creek Joint Powers Authority; and the Metropolitan Transportation Commission's Dumbarton Bridge West Approach + Adjacent Communities Resilience Study. The City has applied for a FEMA BRIC grant to support implementation of the first phase of the SAFER Bay project and would continue to partner with other stakeholders to complete the project.</p>	High
<p><b>Champions for climate action in local government departments</b></p> <p><i>Comment:</i></p> <ul style="list-style-type: none"> <li>• The City has a sustainability division to implement the climate action plan and collaborates with multiple departments to adopt climate-related policies and initiatives. More capacity is needed to adopt and implement new programs, ordinances, and implement the CAP goals.</li> <li>• As of fiscal year 2020-21, the City has 109 fleet vehicles, which include vehicles, motorcycles, and parking enforcement buggies. Out of the total fleet vehicles, twenty-one are hybrids and four are all-electric vehicles. The City is waiting for technology to advance for electric utility vehicles, which may be available within the next three years. Public Works is also transitioning its maintenance equipment to electric.</li> <li>• The Building Division implemented local energy code amendments to the building code (reach codes), which went above and beyond State and County recommendations.</li> <li>• The Community Development Department implemented a green and sustainable building ordinance.</li> <li>• In 2015, several solar photovoltaic panels were installed on various City facilities.</li> <li>• The City installed 4 electric vehicle charging stations (with 2 charging ports each) for public use.</li> <li>• The Police Department is currently transitioning their paper parking permits to paperless permits.</li> <li>• The Community Development and Public Works Departments transitioned from paper permitting applications to electronic submittals.</li> <li>• The City's transportation demand management coordinator provides support to local employers and City employees to provide information about non-single occupancy vehicle travel options, which can help reduce vehicle miles traveled and emissions from transportation mobile sources.</li> </ul>	Medium

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Political support for implementing climate change adaptation strategies</b>	High
<p><i>Comment:</i> •Menlo Park City Council was one of the first cities to adopt reach code, which nearly eliminated natural gas from new buildings. City Council also adopted a resolution to declare climate emergency, which demands accelerated actions on the climate crisis and requests regional collaboration to address climate change. The former mayor also signed a resolution to reaffirm the City's commitment to tackle climate change at a local level.</p> <p>•All six Climate Action Plan goals are on City Council's 2021 priorities and work plan: two out of nine priority projects are related to CAP.</p> <p>•Menlo Park City Council also supported pursuit of the SAFER Bay project FEMA BRIC grant application.</p> <p>•The Environmental Quality Commission continues to advise City Council on implementing the CAP goals.</p>	
<b>Financial resources devoted to climate change adaptation</b>	Medium
<p><i>Comment:</i> The City filed the FEMA BRIC grant application, which would help develop a climate action adaptation plan to protect the community from sea level rise and flooding. More capacity is likely to be needed in this effort and other climate change adaptation.</p>	
<b>Local authority over sectors likely to be negative impacted</b>	Unsure
<p><i>Comment:</i> •Code Enforcement officers may be impacted if new building requirement ordinances are adopted that require enforcement resources, but not enough information is known at this time to assign a rating.</p> <p>•Some business industries (such as restaurants, research and development or life-science) may be negatively impacted by the reach codes; however, those business may be exempted from the reach codes as outlined in the Municipal Code Section 12.16.010.</p> <p>•Gas and oil manufacturing sectors may be negatively impacted if the City reduces its gasoline consumption (either for vehicles or for building appliances). This impact would be related to the 2030 CAP goals and the reach codes, but not enough information is known at this time to assign a rating.</p>	
<b>Public Capacity</b>	
<b>Local residents knowledge of and understanding of climate risk</b>	Medium
<p><i>Comment:</i> •The Environmental Quality Commission (EQC), a commission body made up of seven Menlo Park residents, created the 2030 CAP. The Complete Streets Commission, another resident-based commission body of nine members, is anticipated to develop a vehicle miles traveled reduction goal by 2023.</p> <p>•Strong advocacy occurs when climate policies are considered by City Council. Several residents expressed interest to ban gas leaf blowers by adopting an ordinance.</p> <p>•More outreach needs to be done to understand the community's knowledge and understanding of climate risk. A resolution was approved in April 2021 that approved the scope of work for 2021 implementation of the CAP and to educate residents about climate emergency and to include health, socio-economic, and racial equity in policymaking and climate solutions.</p>	
<b>Local residents support of adaptation efforts</b>	Unsure
<p><i>Comment:</i> Not enough information is known to assign a rating. More outreach is needed.</p>	
<b>Local residents' capacity to adapt to climate impacts</b>	Unsure
<p><i>Comment:</i> Not enough information is known to assign a rating. More outreach is needed.</p>	
<b>Local economy current capacity to adapt to climate impacts</b>	Unsure
<p><i>Comment:</i> Not enough information is known to assign a rating. More outreach is needed.</p>	
<b>Local ecosystems capacity to adapt to climate impacts</b>	Unsure
<p><i>Comment:</i> Not enough information is known to assign a rating. More outreach is needed.</p>	

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 12.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and



where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 12.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **General Plan**—The Safety Element of the General Plan (adopted May 21, 2013) complies with Assembly Bill No. 2140 and is aimed at reducing potential risk of death, injuries, damage to property, and the economic and social dislocation resulting from fire, flood, geologic and other hazards. The General Plan provides policies and standards for the type, location, intensity, and design of development in areas of potential hazards. The intent is not to remove all risks associated with each specific type of hazard, but to reduce risks to life and property and to make informed decisions about land use and development near these hazards.
- **Climate Action Plan/Climate Change**—The City’s 2030 Climate Action Plan outlines strategies to reduce greenhouse gas emissions and fight climate change. These goals were reviewed to identify cross-planning initiatives that serve both adaptation and mitigation objectives.
- **Zoning Code**—The Zoning Code (Municipal Code Title 16) includes an Open Space and Conservation District (Chapter 16.48). The purpose and intent of this district is:
  - To protect the public health, safety, and welfare
  - To protect and preserve open space land as a limited and valuable resource
  - To assure its continued availability for the following: As agricultural land, scenic land, recreation land, conservation, or natural resource land; for the containment of urban sprawl and the structuring of urban development, and for the retention of land in its natural or near natural state to protect life and property in the community from the hazards of fire, flood, and seismic activity; and
  - To coordinate with and carry out federal, state, regional, county and city open space plans.
- **Stormwater Management**—New and redevelopment projects are required to reduce the quantity and improve the quality of stormwater that flows into the City’s collection system from private property, local creeks, the San Francisco Bay, and the Pacific Ocean. Depending on the size of the project, the City may require special features that minimize pollutants at their source, infiltrate more rain into the soil and treat stormwater before it leaves the site. For larger projects, an agreement to maintain the stormwater treatment measure is also required.
- **Growth Management**—For each new project, developers are required to conduct an environmental impact report and comply with the California Environmental Quality Act.
- **Environmental Protection**—The City has ordinances and policies related to environmental protection:
  - In January 2020, the City adopted reach codes for new construction to reduce greenhouse gas emissions from the building sector and encourage the use of renewable and clean energy. The reach codes are local modifications to account for the climatic, topographic, and geographic conditions that exist in Menlo Park.
  - The City’s Climate Action Plan was adopted in July 2020 and several of its goals are related to environmental protection. Two of the goals are related to electric vehicles: to promote the purchase of

- electric vehicles and increase EV charging stations in multi-family and commercial buildings, and to reduce greenhouse gas emissions and improve air quality.
- The City adopted a Sustainable Vehicle Fleet Policy to increase the number of zero-emission City fleet vehicles.
  - The City has tree pruning program to ensure dead trees and limbs are removed to reduce wildfire risk. The City is transitioning to plant low-water tolerant replacement trees to adapt to the drought season while maintaining the urban canopy.
- **Flood Damage Prevention**—The ordinance (Municipal Code Section 12.42.13) minimizes public and private losses due to flood conditions in specific areas by provisions designed:
    - To protect human life and health
    - To minimize expenditure of public money for costly flood control projects
    - To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public
    - To minimize prolonged business interruptions
    - To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard
    - To help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood blight areas
    - To ensure that potential buyers are notified that property is in an area of special flood hazard; and
    - To ensure that those who occupy special flood hazard areas assume responsibility for their actions.
  - **Capital Improvement Plan**—The capital improvement plan includes projects that can help mitigate potential hazards. The City will act to ensure consistency between the hazard mitigation plan and the current and future capital improvement plans following this update. The hazard mitigation plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.
  - **Urban Water Management Plan**—The Urban Water Management Plan assesses the reliability of water sources over a 20-year planning time frame and describes demand management measures and water shortage contingency plans.
  - **Water Shortage Contingency Plan**—The Water Shortage Contingency Plan serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. The primary objective of the Water Shortage Contingency Plan is to ensure that Menlo Park Municipal Water has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions. Consistent with California Water Code §10632, the Water Shortage Contingency Plan includes six levels to address shortage conditions ranging from up to 10% to greater than 50% shortage, identifies a suite of demand mitigation measures for Menlo Park Municipal Water to implement at each level, and identifies procedures for Menlo Park Municipal Water to annually assess whether or not a water shortage is likely to occur in the coming year.

## 12.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:



- **Water System Emergency Action Plan**—Required by the State Department of Environmental Health back in 2004. This Plan was written on 12/29/2004 and was updated in 2005, 2011 and 2013, 2016, 2019 and is currently being updated for 2021. The plan can be integrated with the hazard mitigation plan by re-writing it to confirm to the National Incident Management System (NIMS) and attaching it as an appendix.
- **Climate adaptation plan**—The City will develop a climate adaptation plan that would focus on resiliency planning and updating the General Plan Safety Element to comply with recent changes to Senate Bill 379.
- **General Plan Update; Housing, Safety, and Environmental Justice Elements**—The City is currently working on updating/creating the General Plan Housing, Safety, and Environmental Justice Elements. As part of the sustainable and environmental planning guiding principle, the updates will establish goals, policies, and programs that incorporate mitigation strategies to natural hazards, as appropriate. The Safety Element will be updated to comply with Senate Bill 379.
- **Post-Disaster Recovery Plan**—The City does not have a recovery plan and intends to develop one as a mitigation planning action during the next five years. The plan will build on the goals and objectives identified in the hazard mitigation plan. The City is also working with the County on turning the Countywide Debris Management Plan into a stand-alone jurisdictional annex. The City will align its recovery actions with the National and State Disaster Recovery Framework Plan.
- **Stormwater Plan**—The Engineering Division is in the process of updating the stormwater master plan. The plan, when completed, will model the entire City storm drain network and identify areas vulnerable to localized flooding and identify capital projects to mitigate the flooding in these areas. The plan also identifies measures to comply with state mandated requirements under the NPDES permitting requirements.
- **Shoreline Management Plan**—The City does not have a Shoreline Management Plan; however, the City has a few ongoing projects to help manage the risks associated with the shoreline along the Bayfront Canal-Atherton Channel and the former salt ponds.

## 12.6 RISK ASSESSMENT

### 12.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 12-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 12-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Wildfires: poor air quality (CZU Fire)	DR-4558	August 14-September 26, 2020	Unknown
Covid-19 Pandemic	DR-4482	January 20, 2020 - present	Unknown
Severe Winter Storms	DR-4308	February 1-23, 2017	Unknown
Severe Storm (El Niño)	N/A	December 23, 2012	\$3 million creek bank erosion private property \$820,000 residential and businesses
Severe Storm (El Niño)	DR-1203	February 9, 1998	Unknown
Loma Prieta Earthquake	DR-845	October 18, 1989	Unknown

### 12.6.2 Hazard Risk Ranking

Table 12-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 12-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Flood	87	High
2	Earthquake	84	High
3	Sea Level Rise / Climate Change	72	High
4	Severe weather	24	Medium
5	Dam Failure	72	Low*
6	Landslide/Mass Movements	72	Low**
7	Drought	9	Low
8	Tsunami	2	Low

\* After reviewing the Dam Failure map provided by Tetra Tech, City of Menlo Park is not in the Inundation Area.

\*\* The City of Menlo Park does not experience a significant amount of landslides/mass movements, which is why the risk ranking changed from High to Low.

### 12.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

These public facilities are located in either flood hazard areas, along the fault lines, high liquefaction areas, and/or sea level rise areas:

- Menlo Park Community Center (formerly site of the Menlo Park Senior Center, Onetta Harris Community Center, Youth Center, and Belle Haven Pool)
- Belle Haven Child Development Center
- Menlo Park Police Neighborhood Services Center



- 
- Belle Haven Library
  - Bedwell Bayfront Park Landfill and Gas Flare
  - Chrysler Pump Station
  - U.S. Veteran Administration Medical Center
  - Nealon Park Little House and Nursery School

Not all structures are listed above because it is assumed the hazards with “High” ranking from Table 12-12 would affect all the structures in the city. Therefore, a comprehensive list of all structures is not needed.

These local street intersections have experienced flooding during heavy rain events:

- Middlefield Rd and Ravenswood Ave.
- Atherton Channel and Haven Ave.
- Pope St. and Elm St. intersection
- Corner of Scott Dr. and Bohannon Dr.
- Campbell Ave. and Scott Dr.
- University Dr. and Middle Ave.
- Menalto Ave. near the Highway 101 sound wall
- Emma Ln.
- O’Brien Dr. and Kavanaugh Dr.
- O’Brien Dr. and Casey Ct.
- Bay Rd. and Menlo Oaks Dr.
- Bay Rd. and Berkeley Ave.
- Laurel St. and Ravenswood Ave.
- El Camino Real and Cambridge Ave.

These are the results from the public survey from residents who live within the 94025 ZIP code:

- Out of 25 natural hazards listed, residents expressed:
  - Extremely concerned for climate change, poor air quality, public health, and wildfire; and
  - Very concerned about earthquake, drought, power failure, flooding, and extreme heat
- Residents most commonly experienced these hazard events within the past five years:
  - Poor air quality due to nearby wildfire
  - Public health – epidemic or pandemic
  - Extreme heat
  - Drought; and
  - Climate change

According to the National Climatic Data Center, the City of Menlo Park and its neighboring cities (Atherton, East Palo Alto, Unincorporated West Menlo Park, North Fair Oaks, and Woodside) reported 12 flood hazard events (out of 16 total events) due to heavy rain within the past six years.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 12.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 12-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 12-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>MP-1</b>—Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas and prioritize those structures that have experienced repetitive losses.</p> <p><b>Comment:</b> Menlo Park has a Planning Commission that oversees future building development which takes into consideration high risk hazards. Homeowners in high risk areas are required to take out home insurance associated with potential risks that expose their properties. No city facilities have been vulnerable to recurring losses, so relocation is no longer feasible. On the other hand, the City will continue to support retro-fitting of other structures, but the city’s role in this for private property is limited.</p>			✓	MPK-1
<p><b>MP-2</b>—Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions within the community.</p> <p><b>Comment:</b> The City has incorporated the LHMP in their General Plan Safety Element pertaining to any associated risks or hazards; and takes into consideration these risks during building development or future land-use planning (adopted May 2013). The City is in the process of updating the General Plan Safety Element and will continue to integrate and implement the LHMP (tentative completion in 2022).</p>			✓	MPK-2
<p><b>MP-3</b>—Integrate the hazard mitigation plan into other plans and programs that support infrastructure investments, such as the five-year capital improvement program</p> <p><b>Comment:</b> The City has integrated its hazard mitigation planning as part of the capital improvement program by using prioritization criteria such as public health and safety risks, protecting infrastructure, ability to reduce greenhouse gas emissions and support the City’s 2030 climate action plan, and relationship to adopted plans (including the LHMP). Projects that have therefore been prioritized include funding for the Bayfront Canal and Atherton Channel flood protection project, the San Francisquito Creek upstream flood protection project, the reconstruction of the Chrysler stormwater pump station, and the SAFER Bay sea level rise protection project.</p>			✓	MPK-2
<p><b>MP-4</b>—Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.</p> <p><b>Comment:</b> The City developed an application for conducting damage assessment following the guidelines of ATC-20 that has the ability to record preliminary damage estimates and photos. The program is called the Damage Assessment Reporting System. The City uses several project management tools, including Dropbox, ArcGIS and Monday.com for archiving information. Per County of San Mateo guidance, the City also adheres to filling out the “SMC Initial Damage Estimate” sheet.</p>				



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>MP-5</b>—Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> The City continues to partner with the County on all related hazard reduction, emergency preparedness, and disaster response efforts. Elected Officials serve as part of the San Mateo County Emergency Services Council in accordance with the Joint Powers Agreement. Participation in the Authority is to ensure cooperative emergency planning and response. All participating members and partners are expected to attend all regular and special meetings of the Area Emergency Services Council, agree to active participation by their jurisdictions in the development of plans and training programs, drills, exercises, and training opportunities, and otherwise assist in supporting the implementation of this agreement.</p>				MPK-3
<p><b>MP-6</b>—Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> The Menlo Park Fire Protection District, in partnership with the City of Menlo Park, supports the facilitation of the maintenance protocols of the Hazard Mitigation Plan. Each department has taken ownership of their hazard mitigation projects and provides updates to the Point of Contact related to the completion of projects annually. GIS mapping tools are being developed to engage the public.</p>				MPK-4
<p><b>MP-7</b>—Continue to maintain good standing and compliance under the National Flood Insurance Program (NFIP). This will be accomplished through the implementation of floodplain management programs that will, at a minimum, meet the requirements of the NFIP: Enforcement of the flood damage prevention ordinance Participate in floodplain identification and mapping updates; and Provide public assistance/information on floodplain requirements and impacts.</p> <p><b>Comment:</b> The City of Menlo Park has been recognized for performing floodplain management activities above and beyond the minimum requirements for the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP). As a result of the City's continuing efforts in floodplain management activities, Menlo Park has been certified to participate in the Community Rating System (CRS) program and received Class 8 effective of October 1, 2020 (expiration date on October 31, 2023). The City is compliant with NFIP requirements and flood-plain management programs including coordination on mapping updates and providing information and assistance to residents included in the program. The next annual recertification is due by August 1, 2021. The process involves certifying that the City have been performing the agreed upon activities and updating data.</p>				MPK-5
<p><b>MP-8</b>—Work with building officials to identify ways to improve the jurisdiction's BCEGS classification</p> <p><b>Comment:</b> The concept behind the Building Code Effectiveness Grading Schedule (BCEGS) is that municipalities with well-enforced building code requirements designed to mitigate losses from natural hazards, demonstrate better loss experience, and can ultimately lower citizens' insurance costs. Effectiveness Classification ranges from Class 1 to Class 10, with Class 1 being the highest/top score. In May 2021, the City of Menlo Park received BCEGS Class 3 for single- and two-family residential property and Class 3 for commercial and industrial property. This is a significant achievement that reflects the City's ongoing dedication for community development that is safe and supportive of Menlo Park's outstanding quality of life.</p>				
<p><b>MP-9</b>—Develop a post-disaster recovery plan and debris management plan.</p> <p><b>Comment:</b> The County developed a Debris Management plan in August 2020. Menlo Park does not have a stand-alone Debris Management Plan. The Public Works Department is reviewing the County plan with the goal of doing an independent plan aligned with the County Plan.</p>				MPK-6
<p><b>MP-10</b>—Develop mitigation controls (continuity of government plans) and ensure force protection measures are in place in relation to vulnerable critical facilities within the City (police stations, fire stations, emergency operation center, City Hall, emergency shelters, etc.)</p> <p><b>Comment:</b> The City is working with the County to support the development of a Continuity Operation Plan in order to align with countywide plans. The Menlo Park Fire Protection District, in partnership with the City, is working toward development.</p>				MPK-7

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>MP-11</b>—Develop a plan for expediting the repair and restoration of the water systems through stockpiling of shoring materials, temporary pumps, surface pipelines, portable hydrants, and other supplies, such as those available through the Water Agency Response Network (WARN).</p> <p><b>Comment:</b> The City’s 2016 Water System Emergency Response Plan will be updated with a 2021 Water System Emergency Response Plan by 12/31/2021. The City has cooperative agreements in place with emergency service/disaster service contractors. The Public Works Department and Menlo Park Municipal Water has on-call personnel 24/7 which coordinate timely repairs and restoration of water systems in the city. The City has interconnect agreements in place with adjacent water providers. The City coordinates with West Bay Sanitary Sewer District with repair and restoration of the wastewater systems.</p>				
<p><b>MP-12</b>—Continue to participate in the Public Works Mutual Aid Agreement–San Mateo County in accordance with resource sharing and resource coordination.</p> <p><b>Comment:</b> The City continues to participate in the Public Works Mutual Aid Agreement and has also piloted a system called the Field Emergency Resource Management System, an interactive web-based emergency resources sharing application. The City also uses the ICS-213RR Resource Request Form.</p>				
<p><b>MP-13</b>—Continue to ensure that critical intersection traffic lights function following loss of power by testing battery back-ups, emergency generators, or lights powered by alternative energy sources such as solar.</p> <p><b>Comment:</b> The City has an on-call contract with CalWest for emergency response to traffic signal outages and has two portable generators on hand in case of power outages. Monthly maintenance on all generators is completed by the fleet section of the Public Works Department. In addition, the City has secured a set of solar panels and 12-volt batteries. This solar charging station will be installed at the Corporation Yard to provide fully charged batteries on stand-by for lighted crosswalks.</p>				
<p><b>MP-14</b>—Develop emergency plans or MOU agreements with neighboring mutual aid providers.</p> <p><b>Comment:</b> The City continues to promote Field Emergency Resource Management System, Field Emergency Resource Management System, which facilitates our emergency resources sharing capabilities and MOU agreements among neighboring mutual aid providers countywide. The system has been tested and exercised. The City also participates in the Disaster Service Committee that is a multi-jurisdictional emergency planning work group. The City has a Public Works Mutual Aid Agreement in place by Resolution No. 6547 adopted in March 2020. Through a standardized Emergency Operation Plan between East Palo Alto, Atherton, Menlo Park, and the Fire District the City maintains a system of neighboring unity and structure.</p>				
<p><b>MP-15</b>—Implement maintenance and storm preparedness plans that include the annual clearing of storm water drains and culverts, drainage ditches, and other waterways, such as the Atherton Channel and San Francisquito Creek, to maintain flood protection.</p> <p><b>Comment:</b> The City has a Flood Response Annex which includes the annual clearing of storm water drains and culverts, drainage ditches, and other waterways, such as the Atherton Channel and San Francisquito Creek, to maintain flood protection. The City also participates in the San Francisquito Creek Joint Powers Authority annual Flood Preparedness Workshops. The City conducts an annual inspection of the storm drain system before the rainy season. As part of the City’s in-house inspection and cleaning program on a five-year routine basis, the contractor focuses on root cleaning, line clearing, and CCTV line inspection.</p>			✓	MPK-8
<p><b>MP-16</b>—Continue to coordinate with the City of Redwood City on the Bayfront Canal flood control improvements.</p> <p><b>Comment:</b> The City has been working with San Mateo Flood and Sea Level Rise Resiliency District, San Mateo County, Redwood City and the Town of Atherton on the design and construction of the Bayfront Canal Bypass Project. An MOU was approved by all partner agencies in November 2020 and construction commenced in 2021.</p>				



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>MP-17</b>—Continue to coordinate with the San Francisquito Creek Joint Powers Authority on San Francisquito Creek and SAFER Bay flood control projects.</p> <p><b>Comment:</b> The City continues to coordinate with the San Francisquito Creek JPA on the Downstream of 101 and Upstream of 101 flood control projects, as well as the development of the SAFER Bay project. In 2021, the City applied for a FEMA Building Resilient Infrastructure and Communities (BRIC) grant for several reaches of the SAFER Bay Project, in partnership with the JPA, PG&amp;E, and Facebook.</p>				MPK-9
<p><b>MP-18</b>—Continue to coordinate with the California Coastal Conservancy and the U.S. Fish &amp; Wildlife Service on the South Bay Salt Pond Restoration Project.</p> <p><b>Comment:</b> The coordination work with the California Coastal Conservancy is ongoing. The City is working on a levee project currently with members.</p>				MPK-10
<p><b>MP-19</b>—Upgrade the Chrysler Pump Station to improve flood protection in the Bayfront area.</p> <p><b>Comment:</b> The design of the Chrysler Pump Station is currently underway, and funding was secured in 2020 with a \$5 million FEMA Hazard Mitigation Grant program award. Construction is anticipated to begin in 2021 and completed by 2023.</p>				MPK-11
<p><b>MP-20</b>—Develop and implement a Green Infrastructure Plan to improve storm water quality and flood protection.</p> <p><b>Comment:</b> The City Council adopted the Green Stormwater Infrastructure Plan in 2019. The City has also hired a consultant to develop a storm water master plan.</p>				
<p><b>MP-21</b>—Produce hazards maps that take into account the impacts of flooding due to climate change.</p> <p><b>Comment:</b> San Mateo County's Office of Sustainability published the draft Sea Level Rise Vulnerability Assessment for San Mateo County in 2018. The study includes maps for a number of sea level rise scenarios, which includes areas that would be impacted in Menlo Park. The City also has GIS staff that references flood inundation maps to incorporate data into other City planning documents and analyses.</p>				MPK-12
<p><b>MP-22</b>—Develop an Adaptation to Climate Change Plan and integrate into the Local Hazard Mitigation Plan.</p> <p><b>Comment:</b> In early 2020, the San Mateo County Flood and Sea Level Rise District was formed to represent all cities and the County of San Mateo. The City of Menlo Park is an active member of this agency that is developing plans and projects to protect areas of the city vulnerable to sea level rise and climate change. In July 2020, the City adopted, and in April 2021 updated, the Climate Action Plan that identifies climate change resiliency as a priority for Menlo Park.</p>				MPK-13
<p><b>MP-23</b>—Continue to participate with the San Mateo County Flood and Sea level Rise Resiliency District on key flood control projects.</p> <p><b>Comment:</b> The Sea Level Rise Vulnerability Assessment was completed in 2018 with substantial input from the City of Menlo Park. Following completion of the assessment and the passage of AB825, the San Mateo County Flood and Sea level Rise Resiliency District was formed as noted in MP-17 and MP-22. The City participates in FSLRRD meetings and is a stakeholder/partner on key flood control projects.</p>				MPK-14
<p><b>MP-24</b>—Develop a recycled water feasibility study and adopt a recycled water ordinance for the use of recycled water in the Menlo Pak Municipal Water District service area.</p> <p><b>Comment:</b> West Bay Sanitary District completed preparation of its recycled water feasibility study of the Bayfront area of Menlo Park in May 2019. West Bay also completed construction of the Sharon Heights recycled water project with operations commencing in October 2020 to provide recycled water to the Sharon Heights Golf and Country Club.</p>				

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>MP-25</b>—Plan, design and build emergency water supply wells to serve residents during times of emergencies that result in a loss of water supply.</p> <p><b>Comment:</b> The City began construction of its first emergency water supply well in 2018 and the project was completed in 2020, awaiting issuance of permits from the State Department Water Resources, expected in 2021. The City is exploring considerations for a second emergency well and/or reservoir in partnership with Ravenswood City School District at the Willow Oaks School and park sites.</p>				
<p><b>MP-26</b>—Update the Seismic Vulnerability Assessment of the City’s water distribution system.</p> <p><b>Comment:</b> In June 2021, the City used EPA’s Vulnerability Self-Assessment Tool (VSAT) to complete a Risk and Resiliency Assessment to evaluate all risks including seismic assessment of the City’s water distribution system.</p>				
<p><b>MP-27</b>—Plan, design, and build for the undergrounding of utilities in the downtown parking areas.</p> <p><b>Comment:</b> The City Council established three underground utility districts in February 2020, one of which is located downtown. The California Public Utilities Commission recently adopted major changes to the Rule 20A program (which funded undergrounding utilities), requiring the City to reassess the viability of this (or any) undergrounding project in 2021. The undergrounding of utilities in the downtown parking areas was identified as a lower priority area than other corridors in the City by the City Council in mid-2021.</p>		✓		
<p><b>MP-28</b>—Develop a program for the installation and replacement of emergency generators at critical facilities.</p> <p><b>Comment:</b> The City installed an emergency generator at City Hall in 2018. The City continues to assess the installation of emergency generators at critical facilities with a focus on the delivery of a new community center which would provide emergency shelter capabilities in the Belle Haven neighborhood. This new facility would provide back-up power options using solar and battery backups in addition to an emergency generator. All emergency generators are serviced monthly by the Public Works fleet section and a list of the age and condition of all generators has been developed.</p> <p>The City will carry over and modify the Action Item to maintain and replace emergency generators at critical facilities.</p>				MPK-15
<p><b>MP-29</b>—Continue to enforce and or comply with the State-mandated requirement that site-specific geologic reports be prepared for development proposals within Alquist-Priolo Earthquake Fault Zones and restrict the placement of structures for human occupancy.</p> <p><b>Comment:</b> The City complies with and enforces State mandated requirements. No properties within the City limits are within active fault zones.</p>	✓			
<p><b>MP-30</b>—Update as needed and enforce regulations concerning new construction (and major improvements to existing structures) within flood zones in order to be compliant with federal requirements and the National Flood Insurance Program.</p> <p><b>Comment:</b> The City continues to enforce regulations concerning new construction within flood zones complying with federal requirements. The City enforces stricter regulations with Ordinance 12.42.</p>	✓			
<p><b>G-1</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b> The City of Menlo Park was certified to participate in the Community Rating System program and received Class 8 effective of October 1, 2020. The Arbor Day Foundation recognized the City of Menlo Park as a Tree City for 22 consecutive years and as a Tree Growth City for six years as of June 2021.</p> <p>This Action Item will be carried over and consolidated with MPK-5.</p>				MPK-5
<p><b>G-2</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> The City has an emergency flood response annex that has identified the appropriate response triggers. The City also monitors the San Francisquito Creek flood monitors which provide early warning when limits have been reached.</p>				



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>G-3</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> The City of Menlo Park has been recognized for performing floodplain management activities above and beyond the minimum requirements for the Federal Emergency Management Agency (FEMA) National Flood Insurance Program. Beginning this fall, Menlo Park residents and businesses located in the following flood zones could be eligible for a discount on their flood insurance premium: Flood zone A and AE: 10 percent discount; and Flood zone X: 5 percent discount.</p> <p>Menlo Park is an active member of the federal flood insurance program that provides flood insurance to residential and commercial structures in areas prone to inundation. The program also sets minimum standards for floodplain management which cities must follow to retain their membership status. Municipalities exceeding these standards may be eligible for flood insurance discounts through the Community Rating System (CRS). The City of Menlo Park has earned certification with a Class 8 rating. City's flood insurance webpage: <a href="https://www.menlopark.org/901/Flood-insurance">https://www.menlopark.org/901/Flood-insurance</a></p>				MPK-16
<p><b>G-4</b>—Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> The City continues to partner with the County on all related hazard reduction, preparedness, and response efforts (CERT, County Disaster Preparedness Fair, Emergency Managers Association, JPA Emergency Service Council, etc.). These efforts will continue in the future through the efforts of the emergency management program. The City adopted Resolution No. 6339 on August 30, 2016, to approve an update to the Menlo Park Local Hazard Mitigation Plan Annex to the San Mateo County Hazard Mitigation Plan. This Action Item is repetitive. See Action Item MP-5.</p>				MPK-3
<p><b>G-5</b>—Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> The City continues to review the Local Hazard Mitigation Plan maintenance protocols and strives to assess its capabilities in achieving many of the tasks outlined in the plan; based on staffing and budget capabilities. Through department meetings, the local hazard mitigation projects are reviewed, and where budget allows, funds are directed toward such projects. This Action Item is repetitive. See Action Item MP-6.</p>				MPK-3

## 12.8 HAZARD MITIGATION ACTION PLAN

Table 12-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 12-15 identifies the priority for each action. Table 12-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 12-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MPK-1</b> — Where appropriate, support retro-fitting in high hazard areas and prioritize those structures that have experienced repetitive losses. This may include, but not limited to, an inventory of city structures known to be at seismic risk.						
<i>Hazards Mitigated:</i>	Earthquake, Flood					
Existing	6, 7, 9, 11, 13	Public Works	Community Development	High	Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action MPK-2</b>—Integrate the hazard mitigation plan and CalEnvrioScreen into other plans, ordinances, and programs that dictate land use decisions within the community, including the General Plan Safety Element and Environmental Justice Element. CalEnvrioScreen’s four broad groups of environmental conditions indicators—exposures, environmental effects, sensitive populations, and socioeconomic factors—can inform plans for promoting public health, protection from environmental hazards, and enriching the quality of life for all Menlo Park residents.</p> <p><u>Hazards Mitigated:</u> Flood, Earthquake, Climate Change, Sea Level Rise</p>						
New and Existing	2, 4, 6, 7	Community Development	N/A	Low	Staff time, General Fund	Ongoing
<p><b>Action MPK-3</b>—Integrate the hazard mitigation plan into other plans and programs that support infrastructure investments, such as the capital improvement program.</p> <p><u>Hazards Mitigated:</u> Flood, Earthquake, Climate Change, Drought, Sea Level Rise</p>						
New and Existing	1, 2, 4, 6, 7, 8, 13	Public Works	N.A	Medium	Staff time, General Funds,	Ongoing
<p><b>Action MPK-4</b>—Support the County-wide initiatives and actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><u>Hazards Mitigated:</u> Flood, Earthquake, Drought, Climate Change, Sea Level Rise</p>						
New and Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Public Works	Community Development	Low	Staff time, General Funds	Ongoing
<p><b>Action MPK-5</b>—Continue to participate in Tree City USA, CRS, BCEGS, and maintain good standing and compliance under the National Flood Insurance Program (NFIP). This will be accomplished through the implementation of floodplain management programs that will, at a minimum, meet the requirements of the NFIP:</p> <ul style="list-style-type: none"> <li>• Enforcement of the flood damage prevention ordinance</li> <li>• Participate in floodplain identification and mapping updates; and</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul> <p>The City will also work towards obtaining a StormReady certification.</p> <p><u>Hazards Mitigated:</u> Flood, Climate Change</p>						
New and Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14	Public Works	N/A	Low	General Fund	Ongoing
<p><b>Action MPK-6</b>—Develop a pre- and post-disaster recovery plan, post-earthquake operation plan, and debris management plan to follow FEMA guidelines.</p> <p><u>Hazards Mitigated:</u> Flood, Earthquake</p>						
New and Existing	1, 2, 6, 8, 9, 11	City of Menlo Park and Menlo Park Fire Protection District	N/A	Medium	Staff Time, General Funds, Emergency Management Performance Grants	Ongoing
<p><b>Action MPK-7</b>—Develop mitigation controls (continuity of government plans) and ensure force protection measures are in place in relation to vulnerable critical facilities within the city (e.g., police stations, fire stations, emergency operation center, City Hall, emergency shelters, etc.)</p> <p><u>Hazards Mitigated:</u> Earthquake, Flood, Climate Change, Sea Level Rise</p>						
New and Existing	6, 9, 13	City of Menlo Park	Menlo Park Fire Protection District	Medium	Grant funding=EMPG and HSGP	Short-term
<p><b>Action MPK-8</b>—Implement maintenance and storm preparedness plans that include the annual clearing of storm water drains and culverts, drainage ditches, and other waterways, such as the Atherton Channel and San Francisquito Creek, to maintain flood protection.</p> <p><u>Hazards Mitigated:</u> Flood, Climate Change</p>						
New and Existing	8,9	Public Works		Medium	Grant funding- EPA Grants (Section 319 grants, CWSRF)	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MPK-9</b> — Continue to coordinate with the San Francisquito Creek Joint Powers Authority on San Francisquito Creek and SAFER Bay flood control projects.						
<i>Hazards Mitigated:</i> Dam Failure, Flood, Landslide, Severe Weather, Climate Change, Sea Level Rise						
Existing	1, 4, 7, 8, 9, 10, 14	Public Works	San Francisquito Creek Joint Powers Authority	Medium	Staff Time, General Fund, Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action MPK-10</b> —Continue to coordinate with the California Coastal Conservancy and the U.S. Fish & Wildlife Service on the South Bay Salt Pond Restoration Project.						
<i>Hazards Mitigated:</i> Flood, Climate Change, Sea Level Rise						
Existing	1, 4, 7, 8, 9, 10, 14	California State Coastal Conservancy	Public Works	Low	Staff Time, General Fund	Ongoing
<b>Action MPK-11</b> —Upgrade the Chrysler Pump Station to improve flood protection in the Bayfront Area.						
<i>Hazards Mitigated:</i> Flood, Severe Weather, Climate Change, Sea Level Rise						
Existing	1, 6, 8,9	Public Works		Medium	Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action MPK-12</b> —Produce hazards maps that take into account the impacts of flooding due to climate change.						
<i>Hazards Mitigated:</i> Flood, Climate Change, Severe Weather, Sea Level Rise						
New and Existing	1, 3, 4, 5, 8, 10, 11	Public Works	Information Technology	Low	Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action MPK-13</b> —Prepare a climate adaption and resiliency plan including, but not limited to, the following strategies:						
<ul style="list-style-type: none"> <li>Identify local risks of climate change (e.g., sea level rise, air quality, water supply, energy outages, vector control, extreme heat, increased social unrest)</li> <li>Identify what the City can do in the short-term while long-term planning is underway</li> <li>Identify in the long-term plan to include strategies that address further increases in global temperatures beyond 2040</li> <li>Conduct general engagement and education to develop the plan (city staff and the community)</li> <li>Address existing and future equity issues through research and engagement with low to moderate income community members that are likely to be most impacted and vulnerable to climate change</li> <li>Address mitigation and resiliency through capital improvement projects, city operations, and development projects</li> <li>Evaluate whether federal, state, and regional sea level rise district and San Francisquito Creek agencies holistically address Menlo Park's local needs for climate adaptation/resiliency with a focus on equity</li> <li>Provide a roadmap for the City to follow over the next 10 years and/or beyond; and</li> <li>Revise policies and/or create programs to improve climate resilience.</li> </ul>						
<i>Hazards Mitigated:</i> Flood, Climate Change, Drought, Severe Weather, Sea Level Rise						
New and Existing	1, 2, 3, 4, 5, 8, 10, 14	City Manager's Office	Public Works, Community Development	Low	Staff time, General Fund, Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action MPK-14</b> —Continue to participate with the San Mateo County Flood and Sea Level Rise Resiliency District on flood control projects.						
<i>Hazards Mitigated:</i> Flood, Sea Level Rise						
Existing	1, 2, 3, 4, 5, 8, 10, 14	County of San Mateo	Public Works	Low	Staff Time, General Fund	Short-term
<b>Action MPK-15</b> —Develop a program for maintaining and replacing the emergency generators at critical facilities.						
<i>Hazards Mitigated:</i> Flood, Climate Change, Earthquake, Severe Weather						
New and Existing	6, 7, 8	Public Works		Medium	Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MPK-16</b> —Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.						
<u>Hazards Mitigated:</u> Flood, Climate Change, Severe Weather, Earthquake, Dam Failure						
Existing	2, 3, 4, 5, 6, 7, 8, 9, 10, 13	City of Menlo Park		High	Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action MPK-17</b> —Update the City’s stormwater master plan to identify areas vulnerable to localized flooding and identify capital projects to mitigate those areas.						
<u>Hazards Mitigated:</u> Flood, Climate Change, Severe Weather						
Existing	1, 4, 6, 7, 8, 9, 13	Public Works		\$330,000	General Fund-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action MPK-18</b> —Develop a shoreline management plan to protect coastline from soil erosion and enhance the coastline with trails, parks, and wildlife refuge.						
<u>Hazards Mitigated:</u> Flood, Climate Change						
New	1, 4, 7, 8, 9, 13, 14	Public Works		Low/Medium	Staff time, General Fund, Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Medium-term
<b>Action MPK-19</b> —Review and update the City’s 2014 Emergency Operation Plan. Incorporate outreach, which may include, but not limited to, the City’s bi-annual resident survey and establish an annual report on the hazard mitigation plan. The update may also include incorporating FEMA recommended guidelines and SB160: Cultural Competence.						
<u>Hazards Mitigated:</u> Flood, Earthquake, Climate Change, Dam Failure, Landslide/Mass Movements, Severe Weather, Drought, Tsunami, Sea Level Rise						
Existing	1, 2, 3, 4, 8, 9, 10, 11, 12	City of Menlo Park	Menlo Park Fire Protection District		Staff time	Short-term
<b>Action MPK-20</b> —Provide training opportunities for City staff to be certified floodplain managers.						
<u>Hazards Mitigated:</u> Flood						
New	1, 5, 7, 8, 9, 13	City of Menlo Park		Low	Staff time, General Fund	Ongoing
<b>Action MPK-21</b> —Provide education to community members and City staff about the City’s 2030 Climate Action Plan goals and present strategies to achieve those goals.						
<u>Hazards Mitigated:</u> Climate Change, Sea Level Rise						
New and Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	City of Menlo Park		Low	Staff time, General Fund	Short-term
<b>Action MPK-22</b> —Develop an emergency water storage and supply project which may include, but is not limited to, a new underground reservoir to provide emergency water supply to residents during times of emergencies.						
<u>Hazards Mitigated:</u> Flood, Earthquake, Climate Change, Severe Weather, Drought						
New	1, 2, 4, 5, 6, 8, 9	Menlo Park Municipal Water		\$27M	Staff time, Water Fund, Loans	Medium-term (5-10 years)
<b>Action MPK-23</b> —Replace the roof on Reservoir 2, which is deteriorating and at the end of its life expectancy. The replacement would ensure continued public health protection, system reliability, and ensure the functionality of the existing emergency water storage.						
<u>Hazards Mitigated:</u> Earthquake, Climate Change, Severe Weather, Drought						
Existing	1, 4, 6, 8, 9, 13	Menlo Park Municipal Water		\$4.6M	Water Fund	Short-term
<b>Action MPK-24</b> —Plan, design, and implement the water infrastructure improvements recommended in the Water System Master Plan to upgrade infrastructure in the Menlo Park Municipal Water service area to meet fire flow demands.						
<u>Hazards Mitigated:</u> Severe Weather						
Existing	1, 4, 6, 8, 9, 13	Menlo Park Municipal Water		\$1.6M	Water Fund	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MPK-25</b> —As part of the Water System Master Plan capital improvement projects, two water interconnection projects would provide alternative emergency water supply sources.						
<u>Hazards Mitigated</u> New	Earthquake, Drought, Severe Weather 1, 2, 4, 6, 8, 9, 13	Menlo Park Municipal Water		\$2M	Water Fund	Short-term
<b>Action MPK-26</b> —Incorporate consideration of the FEMA 100-year tide and sea level rise data and climate change-driven extreme storms into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.						
<u>Hazards Mitigated</u> New and Existing	Flood, Climate Change, Sea Level Rise 1, 2, 5, 6, 7, 8, 9, 13, 14	SMC Flood & Sea Level Rise Resiliency District	County and Menlo Park	Low	General Fund, Private Developers, City Capital Project Funding	Ongoing
<b>Action MPK-27</b> —Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including pump stations, generators, tide gates, stream gages, open channel, and culvert/pipeline infrastructure.						
<u>Hazards Mitigated</u> New and Existing	Climate Change, Flood, Severe Weather 2, 6, 7, 8	SMC Flood & Sea Level Rise Resiliency District	Menlo Park, County and San Mateo Resource Conservation District	Medium	Tax-Funded Flood Zones, Grant funding	Ongoing
<b>Action MPK-28</b> —Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.						
<u>Hazards Mitigated</u> New and Existing	Climate Change/Sea Level Rise, Landslide, Flood, Severe Weather, Drought, Sea Level Rise 2, 6, 7, 8, 14	Menlo Park	SMC Flood & Sea Level Rise Resiliency District, and San Mateo Resource Conservation District	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant funding	Ongoing
<b>Action MPK-29</b> —Identify and pursue strategies to enhance recycled water infrastructure planning/implementation in the vicinity of FSLRRD projects.						
<u>Hazards Mitigated</u> New and Existing	Drought 1, 6, 7, 8	Menlo Park, SMC Flood & Sea Level Rise Resiliency District	County of San Mateo, San Mateo Resource Conservation District, and West Bay Sanitary Sewer District	Medium	Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action MPK-30</b> — Improve community response to flood emergencies in various ways, including but not limited to: - Upgrade and expand the countywide flood early warning system - Conduct community flood preparation, education, and recovery outreach.						
<u>Hazards Mitigated</u> New and Existing	Climate Change, Flood, Severe Weather 2, 3, 7, 8, 9, 10, 11	SMC Flood & Sea Level Rise Resiliency District	County and Menlo Park	Low	Grant funding-EMPG and HSGP. NWS grants for Flood Warning Systems	Short-term
<b>Action MPK-31</b> —Develop Emergency Action Plans for Bayfront Canal and Atherton Channel.						
<u>Hazards Mitigated</u> Existing	Climate Change, Flood, Severe Weather, Sea Level Rise 3, 4, 7, 8, 9, 11	SMC Flood & Sea Level Rise Resiliency District	Redwood City, County of San Mateo, Menlo Park, and Atherton	Low	Grant funding-EMPG and HSGP	Long-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MPK-32</b> —Advance long-term resilience to sea level rise and extreme storms for the communities and critical assets along the San Francisco Bay shoreline south of Whipple Avenue to Marsh Road, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<i>Hazards Mitigated</i> Climate Change, Flood, Severe Weather, Sea Level Rise						
New and Existing	6, 7, 8,14	SMC Flood & Sea Level Rise Resiliency District	Redwood City, County, and Menlo Park	High	Private Developers, Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Long-term
<b>Action MPK-33</b> —Complete construction and oversee ongoing operation, maintenance, and mitigation efforts for the Bayfront Canal and Atherton Channel Flood Protection and Ecosystem Restoration Project.						
<i>Hazards Mitigated</i> Flood, Severe Weather, Sea Level Rise						
Existing	4, 7, 8	SMC Flood & Sea Level Rise Resiliency District	Redwood City, Menlo Park, Atherton, and County	Low	Grant funding-FEMA HMA (BRIC, FMA and HMGP), City Capital Project Funding	Short-term
<b>Action MPK-34</b> —Advance long-term resilience to sea level rise and extreme storms for the communities and critical assets adjacent to the San Francisquito Creek and nearby areas of the shoreline with the Cities of Menlo Park and East Palo Alto, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<i>Hazards Mitigated</i> Climate Change, Flood, Severe Weather, Sea Level Rise						
New and Existing	4, 6, 7, 8, 10, 14	Menlo Park	Caltrans, and San Francisquito Creek Joint Powers Authority, San Mateo Resource Conservation District	Medium	Grant funding, Federal Grants (FEMA BRIC/HMGP), City Capital Project Funding	Long-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.



**Table 12-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	5	High	High	Yes	Yes	No	Medium	High	High
2	4	Medium	Low	Yes	No	Yes	High	Low	High
3	8	Medium	Low	Yes	No	Yes	High	Low	High
4	14	Medium	Low	Yes	No	Yes	High	Low	High
5	13	High	Low	Yes	No	Yes	High	Low	High
6	6	High	Medium	Yes	Yes	No	Medium	Medium	Medium
7	3	Medium	Medium	Yes	Yes	No	Medium	Medium	High
8	2	High	Medium	Yes	No	Yes	High	High	High
9	7	Medium	Medium	Yes	No	Yes	High	Low	Low
10	7	Medium	Medium	Yes	Yes	Yes	High	High	High
11	4	High	Medium	Yes	Yes	Yes	High	High	High
12	7	High	Low	Yes	No	Yes	High	High	High
13	8	Medium	Low	Yes	Yes	Yes	Medium	High	High
14	8	Medium	Low	Yes	No	Yes	High	Low	High
15	8	Low	High	No	No	No	Low	Low	Low
16	10	Low	Low	Yes	No	Yes	Low	Low	High
17	7	High	Medium	Yes	No	Yes	High	Low	High
18	7	Medium	Medium	Yes	Yes	No	Medium	Medium	High
19	9	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
20	6	Medium	Low	Yes	No	Yes	Medium	Low	Low
21	14	Medium	Low	Yes	No	Yes	Medium	Low	High
22	7	High	Medium	Yes	No	Yes	High	Low	High
23	6	Medium	Low	Yes	Yes	Yes	High	Low	High
24	6	High	Medium	Yes	Yes	Yes	High	High	High
25	7	Medium	Medium	Yes	Yes	Yes	High	Low	High
26	9	High	Low	Yes	Yes	Yes	High	High	High
27	4	High	Medium	Yes	Yes	Yes	High	High	High
28	5	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
29	4	Medium	Medium	Yes	Yes	Yes	High	Medium	Low
30	7	High	Low	Yes	Yes	Yes	High	Low	High
31	6	High	Low	Yes	Yes	Yes	High	Low	High
32	4	High	High	Yes	Yes	No	Medium	High	High
33	3	High	Low	Yes	Yes	Yes	High	Low	High
34	6	High	Medium	Yes	Yes	Yes	High	High	High

a. See the introduction to this volume for explanation of priorities.

**Table 12-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Flood	MPK-2, 3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 26, 27, 28, 32, 33, 34	MPK-1, 2, 3, 7, 9, 11, 15, 16, 18, 26, 27, 28, 32, 34	MPK-5, 7, 12, 13, 16, 19, 30, 31	MPK-9, 10, 18, 26, 28, 32, 33, 34	MPK-4, 6, 7, 8, 11, 15, 19, 22, 27, 30, 31	MPK-2, 3, 5, 7, 9, 10, 11, 16, 17, 22, 27, 28, 33	MPK-2, 3, 5, 7, 8, 9, 10, 11, 12, 13, 14, 18, 26, 27, 28, 32, 33, 34	MPK-1, 2, 5, 7, 16, 20
Earthquake	MPK-2, 3, 4, 7, 15, 16, 19, 22	MPK-1, 2, 3, 7, 15, 16, 23	MPK-7, 16, 19		MPK-4, 6, 7, 15, 19, 22, 23, 25	MPK-2, 3, 7, 16, 22, 23, 25	MPK-1, 2, 3, 7	MPK-1, 2, 7, 16
Sea Level Rise / Climate Change	MPK-2, 3, 4, 5, 7, 8, 9, 10, 12, 13, 15, 16, 17, 18, 19, 22, 26, 27, 28, 32, 34	MPK-2, 3, 7, 9, 11, 15, 16, 18, 23, 26, 27, 28, 32, 33	MPK-5, 7, 12, 13, 16, 19, 21, 30, 31	MPK-9, 10, 18, 21, 26, 28, 32, 34	MPK-4, 7, 8, 11, 15, 19, 22, 23, 27, 28, 30, 31	MPK-2, 3, 5, 7, 9, 10, 11, 16, 17, 22, 23, 27, 28	MPK-2, 3, 5, 7, 8, 9, 10, 11, 12, 13, 18, 26, 27, 28, 32, 34	MPK-2, 3, 5, 7, 16
<b>Medium-Risk Hazards</b>								
Severe weather	MPK-9, 12, 13, 15, 16, 18, 19, 22, 24, 27, 28, 32, 33, 34	MPK-9, 11, 15, 18, 23, 24, 27, 28, 32, 34	MPK-12, 13, 19, 30, 33	MPK-9, 28, 32, 33, 34	MPK-11, 15, 19, 22, 23, 24, 25, 27, 28, 30, 31	MPK-9, 11, 16, 17, 22, 23, 24, 25, 27, 28, 33	MPK-9, 11, 12, 13, 27, 28, 32, 33, 34	MPK-16
<b>Low-Risk Hazards</b>								
Landslide/ Mass Movements	MPK-9, 19, 28	MPK-9, 28	MPK-19	MPK-9, 28	MPK-20, 28	MPK-9, 28	MPK-9, 28	
Dam Failure	MPK-9, 16, 19	MPK-9, 16	MPK-16, 19	MPK-9	MPK-19	MPK-9, 16	MPK-9	MPK-16
Drought	MPK-3, 4, 13, 19, 22, 28, 29	MPK-3, 23, 28, 29	MPK-13, 19	MPK-28	MPK-4, 19, 22, 23, 25, 28, 29	MPK-3, 22, 23, 25, 28, 29	MPK-3, 13, 28, 29	MPK-3
Tsunami			MPK-19		MPK-19			

a. See the introduction to this volume for explanation of mitigation types.

## 12.9 PUBLIC OUTREACH

Table 12-17 lists public outreach activities for this jurisdiction.

**Table 12-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
City of Menlo Park Weekly Digest E-Newsletter Article <a href="https://www.menlopark.org/Blog.aspx?IID=1706">https://www.menlopark.org/Blog.aspx?IID=1706</a>	4/5/2021	1,748 recipients
City of Menlo Park Twitter Post <a href="https://twitter.com/CityofMenloPark/status/1379213717481656330">https://twitter.com/CityofMenloPark/status/1379213717481656330</a>	4/5/2021	1,286 followers
City of Menlo Park Facebook Post <a href="https://www.facebook.com/cityofmenlopark">https://www.facebook.com/cityofmenlopark</a>	4/9/2021	216 followers
City of Menlo Park Facebook Post <a href="https://www.facebook.com/cityofmenlopark">https://www.facebook.com/cityofmenlopark</a>	4/17/2021	270 followers



Local Outreach Activity	Date	Number of People Involved
City of Menlo Park Twitter Post <a href="https://twitter.com/CityofMenloPark/status/1384162400857776150">https://twitter.com/CityofMenloPark/status/1384162400857776150</a>	4/19/2021	392 followers
City of Menlo Park Weekly Digest E-Newsletter Article <a href="https://www.menlopark.org/Blog.aspx?IID=1747">https://www.menlopark.org/Blog.aspx?IID=1747</a>	5/24/2021	1,748 recipients
City of Menlo Park Email Blast	6/21/2021	2,811 residents
City of Menlo Park Nextdoor Post <a href="https://nextdoor.com/agency-post/ca/menlo-park/city-of-menlo-park/reduce-risks-and-local-hazards-reducir-los-riesgos-y-los-peligros-locales-191391580/">https://nextdoor.com/agency-post/ca/menlo-park/city-of-menlo-park/reduce-risks-and-local-hazards-reducir-los-riesgos-y-los-peligros-locales-191391580/</a>	6/21/2021	2,097 residents
City of Menlo Park Facebook Post <a href="https://www.facebook.com/cityofmenlopark">https://www.facebook.com/cityofmenlopark</a>	7/1/2021	409 followers
City of Menlo Park Weekly Digest E-Newsletter Article <a href="https://menlopark.org/Blog.aspx?IID=1786">https://menlopark.org/Blog.aspx?IID=1786</a>	7/26/2021	1,748 recipients
City Council Meeting - Informational Agenda Item <a href="https://www.menlopark.org/DocumentCenter/View/29396/N2-20210817-CC-Local-hazard-mitigation-plan-annex">https://www.menlopark.org/DocumentCenter/View/29396/N2-20210817-CC-Local-hazard-mitigation-plan-annex</a>	8/17/2021	5 Councilmembers and Public

## 12.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City of Menlo Park Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **City of Menlo Park Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **City of Menlo Park 2030 Climate Action Plan**—The CAP outlines goals and strategies related to environmental protection and climate change.
- **City of Menlo Park General Plan**—This comprehensive planning document contains many components related to local hazard mitigation planning.
  - Open Space/Conservation, Noise and Safety Elements (Adopted May 21, 2013)
- **Association of Bay Area Governments**—Data used for growth management summary (Plan Bay Area 2040)
- **California Department of Finance**—Data used for growth management summary (Table E-5, Population and Housing Estimates).
- **Accela**—City of Menlo Park online permitting software used for collecting development records.
- **City of Menlo Park Emergency Operation Plan**—The Plan was reviewed to identify the need to update it.
- **Climate Emergency Resolution No. 6535**—The resolution shows political support on addressing climate change.
- **Climate and Sustainability Resolution No. 6493**—The resolution shows political support to support the implementation of climate change adaptation strategies.
- **Amend the 2030 Climate Action Plan Resolution No. 6621**—The resolution includes the scope of work for 2021 implementation of the climate action plan.

- **Public Works Mutual Aid Agreement Resolution No. 6547**—The resolution enters the City into San Mateo County operational area building safety inspection program mutual aid program.








The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **San Mateo County Flood and Sea Level Rise Resiliency District Hazard Mitigation Table**—Email correspondence with the District throughout Phase 3.



# Menlo Park

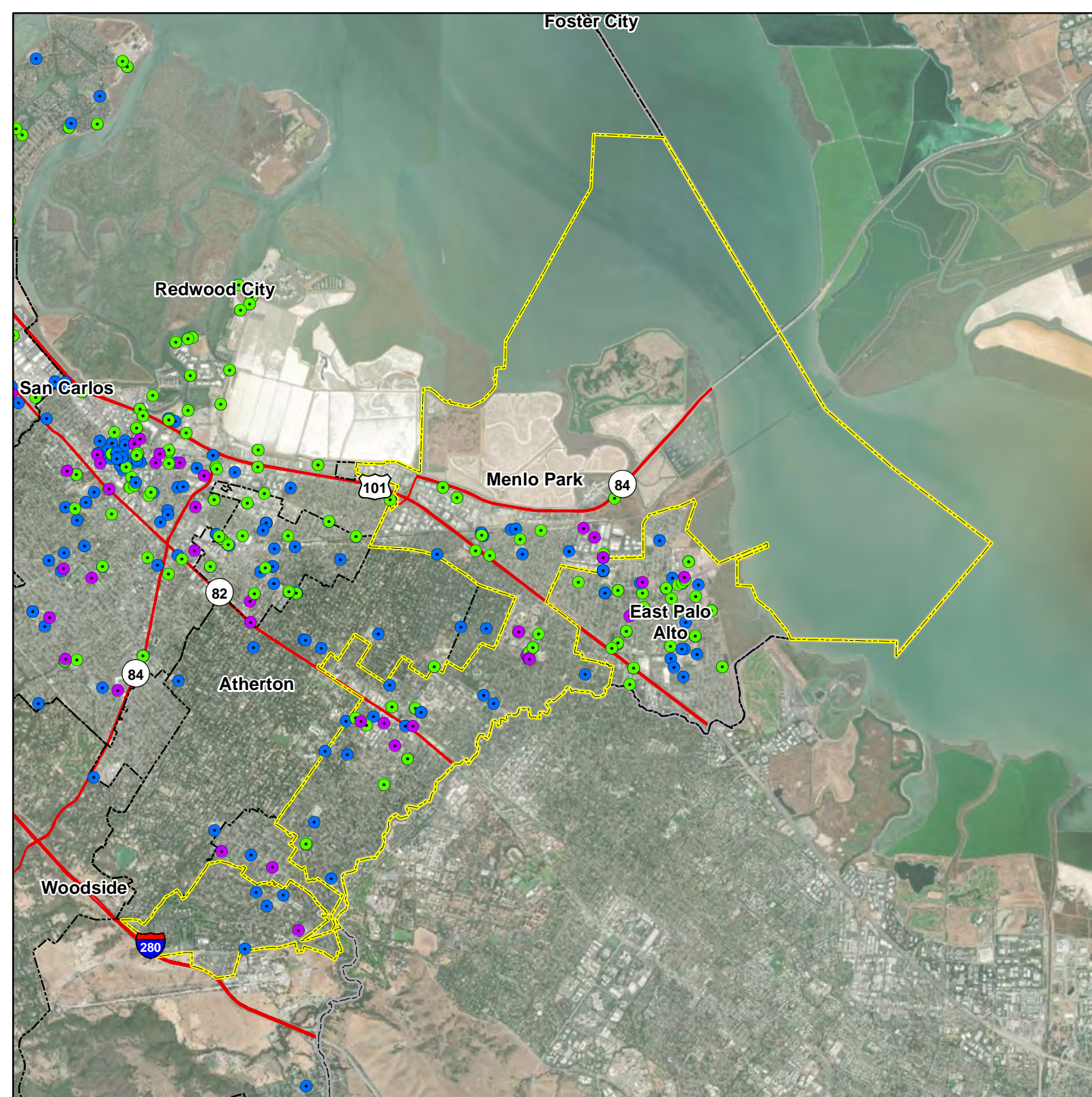
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD











0 0.5 1 2 Miles





# Menlo Park

## Critical Facilities, 2 of 2

-  Communications
-  Energy
-  Hazardous Materials
-  Transportation
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD









0 0.5 1 2 Miles





# Menlo Park

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










0 0.5 1 2 Miles





# Menlo Park

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



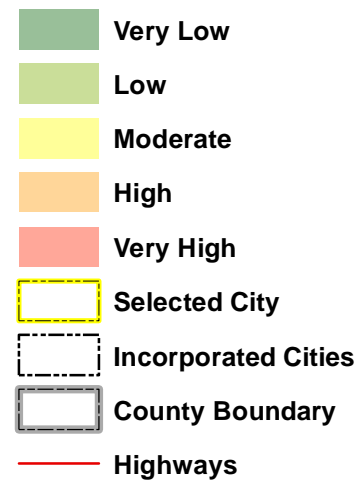
0 0.5 1 2 Miles



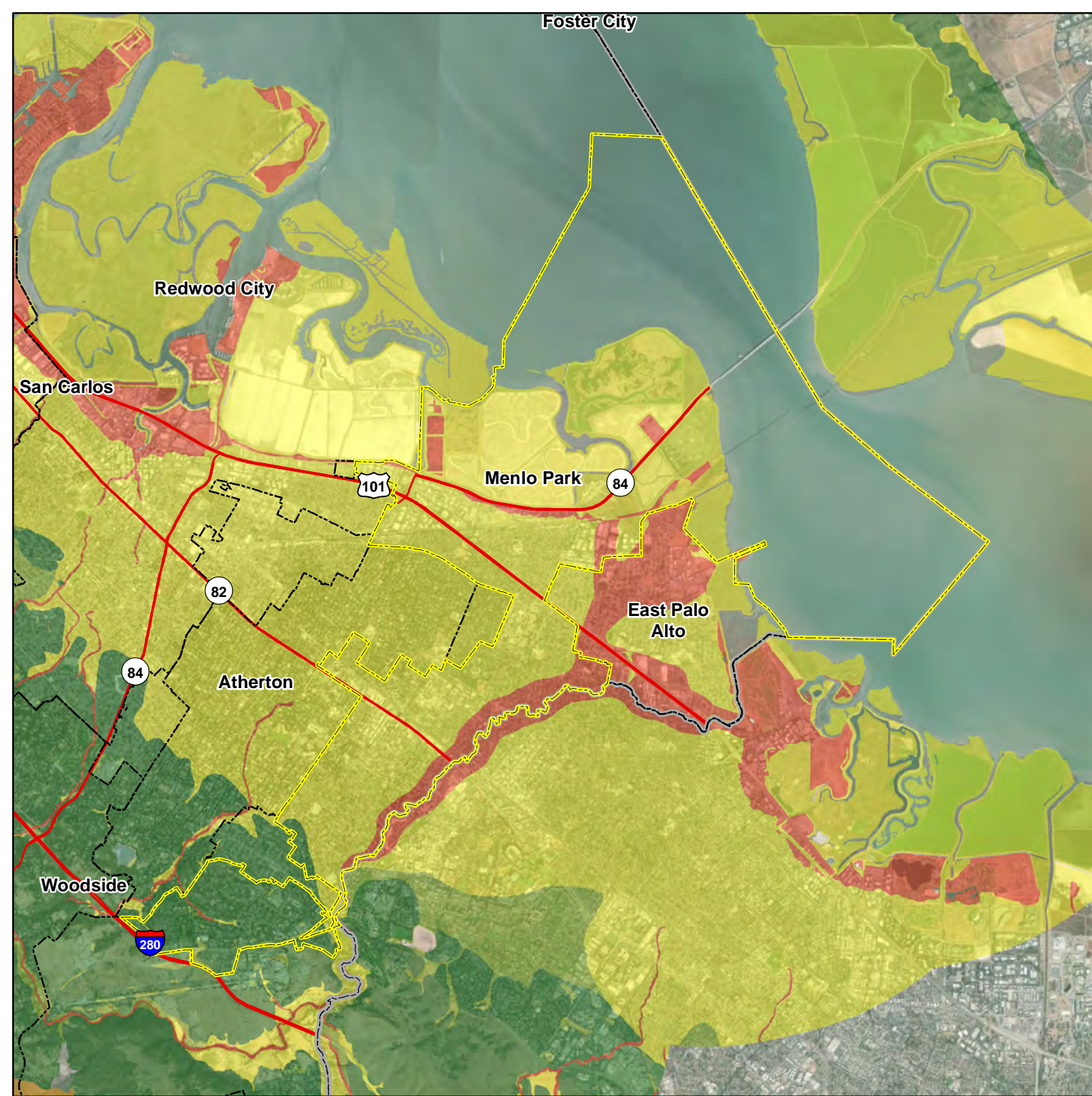
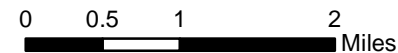


# Menlo Park

## Liquefaction Susceptibility



Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)





# Menlo Park

## Butano M6.93 Earthquake Scenario

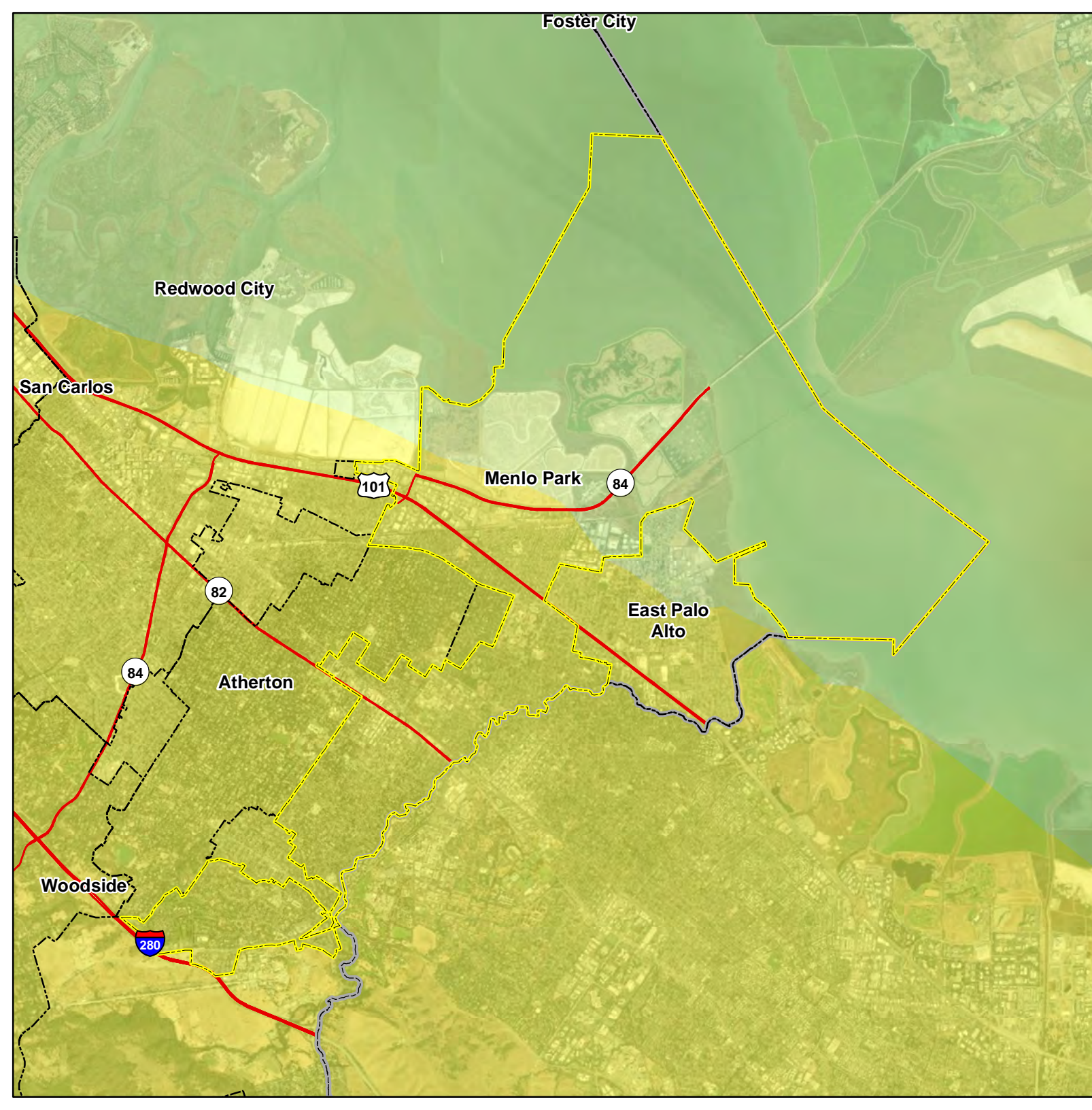
### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)

- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS











# Menlo Park

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

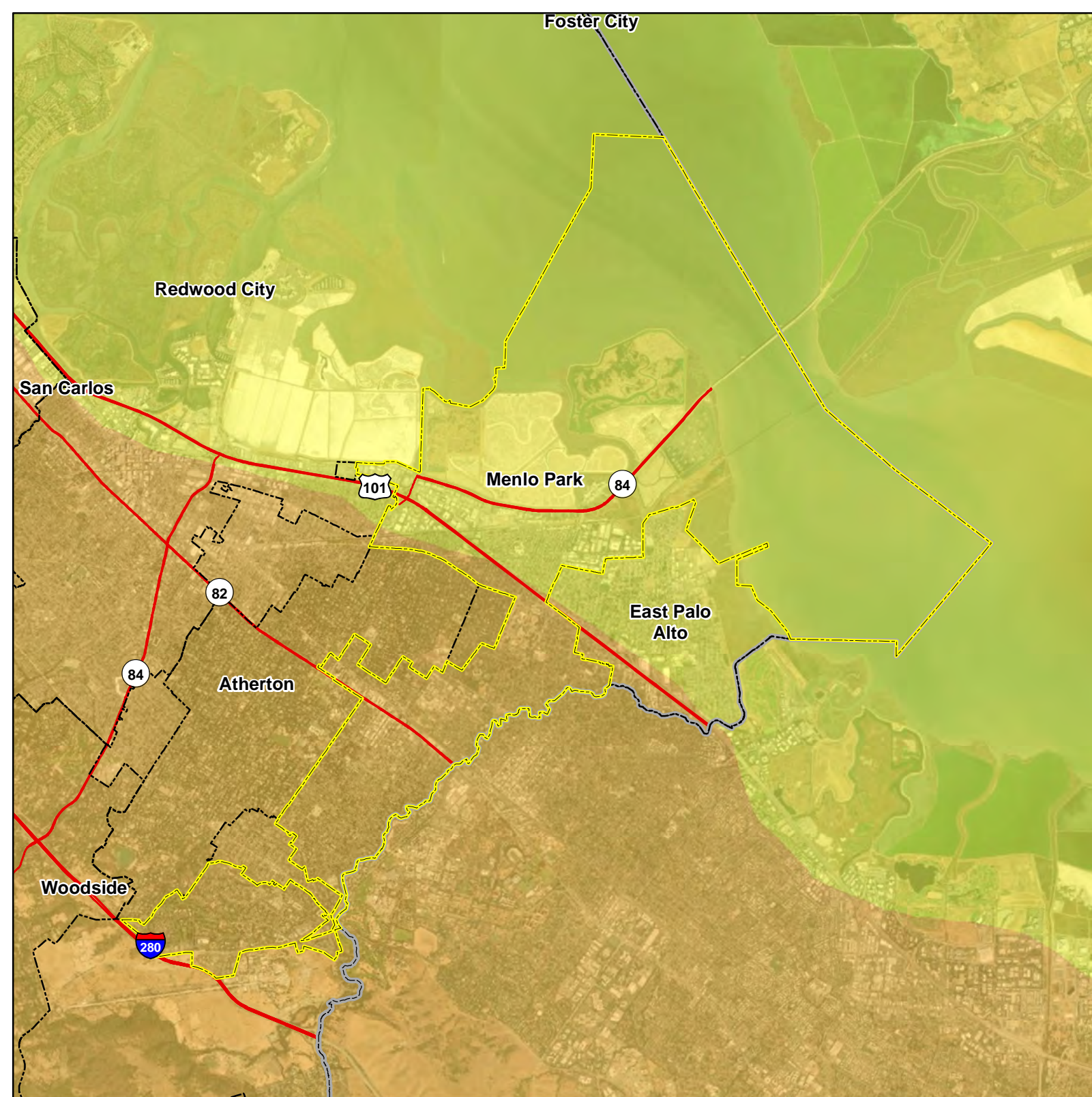
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.5 1 2 Miles





# Menlo Park

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.5 1 2 Miles





# Menlo Park

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

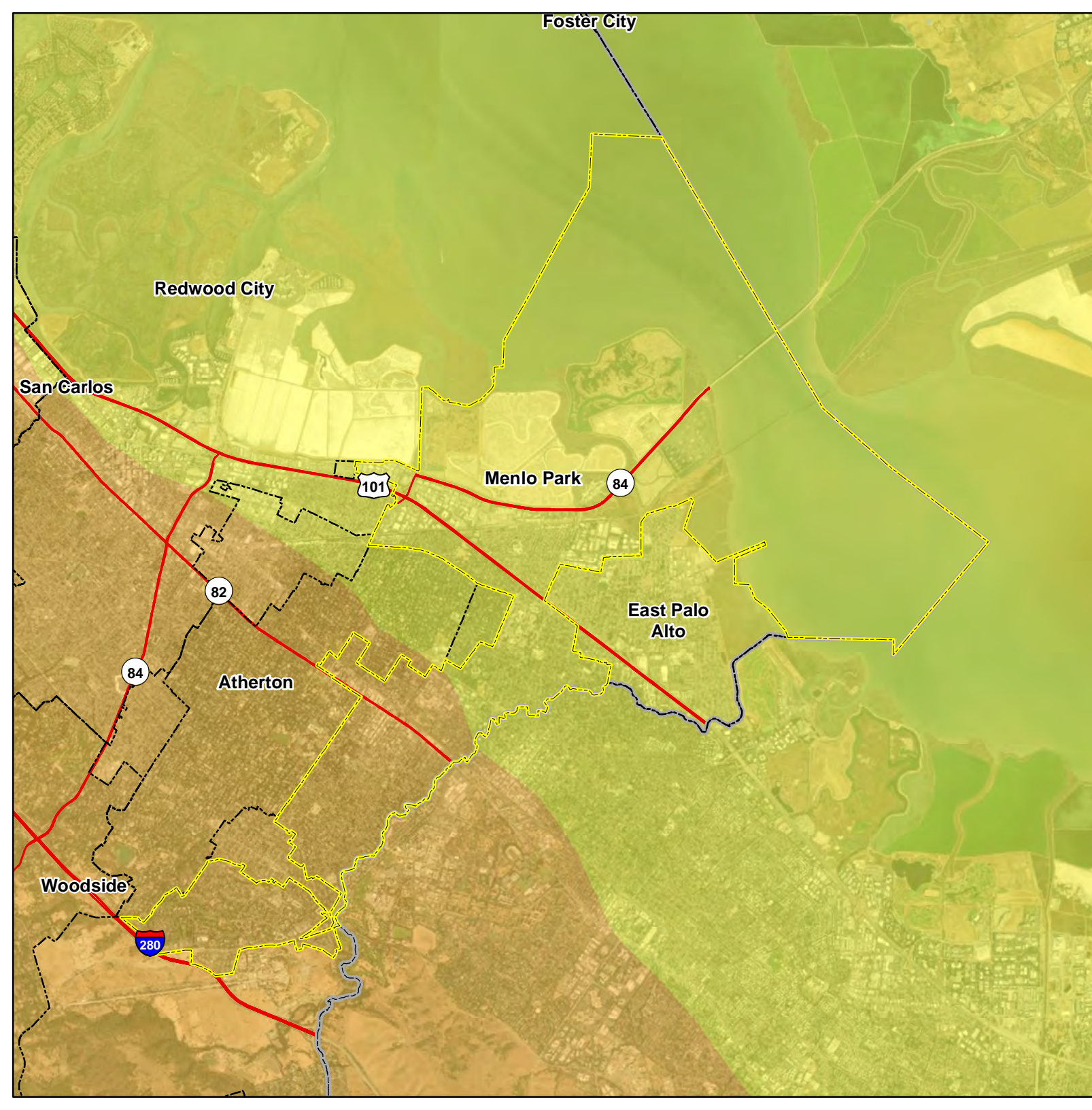
- VI (Strong/Light)
- VII (Very Strong/Moderate)
- VIII (Severe/Moderate-Heavy)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.5 1 2 Miles





# Menlo Park

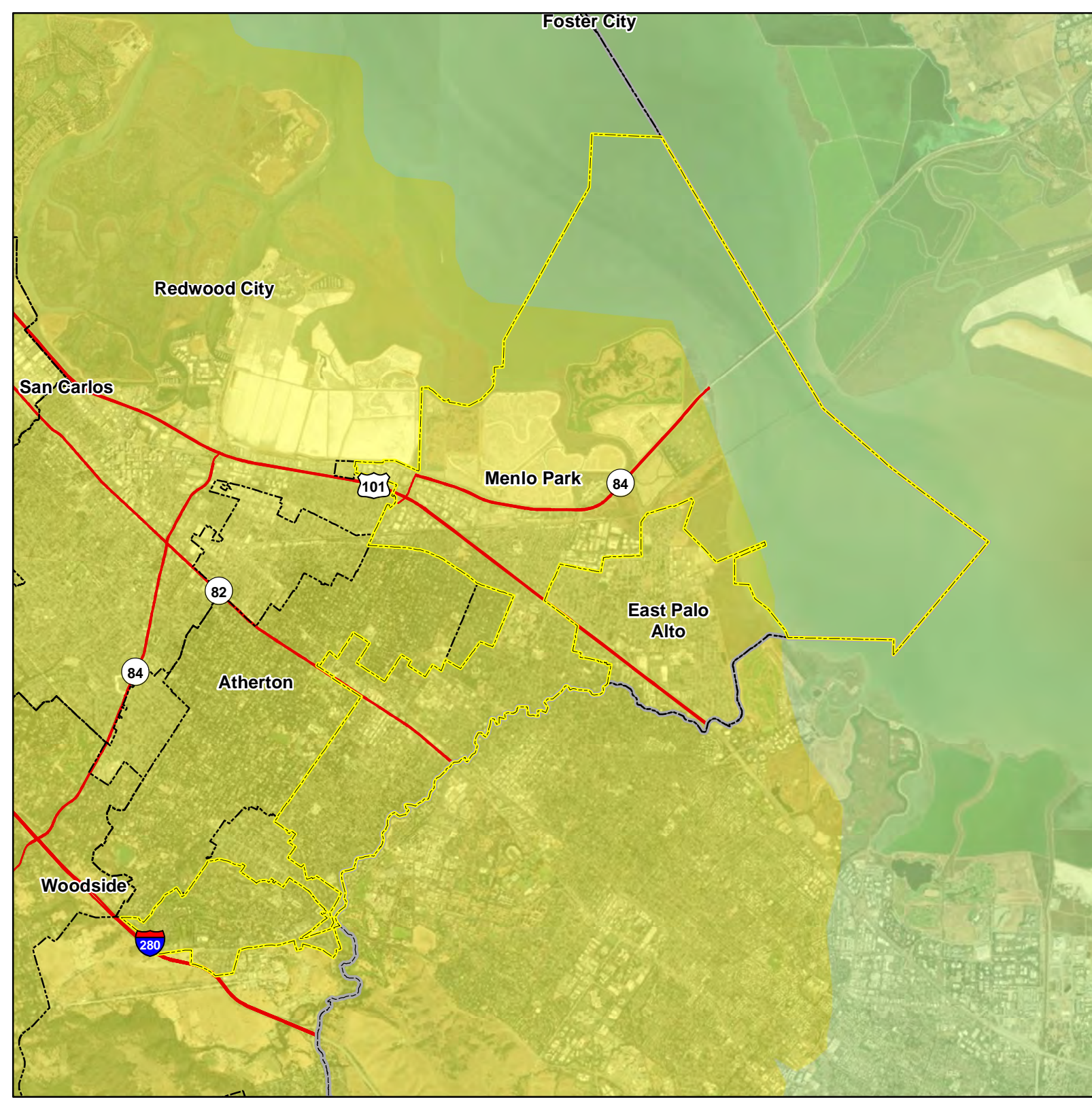
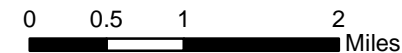
## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)







Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Menlo Park

## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA



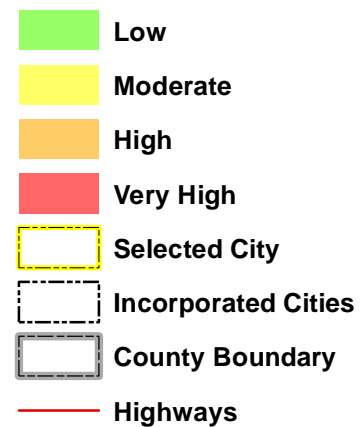
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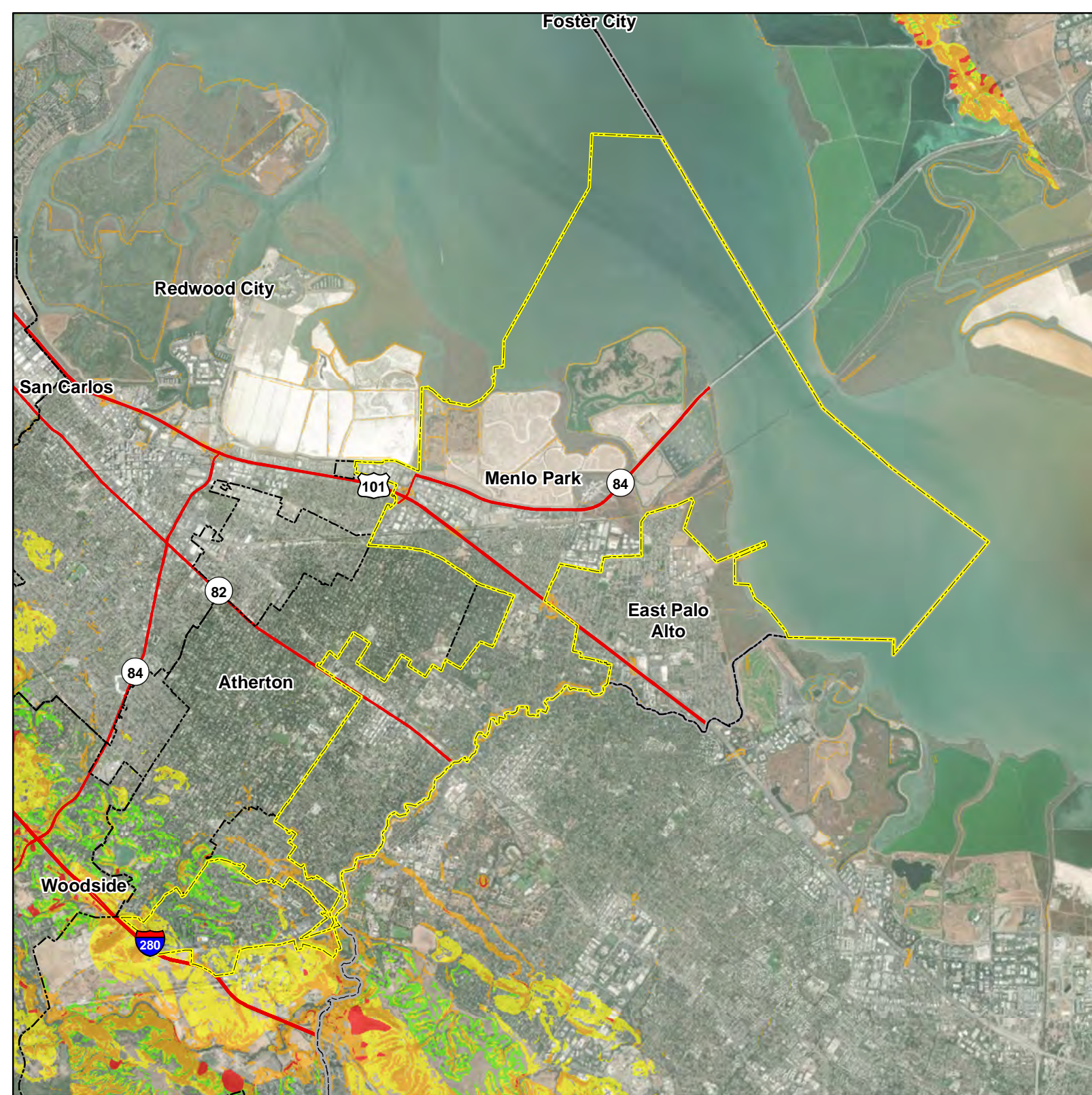
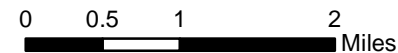


# Menlo Park

## Susceptibility to Deep-Seated Landslides








Data Sources: ESRI Basemap, San Mateo Co., CGS





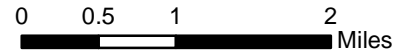
# Menlo Park

## Sea Level Rise

-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.






Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF





# Menlo Park

## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.5 1 2 Miles





# Menlo Park

## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.5 1 2 Miles







# 13. CITY OF MILLBRAE

## 13.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Bill Reilly, Emergency Services Coordinator  
621 Magnolia Avenue  
Millbrae, CA 94030  
650-259-2315  
[wreilly@smcgov.org](mailto:wreilly@smcgov.org)

### Alternate Point of Contact

Khee Lim, Public Works Director  
621 Magnolia Avenue  
Millbrae, CA 94030  
650-259-2347  
[klim@ci.millbrae.ca.us](mailto:klim@ci.millbrae.ca.us)

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 13-1.

**Table 13-1. Local Mitigation Planning Team Members**

Name	Title
Bill Reilly	Emergency Services Coordinator
Khee Lim	Director of Public Works
Val Mandapat	Deputy Chief Building Official
Roscoe Mata	Planning Manager
Christine Reed	Fire Marshal
Craig Centis	Deputy Public Works Director

## 13.2 JURISDICTION PROFILE

### 13.2.1 Location and Features

The City of Millbrae is located on the Peninsula, 15 miles south of San Francisco. The boundaries of this city extend roughly from the Bayshore Freeway on the east to Skyline Boulevard on the west. This distance is approximately 1.7 miles. The distance between the north and south city limit line is approximately 2.05 miles. The City of Millbrae has approximately 100 employees with an operating budget of \$52 million. The City of Millbrae borders the following San Mateo County jurisdictions: Burlingame to the south, Pacifica to the West, San Bruno and South San Francisco to the North.

According to the National Weather Service, Millbrae enjoys a typical Mediterranean climate featuring cool, wet winters and dry, mild summers. Night and morning fog are common during the summer months. Frequent, westerly sea breezes keep temperatures relatively mild throughout the year with highs in the middle fifties and lows in the lower forties during the winter and highs in the lower seventies and lows in the lower fifties during the summer. Annual precipitation ranges from 20 inches in the lowlands to 32 inches in the hills near Skyline Boulevard and I-280; most of the rain falls from November through April. Snow is very rare; the last measurable

occurrence was on February 5, 1976. The nearest National Weather Service station is at the nearby San Francisco International Airport, where records go back to early 1927.

### **13.2.2 History**

The City of Millbrae, incorporated in 1948, was a small settlement largely dependent on market farming, the Mills Estate and Dairy, West Coast Porcelain Works (later the Royal Container Company), and vegetable and flower farming until World War 2. Southern Pacific Railroad, the 40-line streetcar line, El Camino Real and Skyline Road (in the approximate location of I-280) linked the settlement to nearby towns and San Francisco. Millbrae in the period 1920-1950 was beginning its transformation from its roots as a farming village supplying the produce markets of San Francisco to a small town. Development of the town was largely governed by transportation features: the railway, streetcar line, highways, and airport.

### **13.2.3 Governing Body Format**

Millbrae operates as a General Law City, providing for a Council/Manager form of government that clearly distinguishes the legislative power of the City Council from the administrative powers of the City Manager.

The five-member City Council is elected directly by the residents of Millbrae. As the legislative branch of the government, the City Council makes final decisions on all major City matters. The Council adopts ordinances and resolutions necessary for efficient governmental operations, approves the budget, and acts as a board of appeals. The Council appoints the City Manager and City Attorney, as well as the members of the City's boards and commissions.

The City Council assumes responsibility for the adoption of this plan; the City Manager will oversee its implementation.

## **13.3 CURRENT TRENDS**

### **13.3.1 Population**

According to the California Department of Finance, the population of Millbrae as of January 2020 was 22,832. Since 2016, the population has decreased at an average annual rate of 0.33 percent.

### **13.3.2 Development**

The City of Millbrae recently amended its Millbrae Station Area Specific Plan to allow Level 2 Biotechnology use south of Millbrae Avenue. Since the last Plan update, the Gateway at Millbrae Station mixed use development has begun construction. The project includes 400 residential housing units, 217,000 square feet of Class A office and a 162-room hotel.

The City of Millbrae will be updating its General Plan shortly as well as introducing a Downtown Plan and El Camino Real Specific Plan. These plans are intended to up-zone the commercial core area by allowing high density mixed use developments along El Camino Real Corridor.

The City of Millbrae has also received numerous applications for mixed use developments and commercial non-residential developments.



The City of Millbrae envisions high density mixed use development in the near to mid-term with very few infill single family residential developments.

Identifying previous and future development trends is achieved through a comprehensive review of permitting since completion of the previous plan and in anticipation of future development. Tracking previous and future growth in potential hazard areas provides an overview of increased exposure to a hazard within a community. Table 13-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 13-2. Recent and Expected Future Development Trends**

Criterion	Response																														
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No																														
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No																														
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes  Development in the El Camino, downtown area, and Millbrae Station Area Specific Plan. None of which are in known hazard risk areas.																														
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	<table border="1"> <thead> <tr> <th></th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Single Family</td> <td>1</td> <td>3</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Multi-Family</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Other (commercial, mixed use, etc.)</td> <td>1</td> <td>1</td> <td>3</td> <td>0</td> <td>2</td> </tr> <tr> <td><b>Total</b></td> <td><b>3</b></td> <td><b>4</b></td> <td><b>3</b></td> <td><b>0</b></td> <td><b>2</b></td> </tr> </tbody> </table>		2016	2017	2018	2019	2020	Single Family	1	3	0	0	0	Multi-Family	1	0	0	0	0	Other (commercial, mixed use, etc.)	1	1	3	0	2	<b>Total</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>2</b>
	2016	2017	2018	2019	2020																										
Single Family	1	3	0	0	0																										
Multi-Family	1	0	0	0	0																										
Other (commercial, mixed use, etc.)	1	1	3	0	2																										
<b>Total</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>2</b>																										
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 1</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 0</li> <li>• Tsunami Inundation Area: 0</li> <li>• Wildfire Risk Areas: 0</li> </ul>																														
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	There are at least: 5 vacant lots for single family 3 vacant lots for multi-family 3 vacant lots for commercial																														

## 13.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this

annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 13-3.
- Development and permitting capabilities are presented in Table 13-4.
- An assessment of fiscal capabilities is presented in Table 13-5.
- An assessment of administrative and technical capabilities is presented in Table 13-6.
- An assessment of education and outreach capabilities is presented in Table 13-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 13-8.
- Classifications under various community mitigation programs are presented in Table 13-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 13-10.

**Table 13-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	No	Yes	Yes
<i>Comment: Local Building Official and Fire Marshal for Standards Codes – Muni Code 9.05.010 – Adopted California Building Code, 2019 Edition, 11/16/2020, Ordinance 783</i>				
<b>Zoning Code</b>	Yes	No	No	No
<i>Comment: Community Development MMC 10.05, Adoption of Zoning Plan, Adopted 10/13/09, Ordinance 726MMC 10.05</i>				
<b>Subdivisions</b>	Yes	No	No	No
<i>Comment: Public Works &amp; Community Development MMC 10.15, Adopted 6/17/51, Ordinance 69,</i>				
<b>Stormwater Management</b>	Yes	Yes	Yes	Yes
<i>Comment: Public Works MMC 8.70 &amp; MRP 2.0 Order No. R2-2015-0049 NPDES Permit No. CAS612008</i>				
<b>Post-Disaster Recovery</b>	Yes	No	No	Yes
<i>Comment: Community Development with Public Works. San Mateo County Public Works Mutual Aid Resolution 074124 adopted 10/20/05 Community Development with Building Dept. San Mateo County Operational Area Building Safety Inspection Program Mutual Aid Agreement Resolution 21-13 adopted 2/09/21</i>				
<b>Real Estate Disclosure</b>	No	Yes	Yes	No
<i>Comment: County Assessor's Office. CA. State Civil Code 1102 requires full disclosure on Natural Hazard Exposure of the sale/re-sale of any and all real property.</i>				
<b>Growth Management</b>	Yes	No	Yes	Yes
<i>Comment: Community Development. The City of Millbrae General Plan (1998-2015) addresses growth management through the following land use goals: Preserve the Quality of Residential Neighborhoods, Promote Property Site Planning, Architectural Design and Property Maintenance, maintain a Variety of Land Uses, Support Economic Development and revitalize and Enhance Commercial Areas, and Provide Adequate Services and Facilities. The Housing and Circulation Elements provide guidance on managing future growth. The Chapter 4 Circulation Element identifies current traffic, circulation, and parking issues, presents current traffic counts for City arterials and adjoining freeways, and discusses relevant regional transportation plans. Recommended policies and implementing actions address current and anticipated needs. The Chapter 5 Housing Element provides goals and objectives to guide housing requirements, needs, policies, programs and address future trends and projections.</i>				



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Site Plan Review</b>	Yes	No	No	Yes
<i>Comment: Community Development. The City of Millbrae addresses Site Plan Review in the General Plan (1998-2015) Land Use Goal 2 (LU2): Promote Proper Site Planning, Architectural Design and Property Maintenance. The City of Millbrae Planning and Zoning Code (effective November 13, 2009) establishes the requirements for the project site plan design review and entitlement process. In addition to Planning, all proposed projects are reviewed by the Building, Public Works, and Fire Departments to ensure they meet all local, state, and federal requirements and obtain all the necessary permits and entitlements, including Planning Commission and/or City Council approval before construction.</i>				
<b>Environmental Protection</b>	Yes	No	Yes	No
<i>Comment: Community Development with Public Works. The Community Development Department evaluates all proposed development projects for environmental impacts under the California Environmental Quality Act/National Environmental Protection Act (CEQA/NEPA)</i>				
<b>Flood Damage Prevention</b>	Yes	No	Yes	Yes
<i>Comment: Public Works. MMC 8.50, Flood Damage Prevention, Adopted 9/23/03, Ordinance 688MMC 8.50</i>				
<b>Emergency Management</b>	Yes	No	Yes	Yes
<i>Comment: Contract with San Mateo County Office of Emergency Services to provide Emergency Management Services. Renewed Annually (Municipal Code with Title 19, Division 2)</i>				
<b>Climate Change</b>	Yes	No	No	Yes
<p><i>Comment: Community Development with Public Works</i></p> <p><i>The City has not formally adopted a Climate Action Plan. However, the City has adopted and implemented a number of policies, programs, and projects to address the reduction of GHG emissions and related efforts to improve sustainability. The following are the City's Goals and Policies:</i></p> <p><i>Climate Protection and Sustainability Goals and Policies:</i></p> <ul style="list-style-type: none"> <li>• <i>U.S. Mayor's Climate Protection Agreement, Adopted 6/12/07, Resolution 07-31.</i></li> <li>• <i>Participated in ICLEI- Cities for Climate Protection Campaign, Adopted 6/12/07, Resolution 07-32.</i></li> <li>• <i>Resolution 09-68 adopted 9/22/09: Establishes specific Green House Gas (GHG) emissions reduction goals for municipal operations and communitywide GHG emissions sources in the City of Millbrae.</i></li> <li>• <i>Currently participating in the countywide RICAPS program for regionally-integrated climate action planning, GHG inventories and CAP development.</i></li> <li>• <i>Currently preparing a draft CAP pursuant to adopted targets and in coordination with RICAPS.</i></li> </ul> <p><i>The Safety Element of the City of Millbrae General Plan (1998) contains policies related to climate change effects and adaptation:</i></p> <p><i>Policy S1.1 Location of A Future Development; Policy S1.8 Reforestation</i></p> <ul style="list-style-type: none"> <li>• <i>Policy S1.12 Ordinances and Codes</i></li> <li>• <i>Policy S1.17 Drainage Channels, Hydraulic Pumps and Conduits</i></li> <li>• <i>Policy S1.18 Hazards</i></li> <li>• <i>Policy S1.19 Rise in Sea level</i></li> <li>• <i>Policy S2.2 Emergency Services Facilities</i></li> <li>• <i>Policy S2.3 Hazardous Awareness</i></li> </ul> <p><i>The San Mateo County Sea-Level Rise Vulnerability Assessment: The City of Millbrae participated in this regional assessment to inventory of all assets vulnerable to sea-level rise, identify specific vulnerabilities of 30 representative assets, issue initial recommendations on adaption measures, and improve flooding and sea-level rise mapping. The assessment was completed 2016. High Line Canal and Millbrae Water Pollution Control Plant as well as the Millbrae Intermodal Station were included as critical assets.</i></p>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
<b>General Plan</b>	Yes	No	Yes	Yes
<i>Is the plan compliant with Assembly Bill 2140? No</i>				
<i>Comment: The City of Millbrae has begun a two-year process to update the General Plan, which was last adopted in 1998. The General Plan will guide decision making for land use, transportation, infrastructure, community design, environmental issues, and other important topics that impact the community. The General Plan is a long-range planning document that will look ahead to 2040. The General Plan Update will include a specific plan for the Downtown Priority Development Area and an Active Transportation Plan. The City contracted the consultant, Mintier Harnish to prepare the General Plan. The project is estimated to be completed in the fall of 2022. The Updated General Plan will include linkages to the Local Hazard Mitigation Plan</i>				
<b>Capital Improvement Plan</b>	Yes	No	No	Yes
<i>How often is the plan updated? Annually</i>				
<i>Comment: Public Works with Finance</i>				
<b>Disaster Debris Management Plan</b>	Yes	No	No	Yes
<i>Comment: Currently developing Disaster Debris Management Plan in cooperation with San Mateo County.</i>				
<b>Floodplain or Watershed Plan</b>	No	No	No	Yes
<i>Comment: Public Works. MMC 8.50, Flood Damage Prevention, Adopted 9/23/03, Ordinance 688. Includes subsections such as 8.50.040 Basis for establishing the areas of special flood hazard, 8.50.080 Warning and disclaimer of liability, and 8.50.110 Designation of the floodplain administrator. The City Engineer or Director of Public Works are appointed to administer and enforce policies outlined in this chapter. Section 8.50.050 Compliance required ensures public safety by prohibiting construction in floodplains without proper permitting and code compliance. MMC 8.50</i>				
<b>Stormwater Plan</b>	Yes	No	No	Yes
<i>Comment: Public Works with Community Development. MMC 8.70, Adopted in 6/14/94. Ordinance 607, The purpose of this chapter is to ensure the future health, safety, and general welfare of city citizens: Eliminating non-storm water discharges to the municipal separate storm sewer; Controlling the discharge to municipal separate storm sewers from spills, dumping or disposal of materials other than storm water; Reducing pollutants in storm water discharges to the maximum extent practicable. The intent of this chapter is to protect and enhance the water quality of our watercourses, water bodies and wetlands in a manner pursuant to and consistent with the Clean Water Act. (Ord. 607, § 1; 1976 Code § 8-14.02).MMC 8.70</i>				
<b>Urban Water Management Plan</b>	Yes	No	Yes	Yes
<i>Comment: City of Millbrae Resolution 21-32 adopted the 2020 Urban Water Management Plan on May 25, 2021</i>				
<b>Habitat Conservation Plan</b>	No	No	No	No
<i>Comment: N/A – if one developed would be defined by Community Development</i>				
<b>Economic Development Plan</b>	Yes	No	No	Yes
<i>Comment: Community Development, Comprehensive Annual Financial Report 2013 Millbrae Economic Development Plan. Adopted 2/12/13. (By William R. Kelly, Kelly Associates Management Group). There was an update to the 2013 Millbrae Economic Development Plan completed Feb. 2015 by William R. Kelly.</i>				
<i>The 2013 Economic Development Plan provides an analysis of City's current economic profile, identifies certain financial issues facing the City that are interrelated with economic development, assesses the relative strengths, weakness, opportunities, and threats that are perceived by community stakeholders, and offers short-term and long-term strategies for addressing economic needs.</i>				
<b>Shoreline Management Plan</b>	No	Yes	No	No
<i>Comment: Managed by Bay Area Conservation Development District with U.S. Fish and Wildlife Service</i>				



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Community Wildfire Protection Plan</b>	Yes	No	No	Yes
<p><b>Comment:</b> <i>Fire Marshal and Building Official</i>  <b>Annex to 2010 Association of Bay Area Governments Local Hazard Mitigation Plan, Millbrae</b>  <i>The Annexation to the MJ-LHMP outlines mitigation measures that Millbrae is required to implement to decrease the loss or risk to life and property in event of a hazard, including fire. Exhibit C to the annex lists mitigation actions and priorities adopted by Millbrae to address fire hazards. The Plan identifies the Fire Chief as a liaison between the Millbrae Fire Department and the City in terms of emergency response issues, and the City's Emergency Response Operating Center.</i></p> <p><b>Community Wildfire Protection Plan</b>  <i>In 2010, a collaborative group consisting of CAL FIRE, Resource Conservation District of Santa Cruz County, San Mateo Resource Conservation District, and the US Fish and Wildlife Service worked together to create a draft Community Wildfire Protection Plan (CWPP) which includes the city of Millbrae in the planning area. The Plan identifies fire protection agencies with jurisdiction, volunteer organizations, large landowners, communities, neighborhoods, open spaces, and other environmental resources in the planning area that may be at risk of fire hazards.</i></p> <p><b>Municipal Code Chapter 9.30 (Fire Code)</b>  <i>Chapter 9.30 of the Millbrae Municipal Code (Fire Code) was last updated as a result of Ordinance 774 passed October 22, 2019. The code identifies safety information, restricted use of flammable materials, and other detailed rules for handling combustible or flammable goods. The code also identifies climate conditions, geographical conditions, and topographical conditions that may exacerbate fire hazards in the city of Millbrae. Some of these conditions include prolonged periods of drought in combination with warm western winds and increasing temperatures due to climate change and increasing response times for fire equipment and other emergency services due to urban sprawl and physical locations of residential dwellings.</i></p> <p><b>Community Risk Assessment</b>  <i>In August 2018, the Central County Fire Department (CCFD) contracted with Anchor Point Group to perform a wildfire risk assessment for the three cities in its jurisdiction. As a result, a small number of properties located along the southern border of Millbrae were found to be in a high interface risk level. CCFD currently addresses vegetation management through a complaint-based enforcement program to reduce vegetative fire risks throughout the City.</i></p>				
<b>Forest Management Plan</b>	No	No	Yes	No
<b>Comment:</b> <i>National Forest Service</i>				
<b>Climate Action Plan</b>	Yes	No	No	Yes
<b>Comment:</b> <i>Public Works with Community Development. The City adopted a Climate Action Plan in 2020. The City has implemented a number of policies, programs, and projects to address the reduction of GHG emissions and related efforts to improve sustainability. Please Climate Change Section for more details.</i>				
<b>Emergency Operations Plan</b>	Yes	No	No	Yes
<b>Comment:</b> <i>Emergency Management Services provided through contract with San Mateo County Office of Emergency Services. Millbrae is a member of the San Mateo County Emergency Services Joint Powers Agreement. Resolution 14.09 adopted 0/28/14</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b>	Yes	No	No	Yes
<p><i>Comment:</i> Community Development to align with General Plan. Update, which is currently underway. The City of Millbrae addresses the following hazard and safety issues as required by federal, state, regional and local agencies: Emergency Preparedness, Seismic and Geologic Hazards, Flood Hazards, Fire Hazards, Aviation Hazards, Hazardous Materials and Noise (Ground Transportation, Aircraft, Non-Transportation).</p> <p>MMC 4.65, Adopted 12/27/83, Ordinance 476. Chapter 4.65 addresses the storage of hazardous materials to ensure the protection of health, life, resources, and property through prevention and control of unauthorized discharges of hazardous materials. Chapter 4.65 requires a permit for the storage of any hazardous material as well as regulates the manner in which materials are stored.</p> <p>In 2010 Millbrae officials, in cooperation with the San Mateo County Fire Department and the San Mateo County Sheriff's Office of Homeland Security and Emergency Services, drafted the Millbrae Local Hazard Mitigation Plan Annex (LHMP) to ensure the most effective and economical allocation of resources for protection of human health, property and the environment in the event of an emergency or disaster.</p> <p>2015 Multijurisdictional Local Hazard Mitigation Plan and Millbrae Annex: In September of 2015, the San Mateo County Emergency Manager's Associate selected a consultant to update the 2010 Multijurisdictional Plan. The consultant has been working on the update and it is anticipated that the update will be completed in the summer of 2016. In addition to the Multijurisdictional Annex, individual jurisdictions and districts within the County will be preparing their own specific Annex which will tier off of the County-wide plan. The City of Millbrae will be preparing an updated Annex as part of this process.</p> <p>Geologic and Seismic Hazards: MMC Chapter 9.05 adopts the 2013 City Building Code (CBC). The CBC contains requirements for seismic safety. All new development in the city is required to adhere to the standards and regulations in the code. Chapter 9.65 of the municipal code addresses the seismic identification program for unreinforced masonry buildings.</p>				
<b>Post-Disaster Recovery Plan</b>	Yes	No	No	Yes
<i>Comment:</i> Included in the Emergency Operations Plan which will be updated within the next few years.				
<b>Continuity of Operations Plan</b>	Yes	No	No	Yes
<i>Comment:</i> Included in the Emergency Operations Plan.				
<b>Public Health Plan</b>	No	Yes	No	No
<i>Comment:</i> San Mateo County Health System				
<b>Other</b>	Yes	No	No	Yes
<i>Comment:</i> Urban Water Management Plan (2010, 2015), Millbrae Station Area Specific Plan (2016)				

**Table 13-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Community Development Dept – Building Division
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No



**Table 13-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	Yes, Water and Sanitation
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	No

**Table 13-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development / Municipal / Contract Support/Public Works
Engineers or professionals trained in building or infrastructure construction practices	Yes	Community Development / Municipal / Contract Support/Public Works
Planners or engineers with an understanding of natural hazards	Yes	Local/ Contract Support/Public Works
Staff with training in benefit/cost analysis	Yes	Local/ Contract Support
Surveyors	Yes	Contract Support (San Mateo County Public Works)
Personnel skilled or trained in GIS applications	Yes	Community Development/Local/ Contract Support/Public Works
Scientist familiar with natural hazards in local area	Yes	Local/ Contract Support
Emergency manager	Yes	Contract Support through San Mateo County Office of Emergency Services
Grant writers	Yes	Local/ Contract Support/Public Works

**Table 13-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Link to the last Hazard Mitigation Annex and Emergency Preparedness information
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes We use Nextdoor, Facebook, Instagram, and Twitter
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes Muni Code - Emergency Services Disaster Board

Criterion	Response
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes SMC Alert and Millbrae CERT program
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes SMC Alert, AWS, and Telephone Emergency Warning System (TENS)

**Table 13-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works & Community Development
Who is your floodplain administrator? (department/position)	Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	Ordinance 688, 1976
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	11/20/2007
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	Yes Staff participated in DWR and FEMA training. <a href="#">Asfpm Beyond Local Boundaries.mp4</a> Click on link above to view staff presentation at the May 2021 Association of State Floodplain Managers Annual Conference
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No  No. The City studied the cost to participate in the CRS and decided against participating at this time due to insufficient staff and resources.
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	128 \$43,384,500 \$107,767
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	41 \$178,561

a. According to FEMA statistics as of March 31, 2021



**Table 13-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608147486	N/A
DUNS #	Yes	091847517	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule – Currently participating in the process to receive a rating.	Yes	TBD	TBD
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 13-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Medium – performed high level assessment of Sea Level Rise on Bayfront and creeks</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment: Medium – continuing to work with County for further studies on Sea Level Rise</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Medium – Would need to work with consultant who performed assessment for Sea Level Rise</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: High – Completed GHG emission Inventory as part of Millbrae Climate Action Plan adopted Oct. 2020</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Low: Need to plan and develop policies building codes for future urban uses</i>	Low
Participation in regional groups addressing climate risks <i>Comment: High: Participating in the County's Climate Ready SMC</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: N/A</i>	Unsure
Identified strategies for greenhouse gas mitigation efforts <i>Comment: High – Adopted Climate Action Plan with GHG mitigation measures</i>	High
Identified strategies for adaptation to impacts <i>Comment:</i>	Unsure
Champions for climate action in local government departments <i>Comment: Medium – one FTE to fulfill climate action, GHG reduction, community outreach and engagement, reporting and other duties</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment:</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Low – City limited financial resources. Need to add to budget for each project/program</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Medium

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents’ knowledge of and understanding of climate risk <i>Comment: Medium – continual education throughout CAP development, sea level rise assessment and for all environmental programs</i>	Medium
Local residents support of adaptation efforts <i>Comment:</i>	Low
Local residents’ capacity to adapt to climate impacts <i>Comment:</i>	Low
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Low

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

### 13.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

#### 13.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **General Plan** – The general plan includes a “Safety” element to protect the community from unreasonable risk by establishing policies and actions to avoid or minimize the following hazards:
  - Geologic and seismic hazards
  - Fire hazards
  - Hazardous materials
  - Impacts from climate change
- **General Plan** – Community Development & Public Works: The City is in the process of updating its General Plan and Downtown & El Camino Real Specific Plan. These plans will have local hazard mitigation components. The Master Plan Update, in the Hazards & Safety Element will link with LHMP.
- **Climate Action Plan** – The Millbrae City Council adopted the Climate Action Plan in 2020. The CAP contains many of the climate change and sea level rise measures to combat rising sea level and mitigate climate change.
- **Flood and Sea Level Rise Resiliency District (One Shoreline)** – The City is a member and is working with the District to secure federal funding to implement sea level rise and resiliency projects.



- **New FEMA maps** – The City of Millbrae has received the FEMA Flood Map Update in 2018 and Public Works will update flood insurance information as needed based on the updated maps
- **Environmental Protection** – The California Environmental Quality Act (CEQA) analyzes hazards and hazardous materials as part of the CEQA checklist. Specific questions being analyzed include: whether a project is a significant hazard to the public or environment, emits hazardous emissions, is located on a site that is included on a list of hazardous material sites, expose people or structures to a significant risk of loss, injury, or death.

### 13.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- Grant participation opportunities (FEMA) which the city will collaboratively work on, with the Fire and Sheriff's departments
- Participation in more rating programs and will work collaboratively with the Fire and Sheriff's departments
- **Mutual Aide Agreements** – San Mateo County Public Works Mutual Aid Agreement has been established in 2015. Protocols and Standard Operating Procedures have also been established. Building Safety Inspection Program Mutual Aid.
- Update Flood Damage Prevention Ordinance to 2004 standards
- Increased integration with public outreach initiatives
- **General Plan**—The city is updating its General Plan to plan for future growth through 2040. Included in the update, the City will update its Safety Element to address hazard risks. The General Plan update is expected to be complete at the end of 2022 or beginning of 2023.
- **Threat & Hazard Identification & Risk** – this could be potentially integrated under the Safety Element of the General Plan Update.
- **Growth Management**—As part of the General Plan update, the City will consider addressing growth management and how it addresses risk from hazards as the city continues to increase its population.
- **Zoning Code**—After the General Plan update, the zoning code may be amended to address and integrate hazard in further detail although funding for an overhaul of the zoning code has yet to be identified.
- **Subdivisions**—After the General Plan update, the subdivision section of the municipal code may be amended although funding for this work has yet to be identified.

## 13.6 RISK ASSESSMENT

### 13.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 13-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 13-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
COVID-19 Pandemic	DR-4482	January 20, 2020 -present	Not available
Severe Winter Storm, Flooding, and Mudslides	DR-4308	February 1-23, 2017	Not available
Severe Winter Storms, Flooding and Mudslides	DR-4305	January 18-23, 2017	Not available
Severe Winter Storms, Flooding and Mudslides	DR-1646	March 29-April 16, 2006	Not available
Crestview Landslide & Pinehurst Court		February 2000	\$11,000,000
Sleepy Hollow, Clearfield & Morningside Landslide	DR-1203	February 1998	Not available
1989 Loma Prieta Earthquake	DR-845	October 1989	Not available
Landslide @ 21 & 25 & 29 Via Canon	DR-677	February 1983	Not available

### 13.6.2 Hazard Risk Ranking

Table 13-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 13-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	51	High
2	Earthquake	36	High
3	Sea level Rise / Climate Change	27	Medium
4	Severe weather	24	Medium
5	Flood	18	Medium
6	Drought	9	Low
7	Tsunami	6	Low
8	Dam Failure	0	Low
9	Wildfire	0	Low

### 13.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 1
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 1
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0



## **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Landslides
- Earthquake
- Climate Change
- Severe weather
- Flood.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## **13.7 STATUS OF PREVIOUS PLAN ACTIONS**

Table 13-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 13-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action #MB-1:</b> Water System Inter-Tie with San Francisco Airport <b>Comment:</b> The SFO inter-tie project was completed in 2019	✓			
<b>Action #MB-2:</b> Water Storage Tanks Seismic Upgrade/Retrofit/Replacement <b>Comment:</b> Project to be completed by winter 2022			✓	MIL-9
<b>Action #MB-3:</b> Tree Trimming Program <b>Comment:</b> This is an ongoing activity			✓	MIL-18
<b>Action #MB-4:</b> Emergency Evacuation Warning System & Shelter <b>Comment:</b> Zonehaven Evacuation plan complete -SMCAAlert & TENS warning systems	✓			
<b>Action #MB-5:</b> Construct New Public Works Corporation Yard West of US101 <b>Comment:</b> Project is no longer financially feasible due to high land cost		✓		
<b>Action #MB-6:</b> Inspect and Retrofit Millbrae Avenue Overpass <b>Comment:</b> This is programmed for FY2023			✓	MIL-8
<b>Action #MB-7:</b> Retrofit, acquire, or relocate the identified severe repetitive loss property within Millbrae. <b>Comment:</b> Not financially feasible		✓		
<b>Action G-1—</b> Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses. <b>Comment:</b> Conducted community meeting in summer of 2019 to share Shoreline Protection Plan/Sea Level Rise Plan with residents			✓	MIL-1
<b>Action G-2—</b> Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady. <b>Comment:</b> Millbrae is certified as a Tree City, Storm Ready. CRS is not feasible due to insufficient staff and resources.				

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action G-3</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.</p> <p><b>Comment:</b> Millbrae Municipal Code is current and up to date per NFIP.</p>			✓	MIL-4
<p><b>Action G-4</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> Millbrae is considering re-activating this project in the near future when the City re-vamp its SCADA</p>			✓	MIL-10
<p><b>Action G-5</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> This is ongoing. Millbrae recently adopted the Climate Action Plan and the measures in the CAP are complimentary to those of the Hazard Mitigation Plan</p>			✓	MIL-2
<p><b>Action G-6</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> This is currently financially not feasible.</p>				
<p><b>Action G-7</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	MIL-3
<p><b>Action G-8</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	MIL-3

### 13.8 HAZARD MITIGATION ACTION PLAN

Table 13-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 13-15 identifies the priority for each action. Table 13-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 13-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action MIL-1</b>—Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.</p> <p><u>Hazards Mitigated:</u> Earthquake, Flooding, Landslide, Extreme Weather, Sea Level Rise</p>						
Existing	1, 6, 7, 10, 13	Millbrae Community Development	Millbrae Public Works	High	HMGP, BRIC, FMA	Short-term
<p><b>Action MIL-2</b>— Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including General Plan, Climate Action Plan</p> <p><u>Hazards Mitigated:</u> Earthquake, Flooding, Landslide, Sea Level Rise</p>						
New & Existing	1, 2, 6, 7, 8,13	Millbrae Community Development	Millbrae Public Works	Low	Staff Time, General Funds	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MIL-3</b> —Actively participate in the plan maintenance protocols and support County initiatives outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Earthquake, Flooding, Landslide & Extreme Weather, Sea Level Rise						
New & Existing	1, 2, 3, 5, 6, 7, 10, 12	Millbrae Community Development	Millbrae Public Works	Low	Staff Time, General Funds	Short-term
<b>Action MIL-4</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>Enforce the flood damage prevention ordinance.</li> <li>Participate in floodplain identification and mapping updates.</li> <li>Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<u>Hazards Mitigated:</u> Flooding						
New & Existing	1, 3, 4, 5, 6, 7, 8, 10	Millbrae Public Works	Millbrae Community Development	Low	Staff Time, General Funds	Ongoing
<b>Action MIL-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
<ul style="list-style-type: none"> <li>Sea Level Rise, Climate Change, Urban Heat Island</li> </ul>						
<u>Hazards Mitigated:</u> Severe Weather, Wildfire, Sea Level Rise						
Existing	1, 2, 3, 5, 6, 7, 10, 14	Millbrae Public Works	Millbrae Community Development	Low	Staff Time, General Funds	Short-term
<b>Action MIL-6</b> —Purchase generators for critical facilities and infrastructure that lack adequate backup power, including Fuel Supplies, Evacuation Centers						
<u>Hazards Mitigated:</u> Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire						
Existing	6, 9, 11,	Public Works	Finance	Medium	General Fund Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action MIL-7</b> —Reconstruct failed underground Millbrae Creek culvert						
<u>Hazards Mitigated:</u> Flood Control & Property Damage, Sea Level Rise						
Existing	6, 9, 11	Millbrae Public Works	Millbrae Community Development	High	General Funds Staff Time	Long-Term
<b>Action MIL-8</b> —Inspect and Retrofit Millbrae Avenue Overpass						
<u>Hazards Mitigated:</u> Earthquake, Landslide & Severe Weather						
New & Existing	6, 9, 11	Millbrae Public Works	Millbrae Community Development	High	General Funds & Transportation Funds	Long-Term
<b>Action MIL-9</b> —Water Storage Tanks Seismic Upgrade/Retrofit/Replacement						
<u>Hazards Mitigated:</u> Earthquake, Wildfire, Flooding						
New & Existing	6, 9, 11	Millbrae Public Works	Millbrae Finance	High	Water Enterprise Fund	Short-Term
<b>Action MIL-10</b> - Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather, Tsunami, Sea Level Rise						
New & Existing	1, 5, 6, 7, 8	SM Flood & Sea Level Rise Dist. (FSLRRD)	Millbrae Public Works	Medium	General Fund	Short-Term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action MIL -11</b> - Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.</p> <p><u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather, Sea Level Rise</p>						
New & Existing	1, 2, 5, 6, 7, 8, 9, 13, 14	FSLRRD	Millbrae Public Works	Low	General Fund, Private Developers, City Capital Project Funding	Ongoing
<p><b>Action MIL-12</b> - Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including pump stations, generators, tide gates, stream gages, open channel and culvert/pipeline infrastructure.</p> <p><u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather, Sea Level Rise</p>						
New & Existing	2, 6, 7,8	FSLRRD	Millbrae Public Works	Medium	Tax-Funded Flood Zones, State Grants, Federal Grants (FEMA BRIC/HMGP)	Ongoing
<p><b>Action MIL-13</b> - Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.</p> <p><u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Landslide, Flood, Severe Weather, Drought, Sea Level Rise</p>						
New & Existing	2, 6, 7, 8, 14	FSLRRD	Millbrae Public Works	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, State Grants (Caltrans, CA DWR), Federal Grants (EPA), City Capital Project Funding	Ongoing
<p><b>Action MIL14</b> - Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to the Flood &amp; Sea Level Rise Resiliency District Flood Zone channels and infrastructure.</p> <p><u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Flood, Severe Weather, Sea Level Rise</p>						
New & Existing	1, 2, 4, 6, 7,8	FSLRRD	Millbrae Public Works	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, State Grants (Caltrans, CA DWR), Federal Grants (EPA), City Capital Project Funding	Ongoing
<p><b>Action MIL-15</b> - Plan, design, and implement long-term resilience to sea level rise, extreme storms, and coastal erosion for culverts, roadways, and bridges in the vicinity of other flood protection projects, including assets identified in the Caltrans District 4 Adaptation Priorities Report.</p> <p><u>Hazards Mitigated:</u> Climate Change/Sea Level Rise, Landslide, Flood, Severe Weather, Sea Level Rise</p>						
New & Existing	2, 4, 6, 7, 8,13	FSLRRD	Millbrae Public Works	Medium	State Grants (Caltrans), Federal Grants (FEMA BRIC/HMGP)	Ongoing
<p><b>Action MIL-16</b> - Identify and pursue strategies to enhance recycled water infrastructure planning/implementation in the vicinity of the Flood &amp; Sea Level Rise Resiliency District projects.</p> <p><u>Hazards Mitigated:</u> Drought, Sea Level Rise</p>						
New & Existing	1, 6, 7,8	FSLRRD	Millbrae Public Works	Medium	State Grants (CA Resilience Challenge, CA DWR, Prop 68), Federal Grants (EPA, FEMA BRIC/HMGP)	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MIL-17</b> - Improve community response to flood emergencies in various ways, including but not limited to:						
<ul style="list-style-type: none"> <li>Upgrade and expand the countywide flood early warning system;</li> <li>Conduct community flood preparation, education, and recovery outreach.</li> </ul>						
New & Existing	2, 3, 7, 8, 9, 10, 11	FSLRRD	County	Low	State Grant (CA DWR SWERG)	Short-Term
<b>Action MIL-18</b> - Tree Trimming Program						
Existing	1, 6, 7,8	Millbrae Public Works	Millbrae Recreation	Medium	General Fund	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 13-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
MIL-1	3	High	High	Yes	Yes	No	Medium	High
MIL-2	7	Medium	Low	Yes	No	Yes	High	Low
MIL-3	3	Low	Low	Yes	No	Yes	High	Low
MIL-4	6	Medium	Low	Yes	No	Yes	High	Low
MIL-5	7	Medium	Low	Yes	No	Yes	High	Low
MIL-6	3	High	Medium	Yes	Yes	No	Medium	High
MIL-7	1	Low	High	No	No	No	Medium	Low
MIL-8	4	High	High	Yes	Yes	No	Medium	High
MIL-9	2	High	High	Yes	Yes	Yes	High	High
MIL-10	5	Medium	Medium	Yes	No	Yes	High	Low
MIL-11	9	High	Low	Yes	Yes	Yes	High	High
MIL-12	4	High	Medium	Yes	Yes	Yes	High	High
MIL-13	5	Medium	Medium	Yes	Yes	Yes	High	Medium
MIL-14	6	High	Medium	Yes	Yes	Yes	High	High
MIL-15	6	High	Medium	Yes	Yes	Yes	High	High
MIL-16	4	Medium	Medium	Yes	Yes	Yes	High	Medium
MIL-17	7	High	Low	Yes	Yes	Yes	High	Low
MIL-18	4	High	Medium	Yes	No	Yes	High	Low

a. See the introduction to this volume for explanation of priorities.

**Table 13-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Landslide	4, 5, 12, 13	1, 6, 8, 13	5	13	6		5, 6, 13	1, 2, 15
Earthquake	1, 2, 3, 8	1, 3, 6, 9				8, 9	6	1, 2
<b>Medium-Risk Hazards</b>								
Sea level Rise / Climate Change	3, 5, 12, 15	3, 5, 6	5	3, 5, 13			5, 13, 14, 15	15
Severe Weather	3, 5, 10, 12, 14, 15	1, 3, 6, 15	5	3, 5, 13, 18	6	8	5, 6, 11, 14, 15	1, 15
Flood	1, 3, 4, 5, 7, 11, 12, 14, 15, 17	1, 3, 4, 6, 7, 11, 12	4, 5, 17	3, 4, 5, 13, 17			4, 5, 6, 10, 11, 14, 15, 17	1, 2, 15
<b>Low-Risk Hazards</b>								
Drought	16	9		13, 16			13, 16	
Tsunami	4, 10, 15	11, 12, 15		10, 11			10, 11	
Wildfire		9, 13		13, 18			13	

a. See the introduction to this volume for explanation of mitigation types.

### 13.9 PUBLIC OUTREACH

Table 13-17 lists public outreach activities for this jurisdiction.

**Table 13-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Social Media Survey Blast	6/8/2021	Unknown
CERT Outreach for Survey	6/5/2021	129
Social Media Blast for Workshop	3/16/2021	Unknown

### 13.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed for this annex.

- **Millbrae Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **Millbrae Flood Damage Prevention Ordinance MMC Title 8 Chapter 50**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **Millbrae Climate Action Plan** Adopted January 24, 2020

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.



# Millbrae

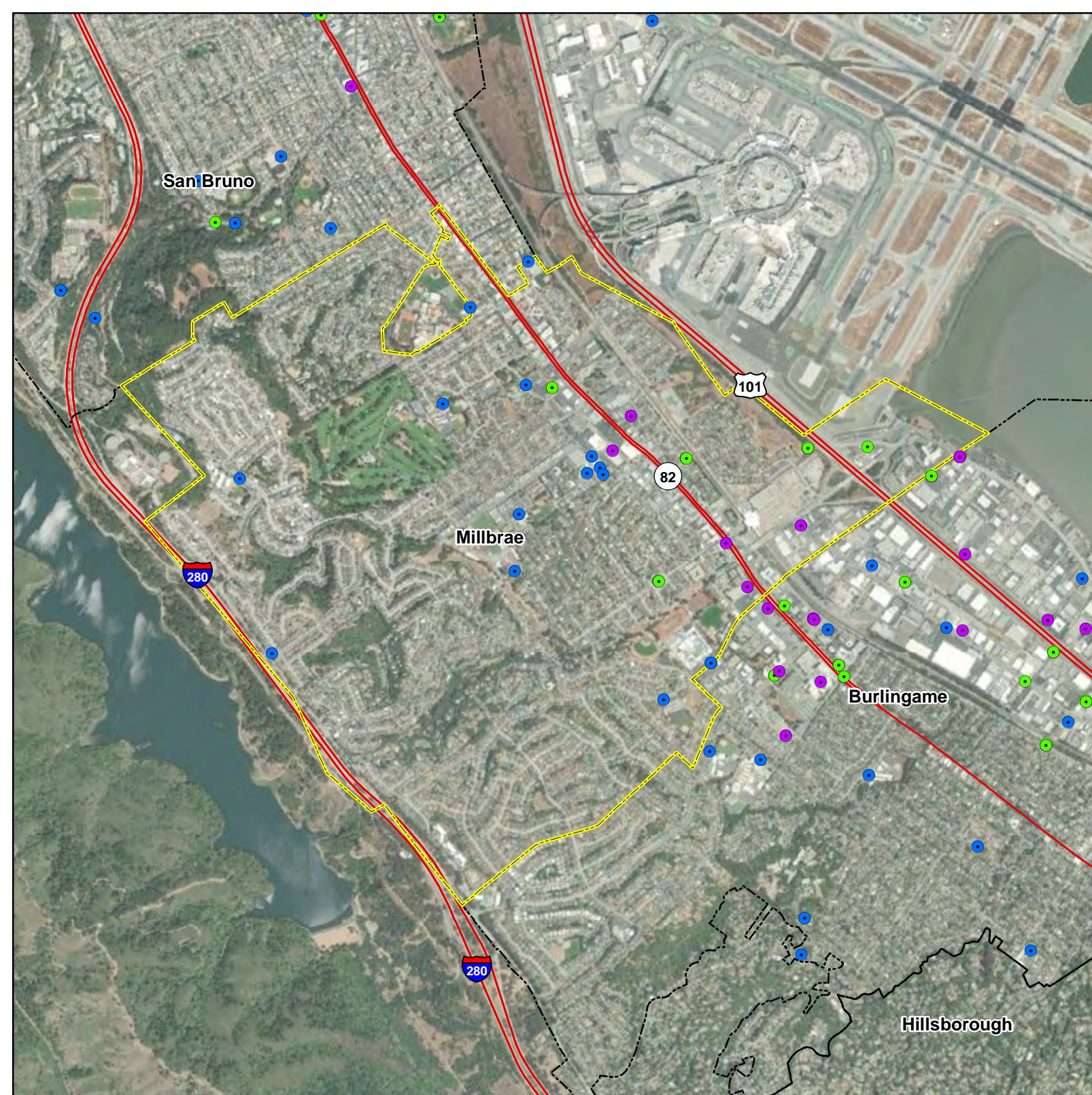
## Critical Facilities, 1 of 2

- Food, Water, Shelter
- Health and Medical
- Safety and Security
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD



0 0.15 0.3 0.6 Miles





# Millbrae

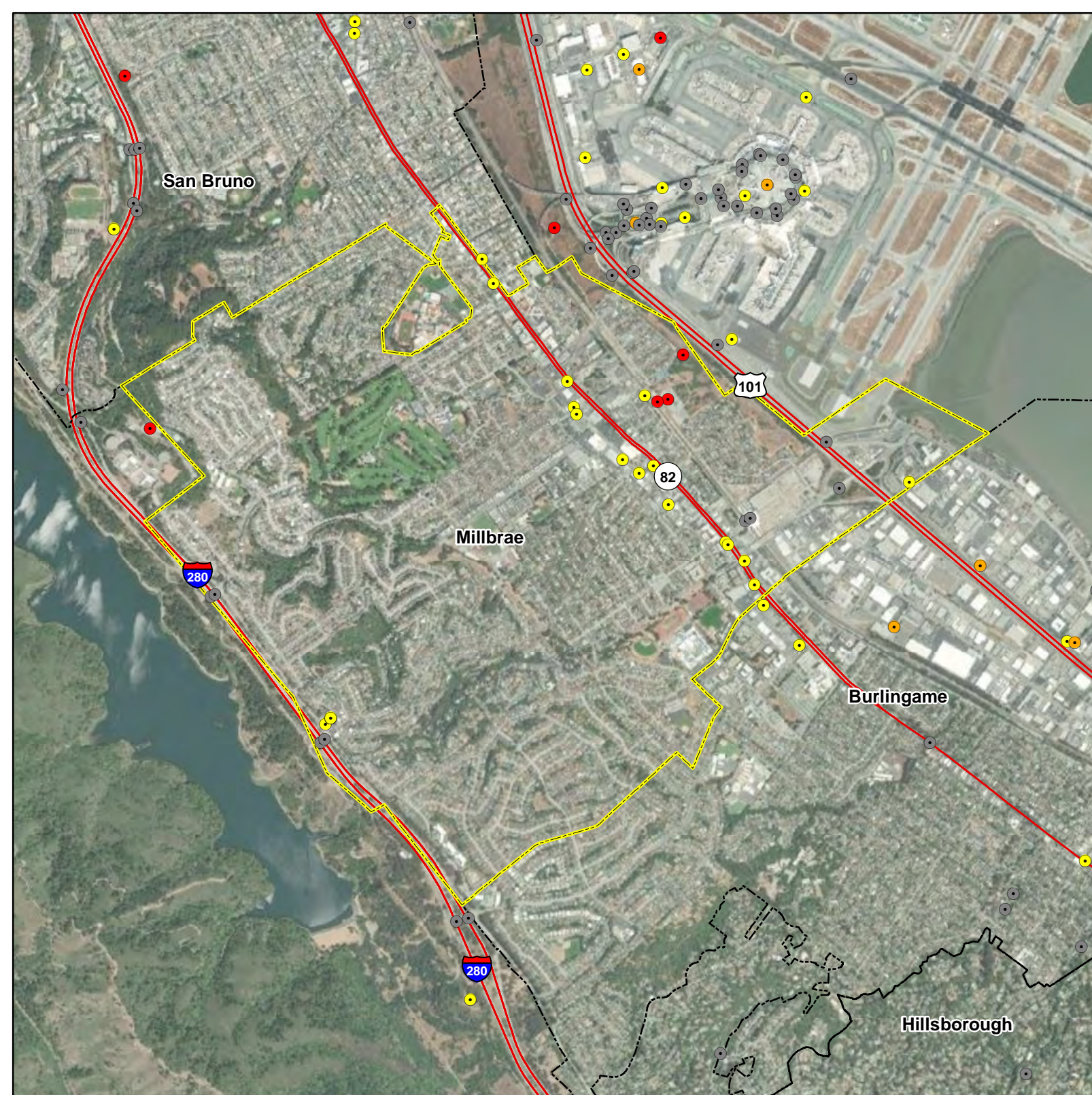
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.15 0.3 0.6 Miles





# Millbrae

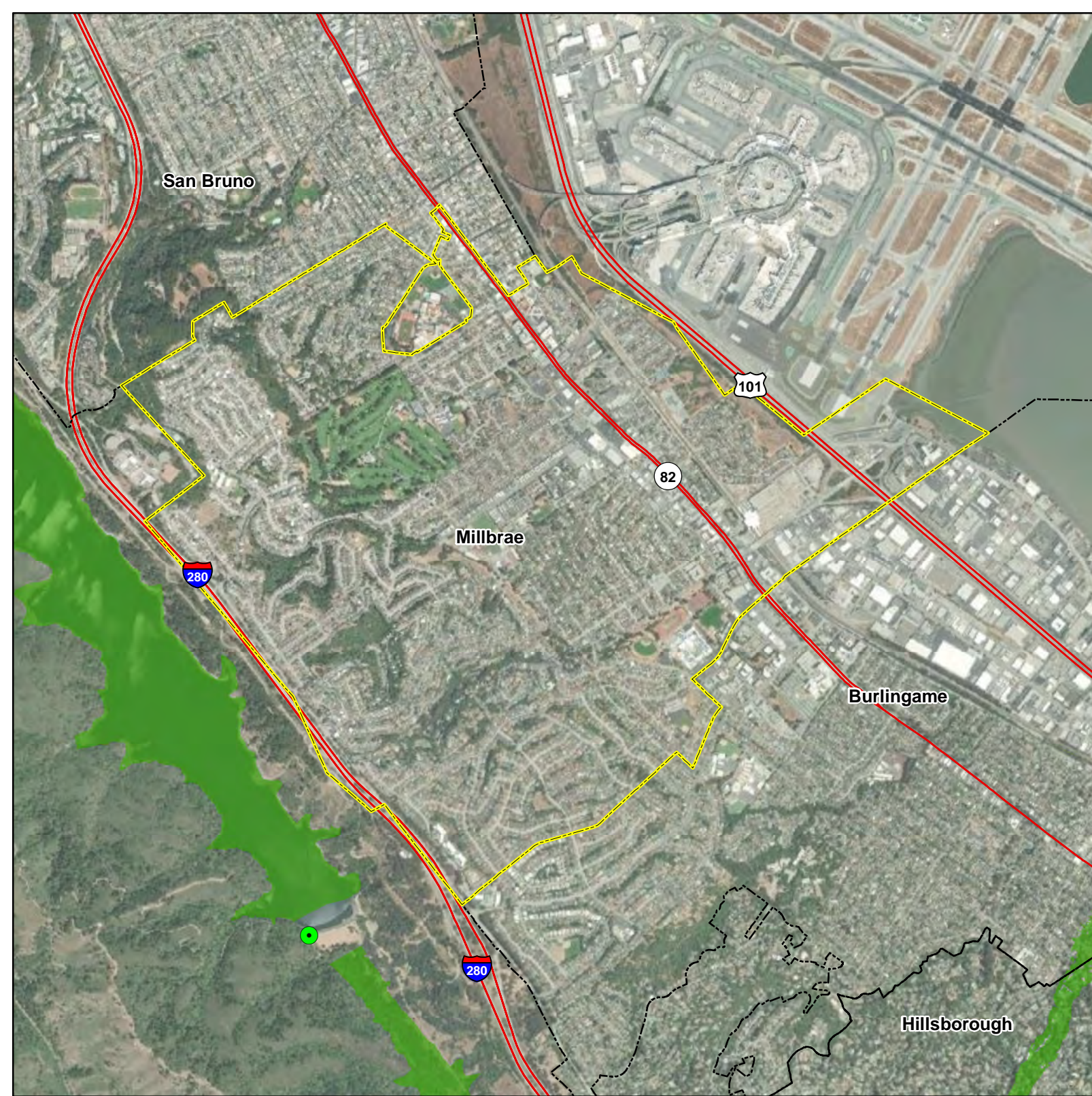
## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










0 0.15 0.3 0.6  
Miles





# Millbrae

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.15 0.3 0.6  
Miles

San Bruno

Millbrae

Burlingame

Hillsborough

82

101










280

280



# Millbrae

## Liquefaction Susceptibility

-  Very Low
-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., ABAG (USGS)



0 0.15 0.3 0.6  
Miles

San Bruno

Millbrae

Burlingame

Hillsborough

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101



# Millbrae

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

 VI (Strong/Light)

 Selected City

 Incorporated Cities


 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.15 0.3 0.6  
 Miles

San Bruno

Millbrae

Burlingame

Hillsborough

280

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# Millbrae

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities


 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.15 0.3 0.6  
 Miles

San Bruno

Millbrae

Burlingame

Hillsborough

280

82

101



# Millbrae

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities


 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.15 0.3 0.6  
 Miles

San Bruno

Millbrae

Burlingame

Hillsborough

280

82







101



# Millbrae

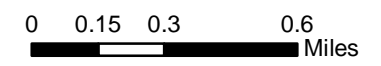
## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Millbrae

## San Gregorio North M7.44 Earthquake Scenario


### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.15 0.3 0.6  
 Miles

San Bruno

Millbrae

Burlingame

Hillsborough

280







82

101



# Millbrae

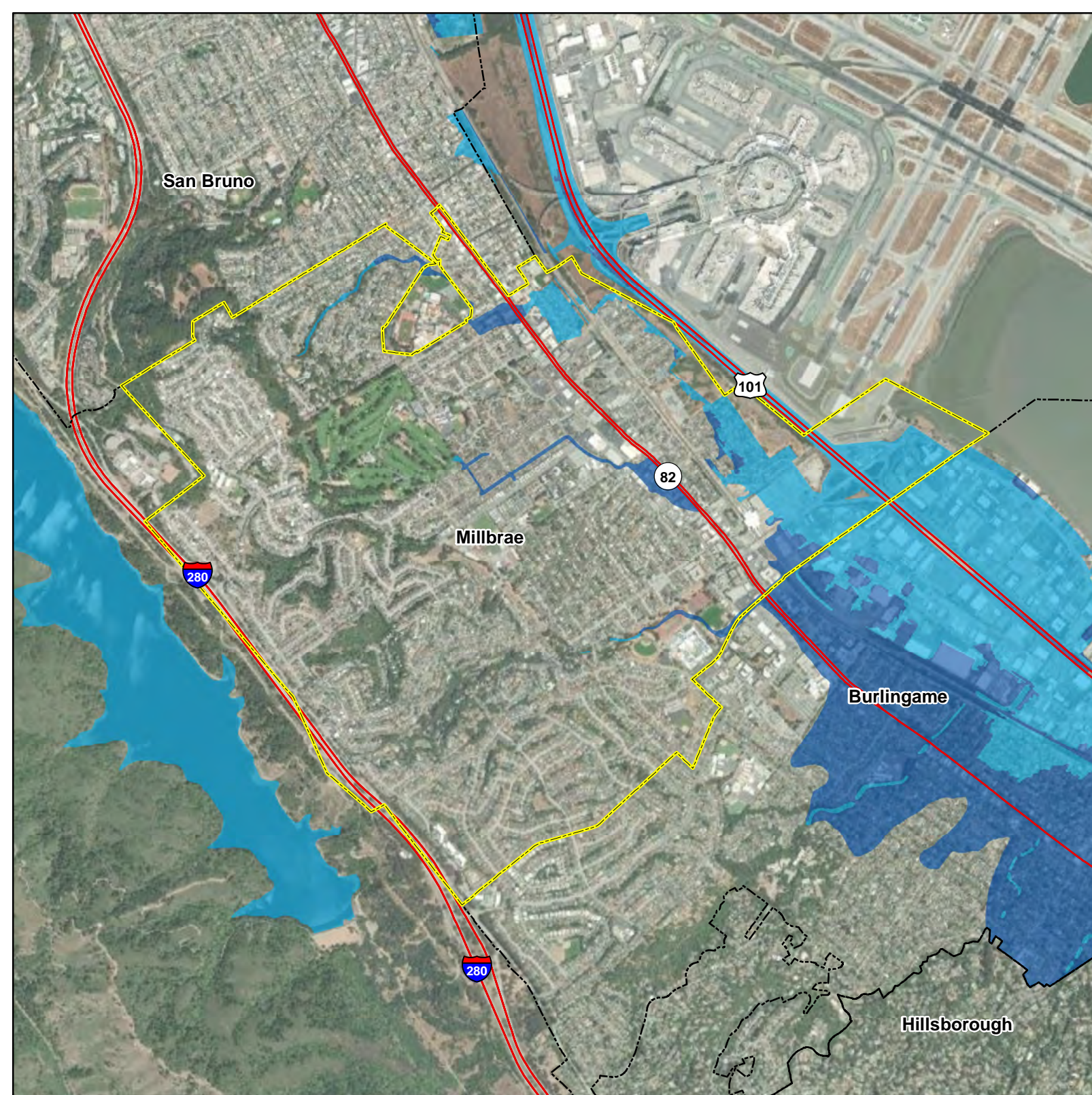
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.15 0.3 0.6 Miles





# Millbrae

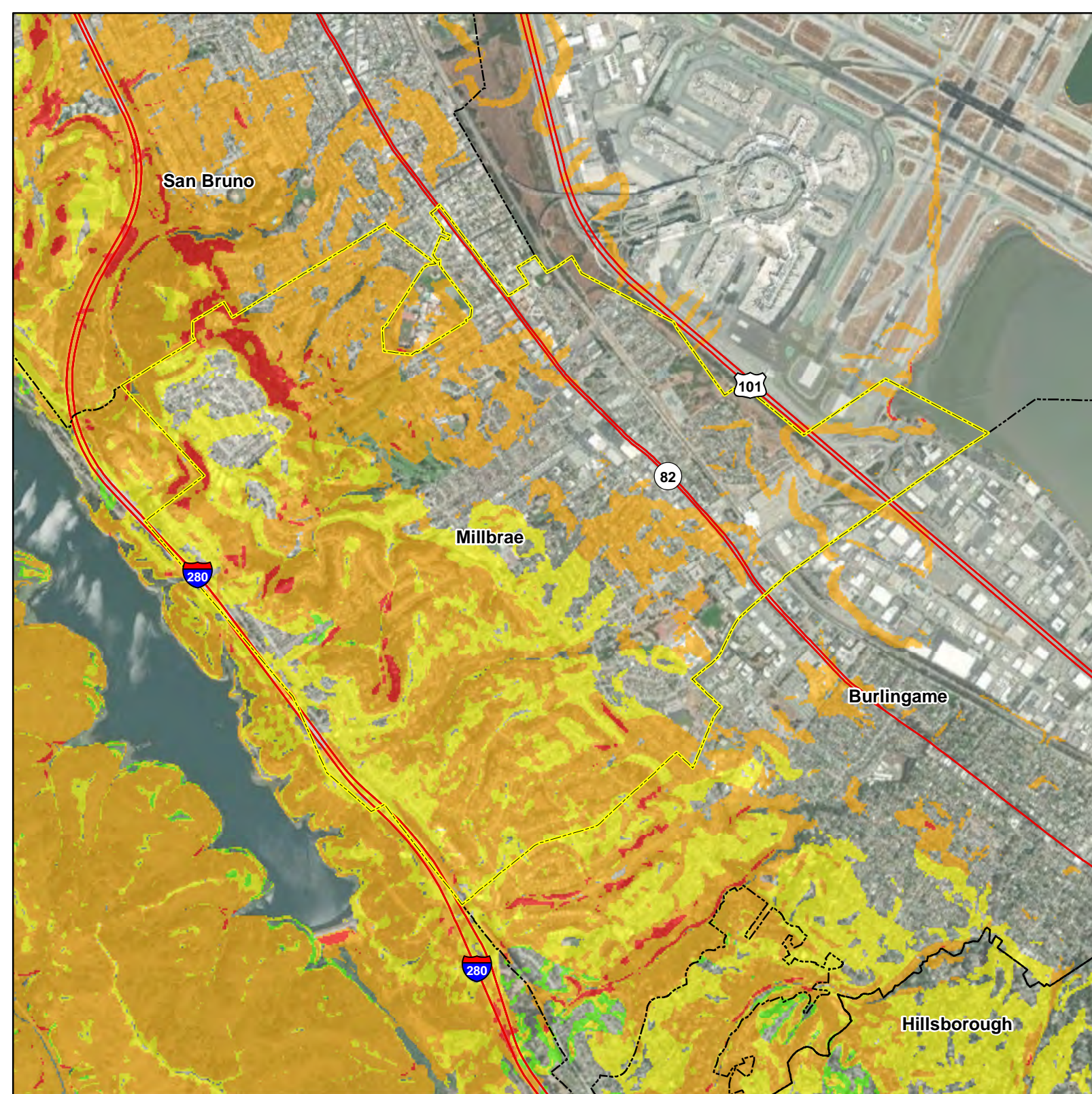
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








0 0.15 0.3 0.6  
Miles





# Millbrae

## Sea Level Rise

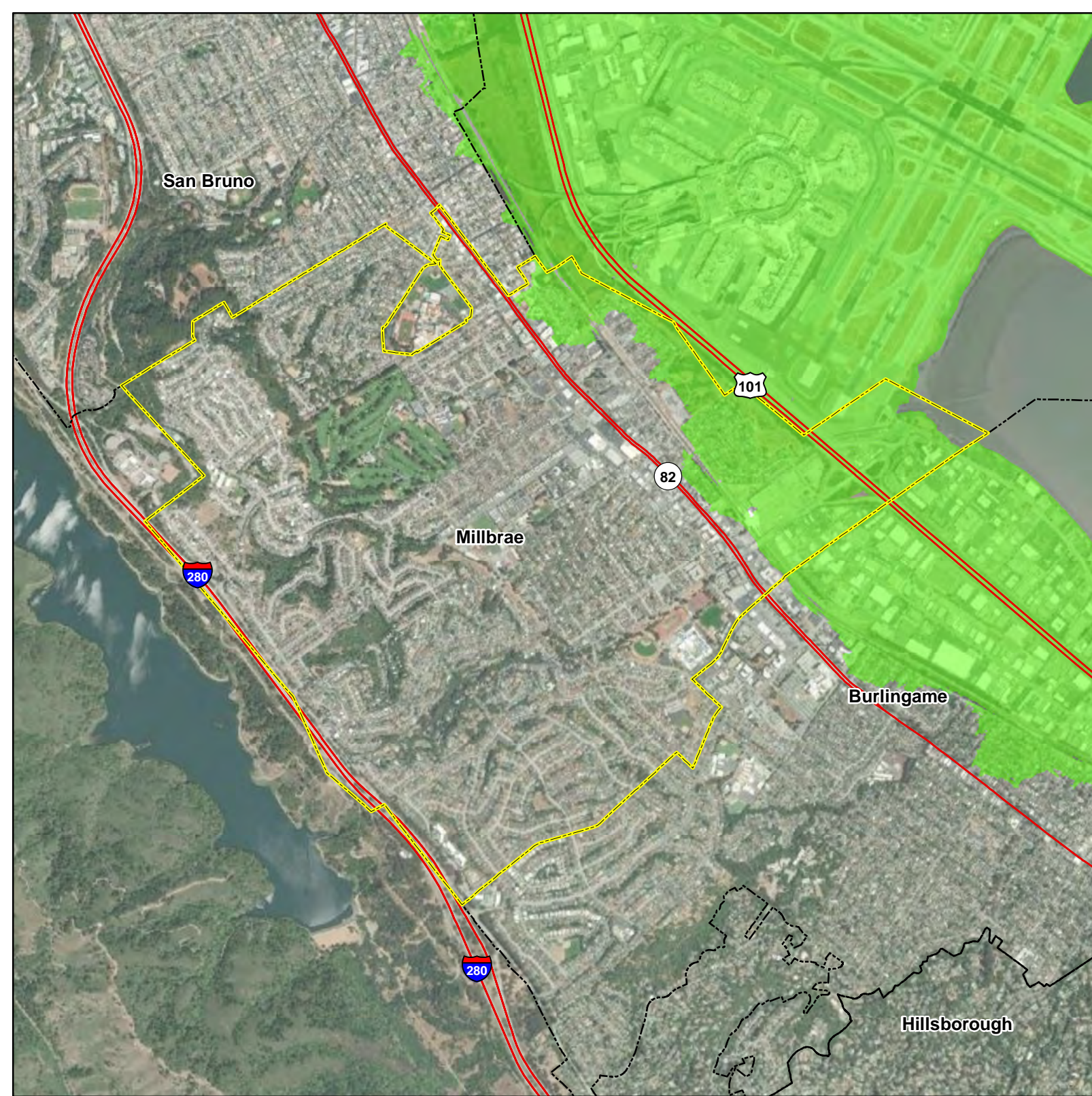
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.15 0.3 0.6 Miles





# Millbrae

## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.15 0.3 0.6  
Miles

San Bruno

Millbrae

Burlingame

Hillsborough

280

82

101



# 14. CITY OF PACIFICA

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## 14.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Chris Clements, Police Captain  
2075 Coast Highway  
Pacifica, CA 94044  
650-738-7314  
clementsc@pacificapolice.org

### Alternate Point of Contact

Christian Murdock, Deputy Director of Planning  
1800 Francisco Boulevard  
Pacifica, CA 94044  
650-738-7341  
cmurdock@pacificagov

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 14-1.

**Table 14-1. Local Mitigation Planning Team Members**

Name	Title
Chris Clements	Police Captain
Christian Murdock	Deputy Director of Planning
Ryan Marquez	Associate Civil Engineer

## 14.2 JURISDICTION PROFILE

### 14.2.1 Location and Features

The City of Pacifica is located along a six mile length of coastal beaches and hills in northern central California. The city comprises several small valleys spread between Sweeney Ridge in the east, Montara Mountain to the south, and the Pacific Ocean’s rocky bluffs to the west. The city’s eastern border follows State Route 35. Pacifica is bordered to the north by Daly City, to the east by the cities of South San Francisco and San Bruno, as well as several miles of the Golden Gate National Recreation Area. To the south, Pacifica is bordered by unincorporated San Mateo County.

Pacifica has a cool summer Mediterranean climate typical of coastal areas of California. Based on National Weather Service records, average January temperatures range from 47.6 °F to 56.9 °F and average September temperatures range from 56.2 °F to 72.4 °F. Annual precipitation averages 30.04 inches. There are an average of 69 days annually with measurable precipitation, most of which falls from October through May. Summer fog regularly produces light drizzle overnight into the early morning hours. Condensation from the fog also produces fog drip from trees overnight. No measurable snowfall has been recorded since records began. The southeastern areas of the city are known to be much sunnier than the rest of the city.

## 14.2.2 History

Before the arrival of European settlers, what is now Pacifica was home to two significant Ohlone Indian villages: Pruristac located at San Pedro Creek near present day Adobe Drive, and Timigtac on Calera Creek in the Rockaway Beach neighborhood. Pacifica is the location of the oldest European discovery of the San Francisco Bay. An expedition led by Gaspar de Portolà sighted the bay by climbing the hills of Sweeney Ridge in Pacifica on October 31, 1769. Before then, earlier Spanish maritime explorers of the California coast (such as Juan Cabrillo and Sebastian Vizcaino) had missed the San Francisco Bay because heavy fog so frequently shrouded the entrance of the San Francisco Bay into the Pacific Ocean (the Golden Gate). Pacifica is also the site of the still extant Mexican-era Sánchez Adobe built in 1846. The city is located on a part of the Mexican land grant Rancho San Pedro given to Francisco Sanchez in 1839.

Pacifica remained a mainly agricultural and undeveloped area until land speculators, stimulated by construction of the Ocean Shore Railroad in 1905, subdivided and developed a series of small coastside communities including Edgemar, Vallemar, Sharp Park, Pedro Point, and Rockaway Beach. These communities, together with Pacific Manor, Westview, Fairway Park, and Linda Mar, incorporated in 1957 as the City of Pacifica. The City grew rapidly in the 1950s and 1960s, and most of its current housing – 54 percent as of 2010 – was built during those decades. Growth slowed in the 1970s, and then slowed further in the following decades, owing to the scarcity of developable land and infrastructure constraints.

## 14.2.3 Governing Body Format

The City of Pacifica is governed by a city council of five elected members. The mayor is selected from among members of the city council by majority vote of the council, serving as mayor for a one-year term. A City Manager, City Attorney and City Clerk are appointed and serve in support of the Council to enact the ordinances passed by the Council, which meets biweekly on the second and fourth Mondays of the month.

The Pacifica City Council assumes responsibility for the adoption of this plan; the Planning Department in conjunction with the Emergency Manager will oversee its implementation.

## 14.3 CURRENT TRENDS

### 14.3.1 Population

According to the California Department of Finance, the population of Pacifica as of January 2020 was 38,331. Since 2016, the population has grown at an average annual rate of 0.34 percent.

### 14.3.2 Development

Development in Pacifica has continued at a slow pace. The notable trend in development has been an increase in accessory dwelling unit development within existing developed areas. The City has received a number of development projects in hazard areas (wildland-urban interface, historic landslide, and coastal erosion areas) that vary in scale from one single-family dwelling on an existing lot to a subdivision of dozens of acres that would create more than 100 dwelling units. The City is carefully reviewing those projects in light of the applicable hazards.



Table 14-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 14-2. Recent and Expected Future Development Trends**

Criterion	Response																														
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No																														
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No																														
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes  930 Oddstad Blvd.: Redevelop former elementary school into 70 workforce housing units (adjacent to flood zone). Hillside Meadows at Adobe Drive and Higgins Way: New development of 36 housing units (adjacent to very high Fire Hazard Severity Zone).																														
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	<table border="1"> <thead> <tr> <th></th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Single Family</td> <td>8</td> <td>4</td> <td>7</td> <td>9</td> <td>26</td> </tr> <tr> <td>Multi-Family</td> <td>5</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Other (commercial, mixed use, etc.)</td> <td>0</td> <td>3</td> <td>4</td> <td>0</td> <td>0</td> </tr> <tr> <td><b>Total</b></td> <td><b>13</b></td> <td><b>9</b></td> <td><b>11</b></td> <td><b>9</b></td> <td><b>26</b></td> </tr> </tbody> </table>		2016	2017	2018	2019	2020	Single Family	8	4	7	9	26	Multi-Family	5	2	0	0	0	Other (commercial, mixed use, etc.)	0	3	4	0	0	<b>Total</b>	<b>13</b>	<b>9</b>	<b>11</b>	<b>9</b>	<b>26</b>
	2016	2017	2018	2019	2020																										
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Other (commercial, mixed use, etc.)	0	3	4	0	0																										
<b>Total</b>	<b>13</b>	<b>9</b>	<b>11</b>	<b>9</b>	<b>26</b>																										
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: Monitored at time of building permit application to ensure base flood elevation certificate. No large-scale development in SFHA areas has been proposed.</li> <li>• Landslide: Monitored at time of building permit application through preliminary geotechnical investigation to mitigate hazards. No large-scale development in landslide areas has been proposed.</li> <li>• High Liquefaction Areas: Monitored at time of building permit application through preliminary geotechnical investigation to mitigate hazards. No large-scale development in high liquefaction areas has been proposed.</li> <li>• Tsunami Inundation Area: Monitored at time of coastal development permit application through tsunami hazard analysis to mitigate hazards. No large-scale development in tsunami inundation areas has been proposed.</li> <li>• Wildfire Risk Areas: Monitored at time of building permit or discretionary permit application through evaluation of applicability of CBC Chapter 7A WUI requirements to mitigate hazards. The City has received some discretionary permit applications for larger developments in these areas.</li> </ul>																														
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	Pacifica is mostly built-out on privately owned lands. Sporadic in-fill development and small-scale projects are the most common types of development.																														

## 14.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 14-3.
- Development and permitting capabilities are presented in Table 14-4.
- An assessment of fiscal capabilities is presented in Table 14-5.
- An assessment of administrative and technical capabilities is presented in Table 14-6.
- An assessment of education and outreach capabilities is presented in Table 14-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 14-8.
- Classifications under various community mitigation programs are presented in Table 14-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 14-10.

**Table 14-3. Legal and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b> <i>Comment: Pacifica Municipal Code (PMC) Title 8; Ord. 852-C.S., eff. 1/1/2020</i>	Yes	No	Yes	Yes
<b>Zoning Code</b> <i>Comment: PMC Title 9, Chapter 4; Last updated by Ord. 862-C.S., eff. 5/26/2021</i>	Yes	Yes	Yes	Yes
<b>Subdivisions</b> <i>Comment: PMC Title 10; Ord. 456-85, eff. 12/25/1985</i>	Yes	No	Yes	Yes
<b>Stormwater Management</b> <i>Comment: PMC Title 6, Chapter 12; Ord. 812-C.S., eff. 1/12/2017</i>	Yes	No	Yes	Yes
<b>Post-Disaster Recovery</b> <i>Comment:</i>	No	No	No	No
<b>Real Estate Disclosure</b> <i>Comment: Sewer Laterals: PMC Title 6, Chapter 13, Article 6; Ord. 784 C.S., eff. 12/28/2011 Active Faults: Alquist-Priolo Earthquake Fault Zoning Act, CA. CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.</i>	Yes	No	Yes	Yes
<b>Growth Management</b> <i>Comment: PMC Title 9, Chapter 5; Ord. 604-C.S., eff. 7/8/1993</i>	Yes	No	No	No
<b>Site Plan Review</b> <i>Comment: PMC Title 9, Chapter 4, including but not limited to specific plans (Article 22), site development permits (Article 32), and coastal development permits (Article 43)</i>	Yes	Yes	No	Yes



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Environmental Protection</b>	Yes	No	Yes	Yes
<i>Comment: California Environmental Quality Act (CEQA), required for all discretionary actions by City General Plan Conservation Element: 1980 Preservation of Heritage Trees: PMC Title 4, Chapter 12; Ord. 542-C.S., eff. 1/10/1990 Clearing and Grubbing Permits: PMC Title 8, Chapter 20, Ord. 518-C.S., eff. 12/28/1988</i>				
<b>Flood Damage Prevention</b>	Yes	No	No	Yes
<i>Comment: PMC Title 7, Chapter 5; Ord. 822-C.S., eff. 10/11/2017</i>				
<b>Emergency Management</b>	Yes	No	No	Yes
<i>Comment: PMC Title 4, Chapter 2 §4-2.06</i>				
<b>Climate Change</b>	Yes	No	No	Yes
<i>Comment: Climate Action Plan, adopted 7/2014.</i>				
<b>Other</b>	Yes	No	Yes	Yes
<i>Comment: Title 6, Chapters 6-11, 13 (Sewer System and Wastewater)</i>				
<b>Planning Documents</b>				
<b>General Plan</b>	Yes	No	Yes	Yes
<i>Is the plan compliant with Assembly Bill 2140? No</i>				
<i>Comment: The City's 1980 General Plan preceded the Disaster Mitigation Act of 2000 and has not been amended to specifically link to the Local Hazard Mitigation Plan (LHMP). However, the General Plan contains a Seismic Safety and Safety Element that addresses various potential hazards facing the City and policies and action programs to address them. The Draft General Plan, anticipated to be adopted in 2021, does contain direct references to the LHMP and hazards of concern.</i>				
<b>Capital Improvement Plan</b>	Yes	No	Yes	Yes
<i>How often is the plan updated? Annually</i>				
<i>Comment: The City of Pacifica's Capital Improvement Plan (CIP) is a planning tool used to prioritize capital projects for the next 5 years. The plan is updated every year identifying new projects and update the status of existing projects. These projects include various infrastructure maintenance, storm drain improvements, parks and play field upgrades, and sewer facility improvements.</i>				
<b>Disaster Debris Management Plan</b>	No	No	No	No
<i>Comment: Countywide plan under development in 2021 would be considered for local adoption.</i>				
<b>Floodplain or Watershed Plan</b>	No	No	No	No
<i>Comment:</i>				
<b>Stormwater Plan</b>	Yes	No	No	Yes
<i>Comment: Municipal Regional Permit (MRP) for Stormwater Discharges (Final Order No. R2-2009-0074). Regulates stormwater discharges in new development designs and during construction by requiring Best Management Practices (BMPs). City enforcement supplemented by San Francisco Bay Regional Water Quality Control Board. Local Storm Drain Master Plan scheduled for update in 2022.</i>				
<b>Urban Water Management Plan</b>	No	Yes	No	No
<i>Comment: The North Coast County Water District (NCCWD) and Westborough Water District (WWD) are the potable water providers for the City of Pacifica and are responsible for preparing the UWMP for their service areas.</i>				
<b>Habitat Conservation Plan</b>	No	No	No	No
<i>Comment:</i>				
<b>Economic Development Plan</b>	Yes	No	No	Yes
<i>Comment: Plan accepted by City Council in 2013</i>				
<b>Shoreline Management Plan</b>	Yes	Yes	No	Yes
<i>Comment: The City of Pacifica has a Local Coastal Program (LCP) certified by the California Coastal Commission (CCC) to allow local control of development landward of the shoreline. The CCC retains original jurisdiction for areas seaward of mean high tide line and certain other areas in Pacifica. The City has approved an update to its LCP that is pending CCC certification. The updated LCP contains expanded policies for management of the shoreline.</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Community Wildfire Protection Plan</b> <i>Comment: San Mateo Co. Community Wildfire Protection Plan, 2018</i>	No	No	No	Yes
<b>Forest Management Plan</b> <i>Comment: A local urban forest management plan is beginning development in summer of 2021 Also explore removal of flammable and non-native species of vegetation which may increase hazard risk .</i>	No	No	No	Yes
<b>Climate Action Plan</b> <i>Comment: Climate Action Plan; 7/14/2014</i>	Yes	No	Yes	Yes
<b>Emergency Operations Plan</b> <i>Comment: City of Pacifica Emergency Operations Plan 2019, San Mateo County Emergency Operations Plan w/ Annexes, fall 2015</i>	Yes	Yes	No	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment: San Mateo County Hazard Vulnerability Assessment, Jan 2015</i>	No	Yes	No	Yes
<b>Post-Disaster Recovery Plan</b> <i>Comment: No stand-alone plan, but considered in: City of Pacifica Emergency Operations Plan 2019, San Mateo County Emergency Operations Plan, May 2015, w/ Continuity of Operations Plan Annex</i>	Yes	No	No	Yes
<b>Continuity of Operations Plan</b> <i>Comment: Completed in 2019</i>	Yes	No	No	Yes
<b>Public Health Plan</b> <i>Comment: San Mateo County Health Department</i>	No	Yes	No	No

**Table 14-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Planning Department
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No

**Table 14-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes, public required
User Fees for Water, Sewer, Gas or Electric Service	Yes, Sewer
Incur Debt through General Obligation Bonds	Yes, public vote required
Incur Debt through Special Tax Bonds	Yes, if a bond revenue – Needs revenue stream
Incur Debt through Private Activity Bonds	Unknown
Withhold Public Expenditures in Hazard-Prone Areas	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes, in accordance with restrictions applicable to use of the fee
Other	Yes, Other General Fund Revenue



**Table 14-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Planning Dept: Director, Deputy Planning Director, Assoc. Planner, Asst. Planner.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works Dept.: Director of Public Works, Deputy Director of Public Works/ Waste Water, City Engineer, Senior Engineer, Assoc. Engineer (x2),
Planners or engineers with an understanding of natural hazards	Yes	Planning Dept: Director, Deputy Planning Director, Assoc. Planner, Asst. Planner. Public Works Dept.: Director of Public Works, Deputy Director of Public Works/ Waste Water, City Engineer, Assoc. Engineer (x2)
Staff with training in benefit/cost analysis	No	N/A
Surveyors	Yes	Contract support- CSG Consultants
Personnel skilled or trained in GIS applications	Yes	Planning Dept.: Deputy Planning Director
Scientist familiar with natural hazards in local area	Yes	Contract support- CSG Consultants
Emergency manager	Yes	Pacifica Police Department Captain
Grant writers	Yes	No position in the city is wholly dedicated to grant writing. Available personnel have written grants in the past from the following departments and divisions: Planning, Police and Public Works
Other	No	N/A

**Table 14-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes, Police Administrative Captain
Do you have personnel skilled or trained in website development?	Yes, Pacifica IT Division
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes A winter storm preparedness page, tsunami preparedness page, wildfire preparedness page, and Emergency Preparedness and Safety Commission links to relevant outside sites
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Facebook, Next Door, Twitter, and the countywide SMC Alert system refer people to information on the city's website
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes The Emergency Preparedness and Safety Commission meets once a month and has a page on the City's website
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes SMC Alert (by Everbridge) is a mass notification system using text and phone.
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes The city has three tsunami warning sirens along the coast. The sirens also have voice capability. Zonehaven Evacuation Platform.

**Table 14-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Planning Department
Who is your floodplain administrator? (department/position)	Planning Dept.: Building Official (Contracted)
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	10/11/2017
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	8/15/2016
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	Yes No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup>	384
<i>What is the insurance in force?</i>	\$84,970,800
<i>What is the premium in force?</i>	\$276,647
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	\$782,751

a. According to FEMA statistics as of March 31, 2021

**Table 14-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608154806	N/A
DUNS#	Yes	091847459	N/A
Community Rating System	Yes	7	8/4/2020
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	Yes	Storm Ready	In progress
Firewise	No	N/A	N/A
Tsunami Ready	Yes	Tsunami Ready	In progress



**Table 14-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Skilled City staff and active and engaged community aware of climate change impacts including fire danger, flood risk, and coastal erosion from sea level rise.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: Primary City monitoring involves coastline surveillance related to public infrastructure and the effects of sea level rise/coastal erosion and flooding.</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: The City participates in the RICAPS regional consortium which has engaged a consultant, DNVGL, to prepare a GHG emissions inventory.</i>	Medium
Capital planning and land use decisions informed by potential climate impacts <i>Comment: The City's Local Coastal Program update, pending California Coastal Commission Certification, requires assessments related to sea level rise and its effects on the coastline.</i>	High
Participation in regional groups addressing climate risks <i>Comment: The City participates in the RICAPS regional consortium to plan for climate risks.</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: General Plan and Local Coastal Program include policies to consider climate change risks/hazards. These must be balanced with other policies in those documents such as economic development, provision of housing, etc.</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment: City development policies prioritize in-fill development which can result in reductions to GHG emissions.</i>	Medium
Identified strategies for adaptation to impacts <i>Comment: The Local Coastal Plan update pending California Coastal Commission certification contains adaptation strategies for sea level rise.</i>	Medium
Champions for climate action in local government departments <i>Comment: The City does not have dedicate climate action/sustainability personnel.</i>	Low
Political support for implementing climate change adaptation strategies <i>Comment: The Pacifica City Council recognizes the challenges presented by climate change and supported adaptation strategies in the Local Coastal Program update pending certification by the California Coastal Commission.</i>	High
Financial resources devoted to climate change adaptation <i>Comment: The City lacks sufficient identified funding sources for this purpose and pursues grants whenever possible.</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment: The City can exercise its police power over all inland areas. Certain locations within the Coastal Zone are subject to appeal jurisdiction or direct permit authority by the California Coastal Commission, which limits local authority over certain decisions affecting land subject to sea level rise and coastal erosion.</i>	Medium
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Pacifica has an engaged community aware of climate change impacts including fire danger, flood risk, and coastal erosion from sea level rise.</i>	High
Local residents support of adaptation efforts <i>Comment: Climate change adaptation, particularly sea level rise adaptation, has proven to be a divisive issue in Pacifica. There are strong organized elements on various sides of the issue that seek to advance quite different adaptation approaches.</i>	Medium

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Local residents’ capacity to adapt to climate impacts</b> <i>Comment: Individual residents’ resources to adapt to climate impacts varies widely. Additionally, climate change adaptation planning, particularly sea level rise adaptation planning, has not resulted in a consensus approach to the appropriate adaptation strategy.</i>	Medium
<b>Local economy current capacity to adapt to climate impacts</b> <i>Comment: Pacifica’s local economy consists mostly of small and medium size businesses with little large-scale commercial development/large corporations. The existing small and medium businesses lack sufficient resources to undertake climate adaptation on their own and have not widely organized for this purpose.</i>	Low
<b>Local ecosystems capacity to adapt to climate impacts</b> <i>Comment: Variable. Some parts of Pacifica are undeveloped and are readily adaptable, such as undeveloped lands along the coastline. However, other areas are highly developed and in some cases are protected by existing shoreline protection devices that limit the ability for natural adaptive processes to sea level rise.</i>	Medium

- a. High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 14.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 14.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Public Outreach:** The City’s public outreach on disaster preparedness incorporates prevention, preparedness, and mitigation recommendations, especially on the Natural Disasters section of the website. The Natural Disasters section of the website includes information on earthquakes, flooding, winter storms, landslides, wildfire and tsunamis, all of which are profiled in the LHMP.
- **General Plan:** The Safety and Seismic Safety Element of the General Plan incorporates information on pertinent local natural hazards, especially seismic hazards, landslide risks and coastal erosion risks. The General Plan also requires geotechnical hazard studies prior to new development.
- **Local Coastal Program:** The LCP requires consideration of coastal flooding and erosion.
- **Zoning Code:** The Zoning Code requires specific assessment of hazards when reviewing new development, including but not limited to the Hillside Preservation District (HPD) standards in PMC Title 9, Chapter 4, Article 22.5, and the Coastal Development Permit (CDP) standards in PMC Title 9, Chapter 4, Articles 43 and 44.



## 14.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **General Plan:** The City is undertaking an overall General Plan Update process that will incorporate references to the Local Hazard Mitigation Plan in the Safety Element.
- **Local Coastal Program:** The LCP requires consideration of coastal flooding and erosion. Similar, but more expansive policies, are contained in the LCP update pending certification by the California Coastal Commission.
- **Building Code, Zoning Code, Subdivision Code, Site Plan Review:** The City’s development review codes, policies, and procedures could be revised to provide a greater emphasis on consideration of hazards when reviewing development.
- **Capital Improvement Plan:** The CIP could consider more directly whether a project would increase or decrease a known hazard.

## 14.6 RISK ASSESSMENT

### 14.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 14-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 14-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Severe Weather/ Erosion	N/A	January 2021	\$250k - increased tidal action caused failure along Beach Blvd. seawall
Severe Weather	N/A	January 2020	\$40k – increased tidal action caused failure along Beach Blvd. seawall
Severe Weather/ Erosion	4308	January 2017	\$1.6mil – erosion on Esplanade, debris cleanup, and pump station failure
Severe Weather/Erosion	CDAA 2016-01	January 2016	\$3.4mil - Moderate flooding, coastal erosion due to increased tidal action, power outages and debris from trees and sand along the coastline
Wildfire	N/A	January 2015	Approx. 2.5 acres of trees and brush burned
Severe Weather/Erosion	N/A	December 14, 2014	\$280,000 - Major flooding, power outages and debris from trees and sand along the coastline
Tsunami	N/A	March 11, 2011	Warning – no subsequent event, 8.9 earthquake in Japan caused Tsunami warning to West Coast of California
Severe Weather /Erosion	CDAA-2010-04	March 2009	Severe coastal erosion prompting red-tagging of adjacent homes and apartments
Severe Weather/ Erosion	1646	March 29, 2005- April 16, 2006	Moderate flooding, coastal erosion due to increased tidal action, power outages and debris from trees and sand along the coastline
Severe Weather/ Erosion	1628	December 17, 2005- January 3, 2006	Moderate flooding, coastal erosion due to increased tidal action, power outages and debris from trees and sand along the coastline
Landslide	N/A	1997	Mudslide in the Pedro Point area of Pacifica washed out a road

Severe Weather (coastal erosion)	N/A	1997-1998	Seven homes on Esplanade Avenue lost the last 10 feet of their back yards and residents had to evacuate.
Severe Weather, Flood	N/A	January 4, 1983	On Jan. 4, 1983, more than 5 inches of rain fell in one day. Residents in canoes paddled out of flooded homes in the San Pedro Valley. A mudslide at the top of the valley plowed into three homes, killing three children sleeping in their beds.

### 14.6.2 Hazard Risk Ranking

Table 14-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 14-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	54	High
2	Earthquake	36	High
3	Severe weather	24	Medium
4	Wildfire <sup>a</sup>	20	Medium
5	Sea Level Rise / Climate Change	18	Medium
6	Flood	18	Medium
7	Tsunami	12	Low
8	Drought	9	Low
9	Dam Failure	0	None

a. Ranking for wildfire was qualitatively adjusted by the City based on local concerns for future conditions associated with this hazard.

### 14.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- The key hazard encountered in the City of Pacifica during the past five years has been coastal erosion at the central and northern extents of the Pacifica coastline.



- Transportation/ Accessibility (arterial highway, bridges over highway, single entry neighborhoods). California State Route 1 (SR-1) is the major roadway that connects City neighborhoods and allows for traffic flow in and out of the City. At the southern city limits, Pacifica is connected to the next community by a bridge and tunnel. At the northern city limits, Pacifica is connected to the City of San Francisco by Interstate 280. Other access in or out of parts of Pacifica is Sharp Park Road, which connects to California State Route 35. Some areas of SR-1 may be susceptible to landslides due to steep grades. There have been minor rock slides in some areas. If areas of SR-1 were blocked due to a landslide or other hazard, the City may be severely limited in access to equipment, parts, and materials to repair damaged infrastructure.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 14.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 14-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 14-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
PA-1— Pacifica will build infrastructure to accommodate increases in low impact flooding to mitigate impacts from expected increases in incidents of shallow flooding <b>Comment:</b> 2021 Stormwater Master Plan will assess flooding issues and prioritize projects.			✓	PAC-7
PA-2— Pacifica will be conducting an update of its Emergency Operations Plan to ensure an effective and coordinated response to disasters within the city <b>Comment:</b> The Emergency Operations Plan was last updated in 2017 and plans for an update are underway.			✓	PAC-8
PA-3-- Pacifica will update its flood damage prevention ordinance to mitigate against damage of residential and commercial property in flood prone areas <b>Comment:</b> City Council adopted Ordinance No. 822-C.S. to amend the Pacifica Municipal Code to incorporate flood damage prevention measures. This ordinance went into effect October 11, 2017.	✓			
PA-4— Pacifica will seek to encourage and assist in the acquisition of grants for the purchase or relocation of property and structures in high hazard areas to mitigate against damage to vulnerable structures and infrastructure <b>Comment:</b> Homes at 532 & 528 Esplanade on an eroding bluff Acquisition & Demolition in 2018.			✓	PAC-1
PA-5— Pacifica will pursue opportunities to preserve and protect critical transportation infrastructure to mitigate against isolation, economic loss and ensure public safety. <b>Comment:</b> Two Esplanade infrastructure projects along with Beach Blvd. Infrastructure Resiliency project are underway.			✓	PAC-9
PA-6— Pacifica will seek to replace/upgrade its seismically-vulnerable facilities to ensure provision of vital services following a hazard event. <b>Comment:</b> City is currently exploring plans to replace the current Civic Center located in a structure originally built as a school house in 1914.			✓	PAC-10
PA-7— Pacifica will preserve, protect, or relocate hazard prone infrastructure to maintain critical services and maintain the environment. <b>Comment:</b> Two esplanade infrastructure projects, Beach Blvd. Infrastructure Resiliency project, & Milagra Outfall Repair Project.			✓	PAC-11

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>PA-8</b>— Pacifica will develop and deliver business outreach programs to mitigate against the functional loss of community businesses and promote business resiliency.</p> <p><b>Comment:</b> City of Pacifica Emergency Preparedness &amp; Safety Commission produce information materials ( tsunami awareness, earthquake preparedness) to distribute to businesses to promote resilience. Community event on wildfire preparedness is scheduled for this June. Ongoing social media campaign to promote wildfire preparedness and evacuation planning, and alert notification systems as fire season approaches.</p>			✓	PAC-12
<p><b>PA-9</b>— Pacifica will work with contiguous and neighboring utility districts to develop its use of recycled water for irrigation and non-potable uses to reduce reliance on potable water during periods of drought.</p> <p><b>Comment:</b> The City of Pacifica wastewater treatment plant produces tertiary recycled water to the North Coast County Water District (NCCWD). The NCCWD continues to promote use of recycled water for irrigation to customers. This is an ongoing project.</p>			✓	PAC-13
<p><b>PA-10</b>—Pacifica will continue to do public education outreach to our neighborhoods using the “Map Your Neighborhood” tool to ensure communities can take care of themselves and those who live around them during a disaster event.</p> <p>Work with the Neighborhood Associations Utilize CERT members to assist in this outreach Identify those homes within the neighborhoods that have vulnerable or isolated populations living in them Utilize Social Media and Emergency Alert Systems to communicate preparedness and emergency messaging</p> <p><b>Comment:</b> Pacifica continues to present CERT courses and other preparedness programs to promote personal preparedness, and utilizes social media to promote general disaster preparedness in our community.</p>			✓	PAC-14
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> City of Pacifica acquired and demolished two homes at 532 &amp; 528 Esplanade atop an eroding bluff to prevent further damage.</p>			✓	PAC-1
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b> Achieved Tree City USA designation starting in 2019. Community Rating System recertification every two years, last done in 2020.</p>			✓	PAC-15
<p><b>Action G-3</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.</p> <p><b>Comment:</b> Recertified as Class 7 in 2020. Continued to provide public assistance for floodplain information and requirements.</p>			✓	PAC-4
<p><b>Action G-4</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> City considered training CERT members for future recording of high-water marks.</p>			✓	PAC-16
<p><b>Action G-5</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> City’s draft General Plan (adoption expected summer 2021) references LHMP.</p>			✓	PAC-2



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action G-6</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> City has not identified funding sources to implement this item.</p>			✓	PAC-17
<p><b>Action G-7</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> City is an active member of the San Mateo County Emergency Managers Association, participates in countywide warning and notification systems, attends various work groups related to disaster response, conducts classes on disaster preparedness for community members, and has an active CERT program.</p>			✓	PAC-3
<p><b>Action G-8</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> City is an active member of San Mateo County Emergency Mangers Association, integrated LHMP into other City plans, promotes community preparedness through social media campaigns, maintains an active CERT program promotion personal preparedness.</p>			✓	PAC-3

## 14.8 HAZARD MITIGATION ACTION PLAN

Table 14-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 14-15 identifies the priority for each action. Table 14-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 14-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action PAC-1</b>—Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.</p> <p><u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Wildfire, Sea Level Rise</p>						
Existing	6, 8, 13	Pacifica		High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short term
<p><b>Action PAC-2</b>— Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the General Plan and the Local Coastal Land Use Plan.</p> <p><u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Drought, Sea Level Rise</p>						
New and Existing	1, 2, 3, 4, 6, 9, 10	Pacifica	California Coastal Commission	Low	Staff Time, General Funds	Short Term
<p><b>Action PAC-3</b>—Actively participate in the plan maintenance protocols and support the County-wide initiatives outlined in Volume 1 of this hazard mitigation plan.</p> <p><u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Drought, Wildfire, Sea Level Rise</p>						
New and Existing	2, 6, 12	Pacifica	San Mateo County	Low	Staff Time, General Funds	Short term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action PAC-4</b>—Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:</p> <ul style="list-style-type: none"> <li>Enforce the flood damage prevention ordinance.</li> <li>Participate in floodplain identification and mapping updates.</li> <li>Provide public assistance/information on floodplain requirements and impacts.</li> </ul> <p><u>Hazards Mitigated:</u> Flood</p>						
New and Existing	1, 2, 7, 8, 10, 13	Pacifica		Low	Staff Time, General Funds	Short Term
<p><b>Action PAC-5</b>—Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:</p> <ul style="list-style-type: none"> <li>Sea Level Rise Vulnerability Assessment</li> <li>Pursue strategies outlined in Local Coastal Program</li> <li>Inclusion of climate change within infrastructure planning (Wastewater, water, stormwater, etc.)</li> </ul> <p><u>Hazards Mitigated:</u> Flood, Wildfire, Sea Level Rise</p>						
New and Existing	1, 6, 7, 8, 9, 12, 14	Pacifica	FSLRRD	Low	Staff Time, General Funds	Long Term
<p><b>Action PAC-6</b>—Purchase generators for critical facilities and infrastructure that lack adequate backup power, including Skyridge pump station generator (replacement), EQ Basin backup generator (new), CCWRP (replacement), communications antennas/ repeaters for public safety communications, and multiple tow behind generators (new) to be used as needed.</p> <p><u>Hazards Mitigated:</u> Earthquake, Flood, Landslide/Mass Movements, Severe weather, Tsunami, Wildfire</p>						
Existing	7, 8, 9	Pacifica		Medium	Staff time, general funds, Grant Funding	Short term
<p><b>Action PAC-7</b>—Pacifica will build infrastructure to accommodate increases in low impact flooding to mitigate impacts from expected increases in incidents of shallow flooding.</p> <p><u>Hazards Mitigated:</u> Flood</p>						
Existing	1, 3, 6, 8, 14	Pacifica		Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General fund	Medium Term
<p><b>Action PAC-8</b>—Pacifica will be conducting an update of its Emergency Operations Plan to ensure an effective and coordinated response to disasters within the city.</p> <p><u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Drought, Wildfire, Sea Level Rise</p>						
New and Existing	1, 2, 7, 11, 12	Pacifica		Low	Staff time, General Fund	Short Term
<p><b>Action PAC-9</b>—Pacifica will pursue opportunities to preserve and protect critical transportation infrastructure (including Beach Blvd.) to mitigate against isolation, economic loss and ensure public safety.</p> <p><u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Wildfire, Sea Level Rise</p>						
New and Existing	1, 2, 3, 4, 5, 6, 8, 10, 13	Pacifica	FSLRRD	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short Term
<p><b>Action PAC-10</b>—Pacifica will seek to replace/upgrade its seismically-vulnerable facilities to ensure provision of vital services following a hazard event.</p> <p><u>Hazards Mitigated:</u> Earthquake</p>						
Existing	1, 4, 6, 8, 9, 13	Pacifica		High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), bonds, General fund	Medium Term
<p><b>Action PAC-11</b>—Pacifica will preserve, protect, or relocate hazard prone infrastructure to maintain critical services and maintain the environment.</p> <p><u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Wildfire, Sea Level Rise</p>						
Existing	1, 2, 3, 6, 7, 8, 13, 14	Pacifica		High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), bonds, General fund	Long Term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action PAC-12</b> —Pacifica will develop and deliver business outreach programs to mitigate against the functional loss of community businesses and promote business resiliency.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Drought, Wildfire						
New and Existing	1, 2, 3, 5, 7, 8	Pacifica		Low	Staff time	Short Term
<b>Action PAC-13</b> —Pacifica will work with contiguous and neighboring utility districts to develop its use of recycled water for irrigation and non-potable uses to reduce reliance on potable water during periods of drought.						
<u>Hazards Mitigated:</u> .Drought						
Existing	1, 2, 6, 7, 8, 10	Pacifica		Medium	General fund, Staff time	Short Term
<b>Action PAC-14</b> —Pacifica will continue to do public education outreach to our neighborhoods using the “Map Your Neighborhood” tool to ensure communities can take care of themselves and those who live around them during a disaster event. Work with the Neighborhood Associations Utilize CERT members to assist in this outreach Identify those homes within the neighborhoods that have vulnerable or isolated populations living in them Utilize Social Media and Emergency Alert Systems to communicate preparedness and emergency messaging						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Wildfire						
Existing	1, 2, 3, 5, 7, 8, 9, 10	Pacifica		Low	Staff time, General fund	Long Term
<b>Action PAC-15</b> —Maintain status or consider participation in incentive-based programs such as the Community Rating System and StormReady.						
<u>Hazards Mitigated:</u> Flood, Severe weather, Wildfire						
Existing	1, 2, 4, 8, 9, 14	Pacifica		Medium	Staff Time	Long Term
<b>Action PAC-16</b> —Where feasible, implement a program to record high water marks following high-water events.						
<u>Hazards Mitigated:</u> Flood, Climate Change						
Existing	1, 2, 5, 6, 8	Pacifica		Low	Staff Time	Long Term
<b>Action PAC-17</b> —Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Climate Change, Flood, Tsunami, Wildfire						
New	1, 2, 3, 4, 5, 6, 8, 9, 13	Pacifica		Low	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short Term
<b>Action PAC-18</b> — Evaluate potential wildfire risk and mitigation strategies.						
<u>Hazards Mitigated:</u> Wildfire						
New	1, 2, 5, 7, 8, 9, 11	Pacifica	North County Fire	High	Grant Funding-FEMA HMA (BRIC, FMA , FMAG and HMGP)	Long Term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 14-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	3	High	High	Yes	Yes	No	Medium	High
2	7	Medium	Low	Yes	No	Yes	High	Low
3	3	Low	Low	Yes	No	Yes	High	Low
4	6	Medium	Low	Yes	No	Yes	High	Low
5	7	Medium	Low	Yes	No	Yes	Low	Low
6	3	High	Medium	Yes	Yes	No	Medium	High
7	5	High	Medium	Yes	Yes	No	Medium	High
8	5	Medium	Low	Yes	No	Yes	High	Low
9	9	Medium	High	No	Yes	No	Low	High
10	6	Medium	High	No	Yes	No	Low	Medium
11	8	Medium	Medium	Yes	Yes	No	Low	Medium
12	6	Medium	Low	Yes	No	Yes	High	Low
13	6	Medium	Medium	Yes	No	Yes	High	Low
14	8	Medium	Low	Yes	No	Yes	Low	Low
15	6	Medium	Low	Yes	No	Yes	Low	Low
16	5	Low	Medium	No	No	Yes	Low	Low
17	9	Medium	High	No	Yes	No	Low	Low
18	7	Medium	High	No	Yes	No	Low	High

a. See the introduction to this volume for explanation of priorities.

**Table 14-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Land Slide/ Mass Movement	PAC-1,3	PAC-1, 2, 4	PAC-12, 14	PAC-1, 2, 4, 5, 7	PAC-6, 8	PAC-1, 9, 11, 17	PAC-5, 7	PAC-14
Sea Level Rise / Climate Change	PAC-3	PAC-2, 4	PAC-12, 13, 14	PAC-1, 4, 5, 7, 13	PAC-6, 8	PAC-1, 9, 11, 17	PAC-5, 7	PAC-14, 15
Flood	PAC-1, 3	PAC-2, 4, 16	PAC-12, 14, 16	PAC-1, 2, 4, 5, 7	PAC-6, 8, 16	PAC-1, 9, 11, 17	PAC-5, 7, 16	PAC-14, 15, 16
Earthquake	PAC-1, 3, 10	PAC-10	PAC-10, 12, 14	PAC-10	PAC-6, 8, 10	PAC-1, 9, 10, 11, 17	PAC-10	PAC-10, 14, 15
<b>Medium-Risk Hazards</b>								
Severe weather	PAC-1, 3	PAC-4	PAC-12, 14	PAC-5, 7	PAC-6, 8	PAC-1, 9, 11, 17	PAC-5, 7	PAC-14, 15
Tsunami	PAC-1, 3	PAC-4	PAC-12, 14	PAC-1, 7	PAC-6, 8	PAC-1, 9, 11, 17	PAC-7, 16	PAC-14, 15
Wildfire	PAC-1, 3, 18	PAC-18	PAC-12, 14, 18	PAC-18	PAC-6, 8, 18	PAC-1, 9, 11, 17	PAC-5, 18	PAC-14, 15, 18



Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
Low-Risk Hazards								
Drought	PAC-3	PAC-13	PAC-12, 13, 14	PAC-4, 13	PAC-6, 8	PAC-11, 17	PAC-5	PAC-13, 14
Dam Failure	-	-	-	-	-	-	-	-

a. See the introduction to this volume for explanation of mitigation types.

## 14.9 PUBLIC OUTREACH

Table 14-17 lists public outreach activities for this jurisdiction.

Local Outreach Activity	Date	Number of People Involved
General Plan and Local Coastal Program Update Outreach To Emergency Preparedness & Safety Commission Regarding Safety Element and Natural Hazards Chapter	8/21/2019	12
Survey For LHMP Update Distributed Using Nextdoor, Facebook, CERT Email Distribution List	7/7/2021	90

## 14.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City of Pacifica Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **City of Pacifica Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **1980 General Plan, Safety & Seismic Safety Element** referenced for hazard information.
- **1980 Local Coastal Land Use Plan**, referenced for hazard information.
- **Draft General Plan**, referenced for hazard information.
- **Certification Draft Local Coastal Land Use Plan**, referenced for hazard information

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## 14.11 ADDITIONAL COMMENTS

In the Hazard Risk Ranking, the risk of Wildfire for the City of Pacifica was determined to be “Medium Risk.” Devastating wildfires across the state in recent years, including the CZU Complex Fire on the southern San Mateo

County coastsides in 2020, have generated interest in the community about the wildfire risk in Pacifica. This has resulted in an action item being created for this hazard, to reflect the potential risk of wildfire in Pacifica.


The Hazard Risk Ranking also lists Dam Failure as one of the hazards assessed. This hazard is not applicable to the City of Pacifica and is not addressed in this annex. There is significant distance between the City of Pacifica and the closest dam. Although dam failure elsewhere in the County may have substantial impact on the bay side of San Mateo County, it is improbable there would be any impact to the City.

The City of Pacifica will actively participate in the plan maintenance strategy identified in this plan



# Pacifica

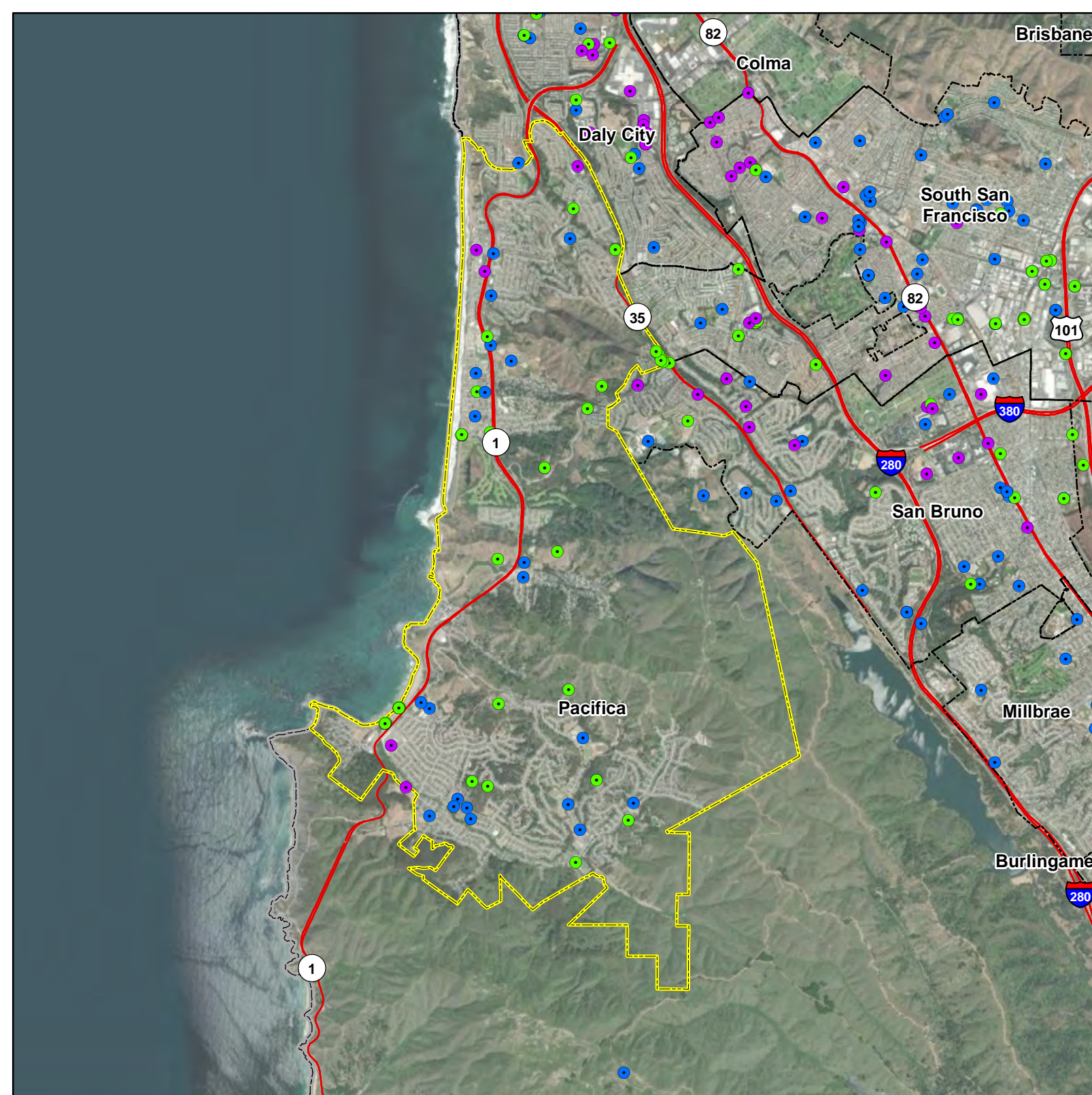
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



0 0.4 0.8 1.6  
Miles





# Pacifica

## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.4 0.8 1.6 Miles





# Pacifica

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










0 0.4 0.8 1.6  
Miles



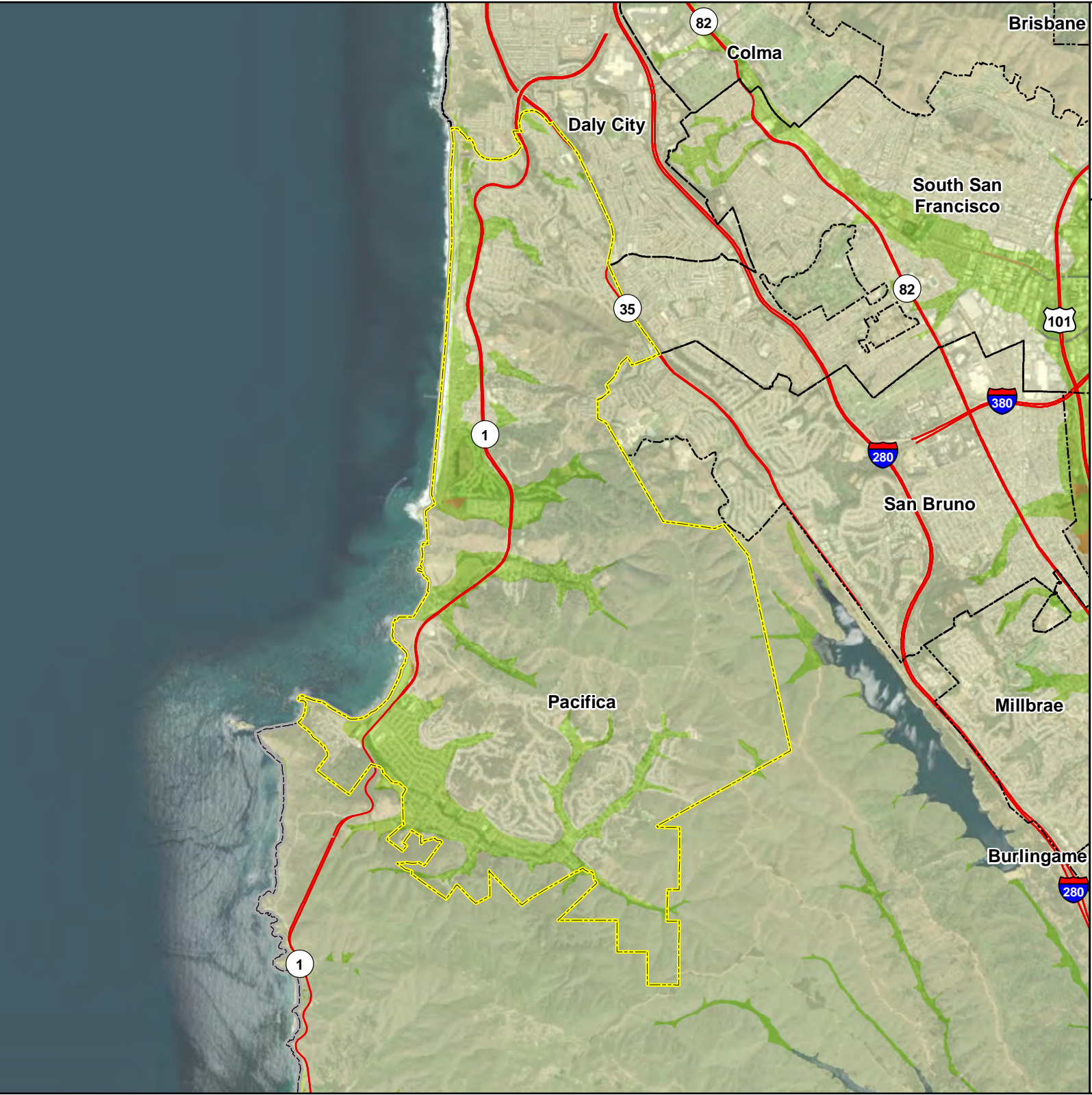
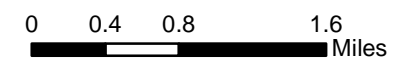


# Pacifica

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

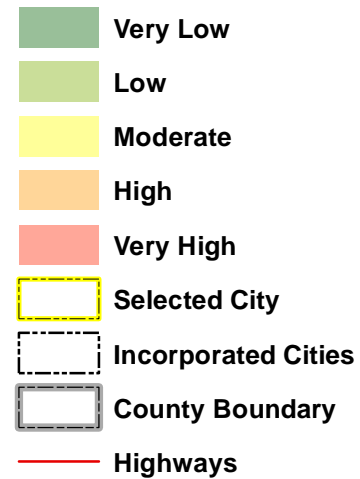
Data Sources: ESRI Basemap,  
San Mateo Co., CGS



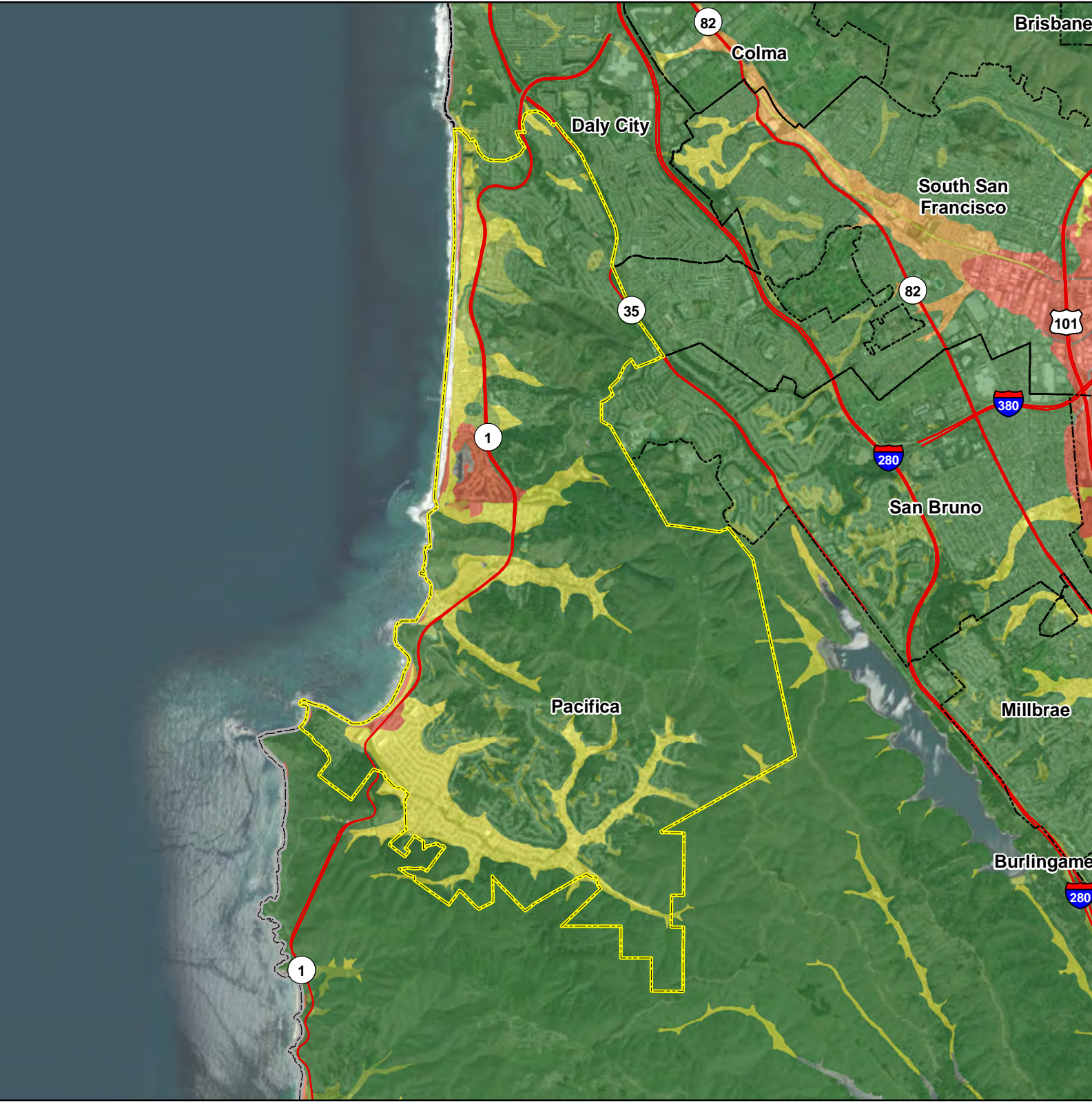
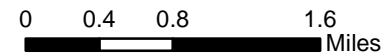


# Pacifica

## Liquefaction Susceptibility



Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)





# Pacifica

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

 V (Moderate/Very Light)

 VI (Strong/Light)

 Selected City

 Incorporated Cities


 County Boundary

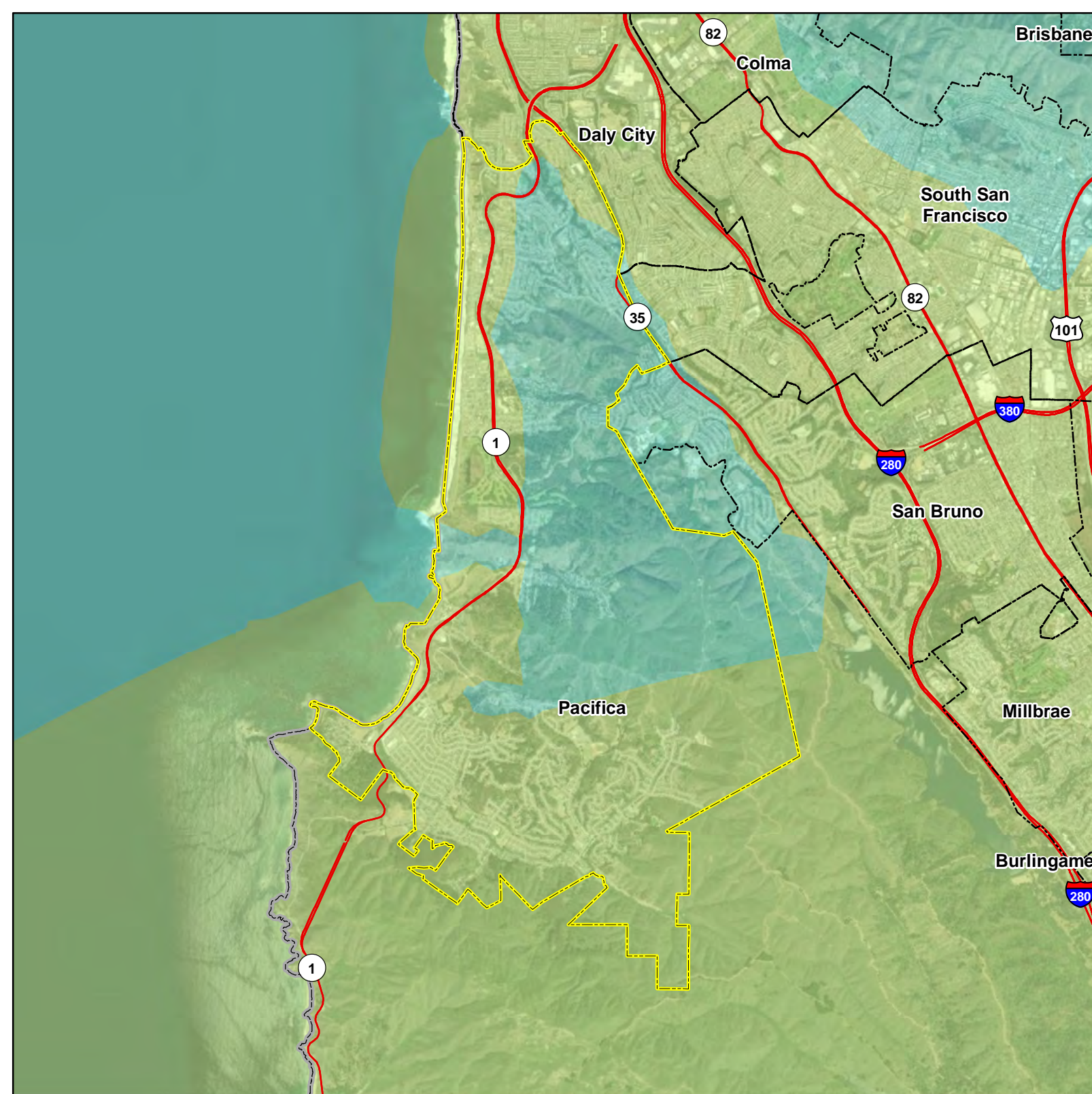
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.4 0.8 1.6  
 Miles





# Pacifica

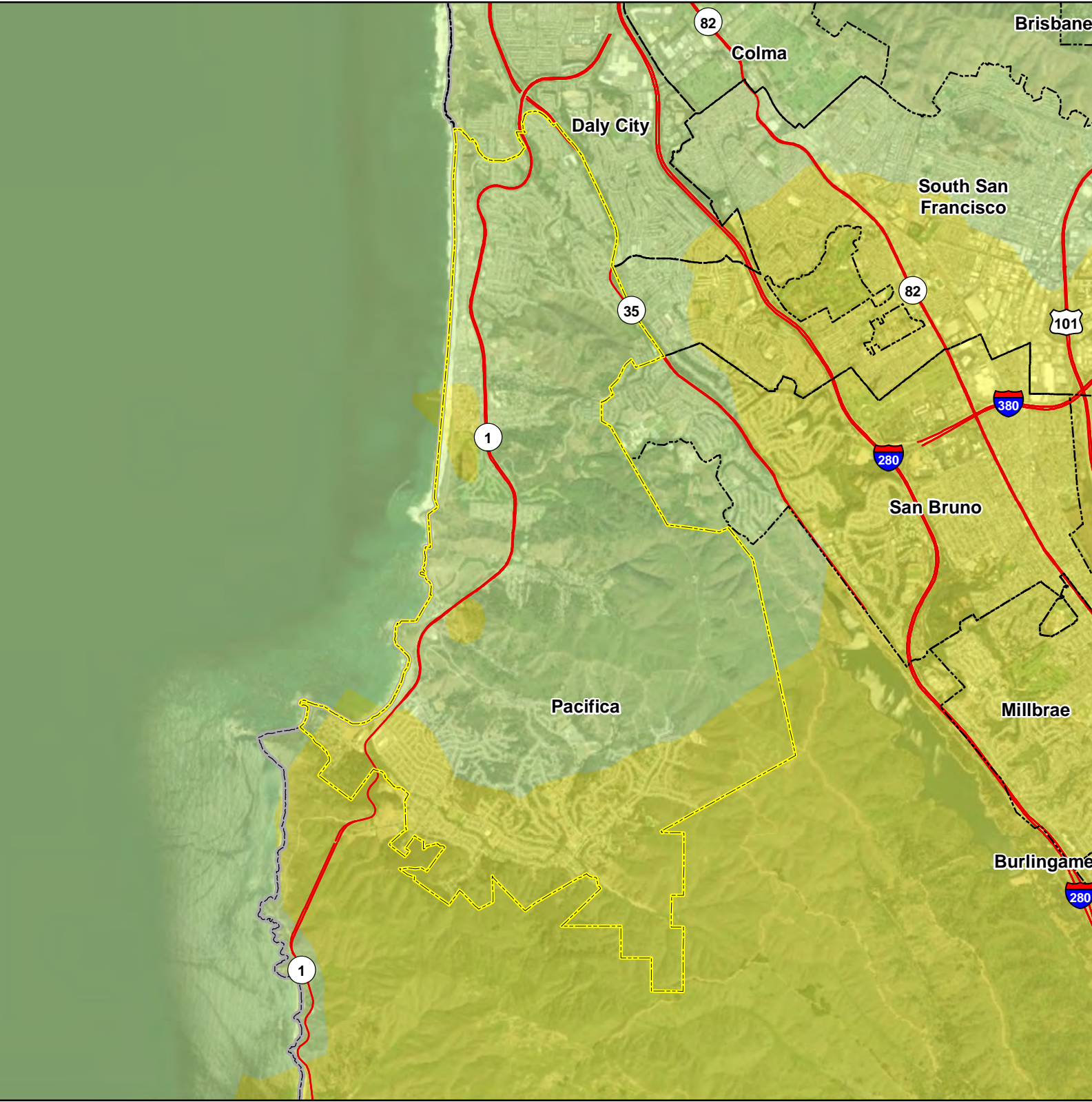
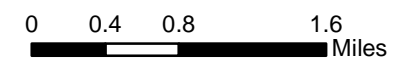
## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Pacifica

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities


 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.4 0.8 1.6  
 Miles







# Pacifica

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

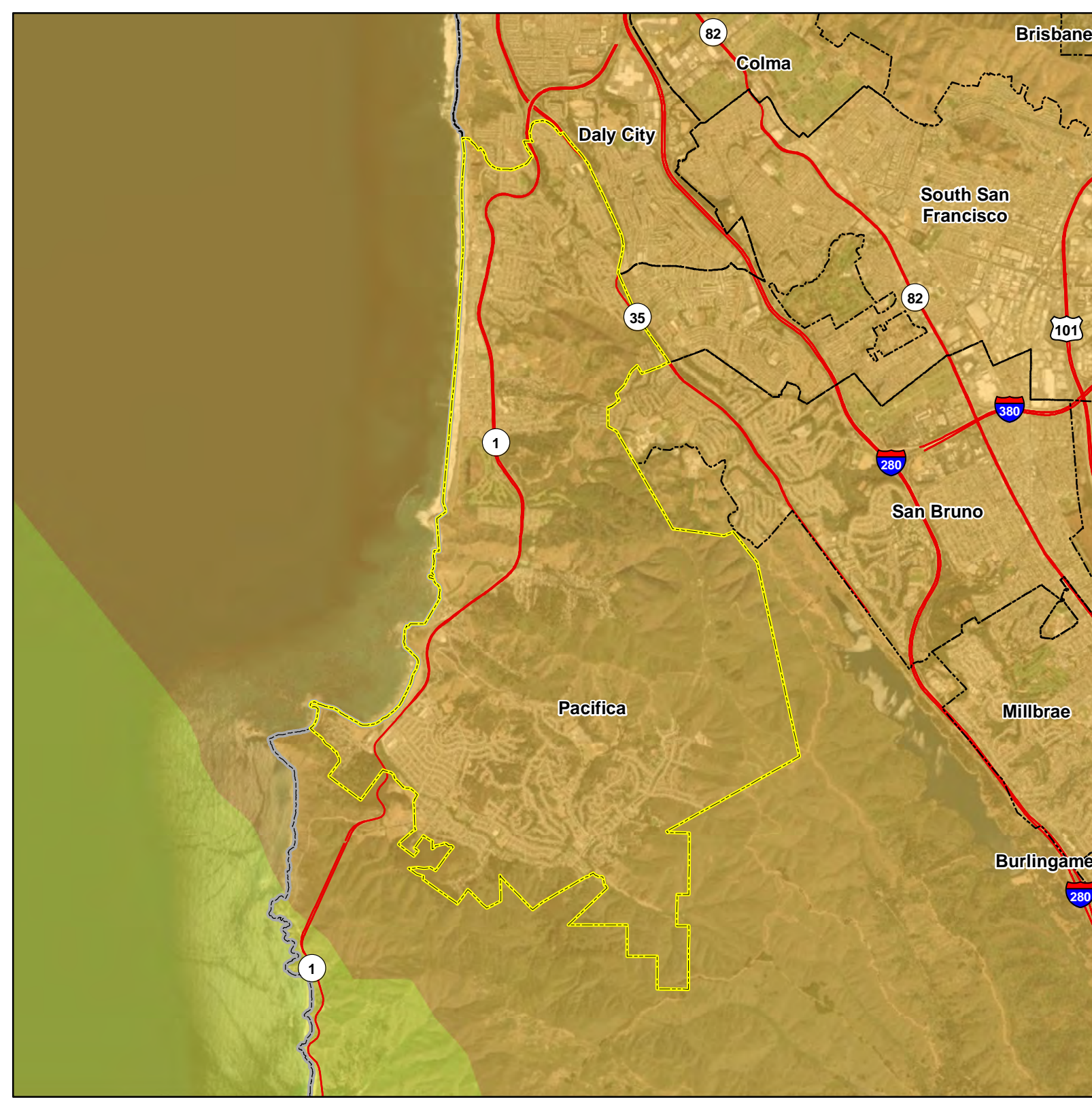
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.4 0.8 1.6  
Miles








# Pacifica

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

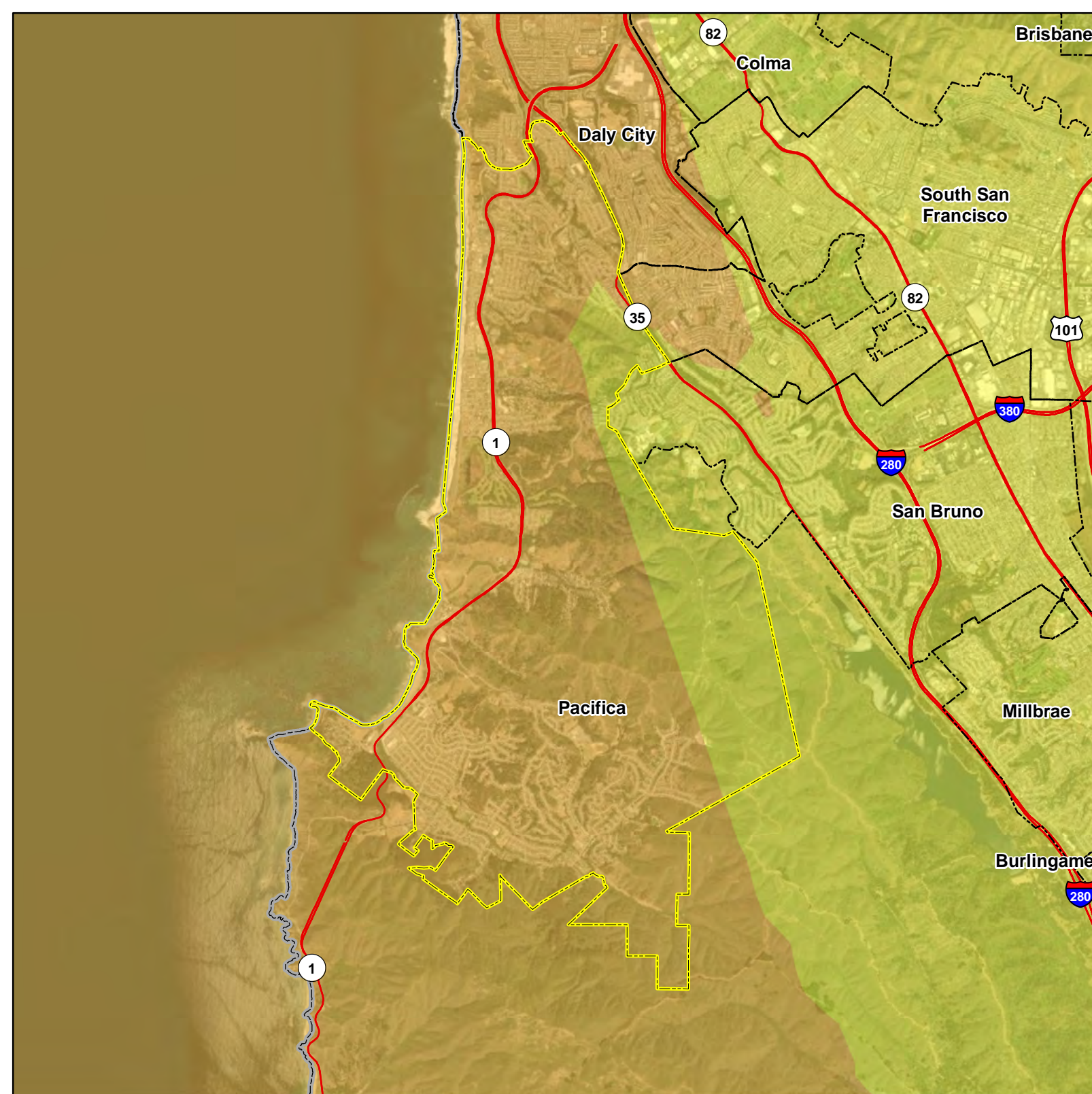
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.4 0.8 1.6  
Miles





# Pacifica

## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA



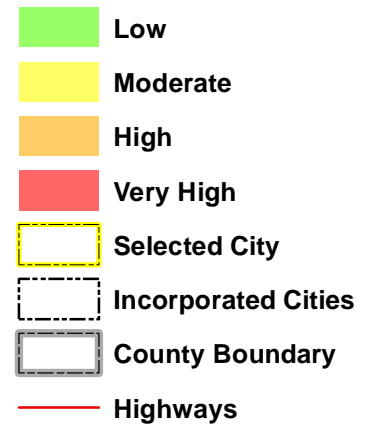
0 0.4 0.8 1.6 Miles



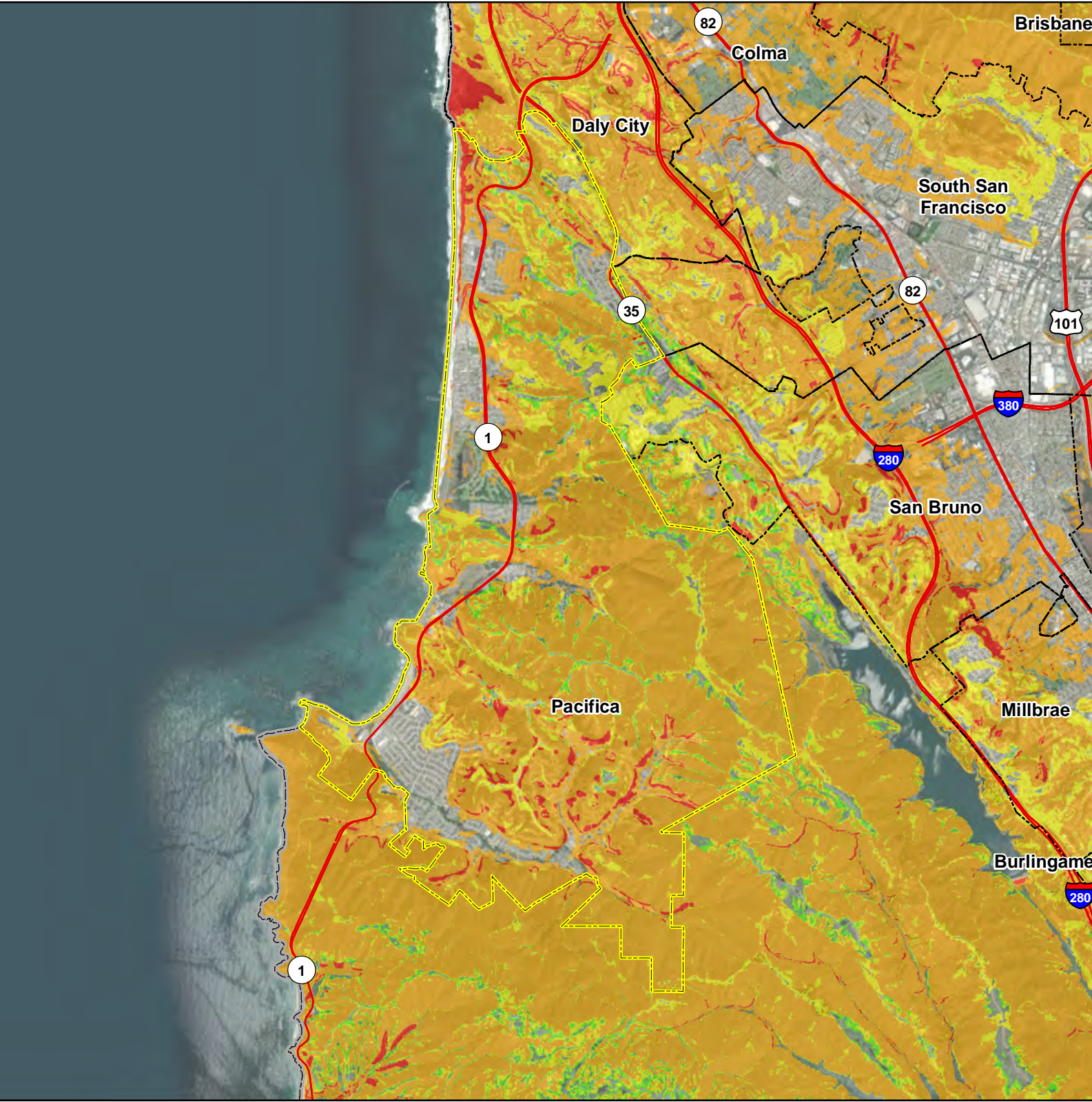
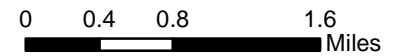


# Pacifica

## Susceptibility to Deep-Seated Landslides








Data Sources: ESRI Basemap, San Mateo Co., CGS





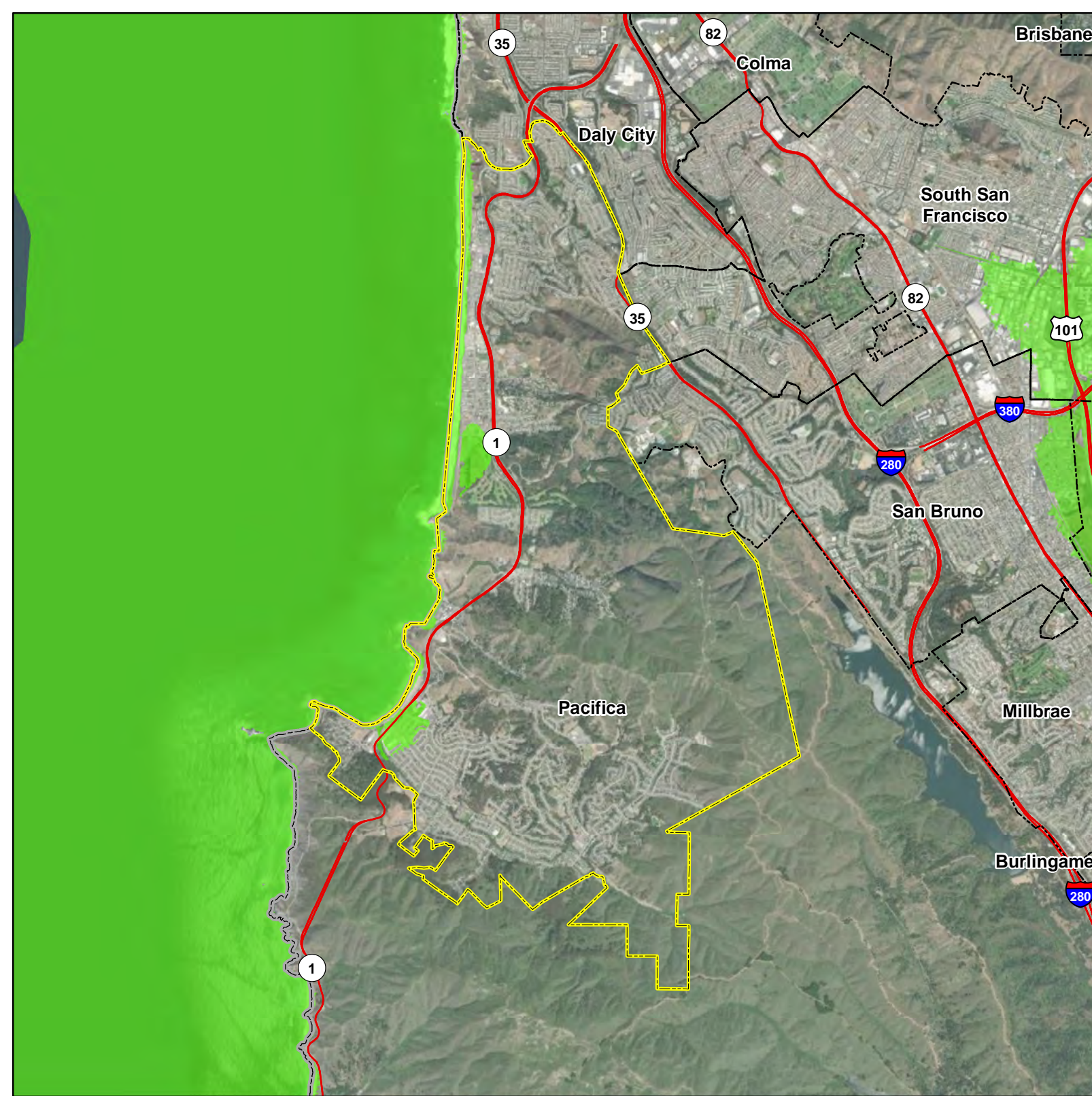
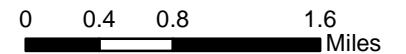
# Pacifica

## Sea Level Rise

-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.






Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF





# Pacifica

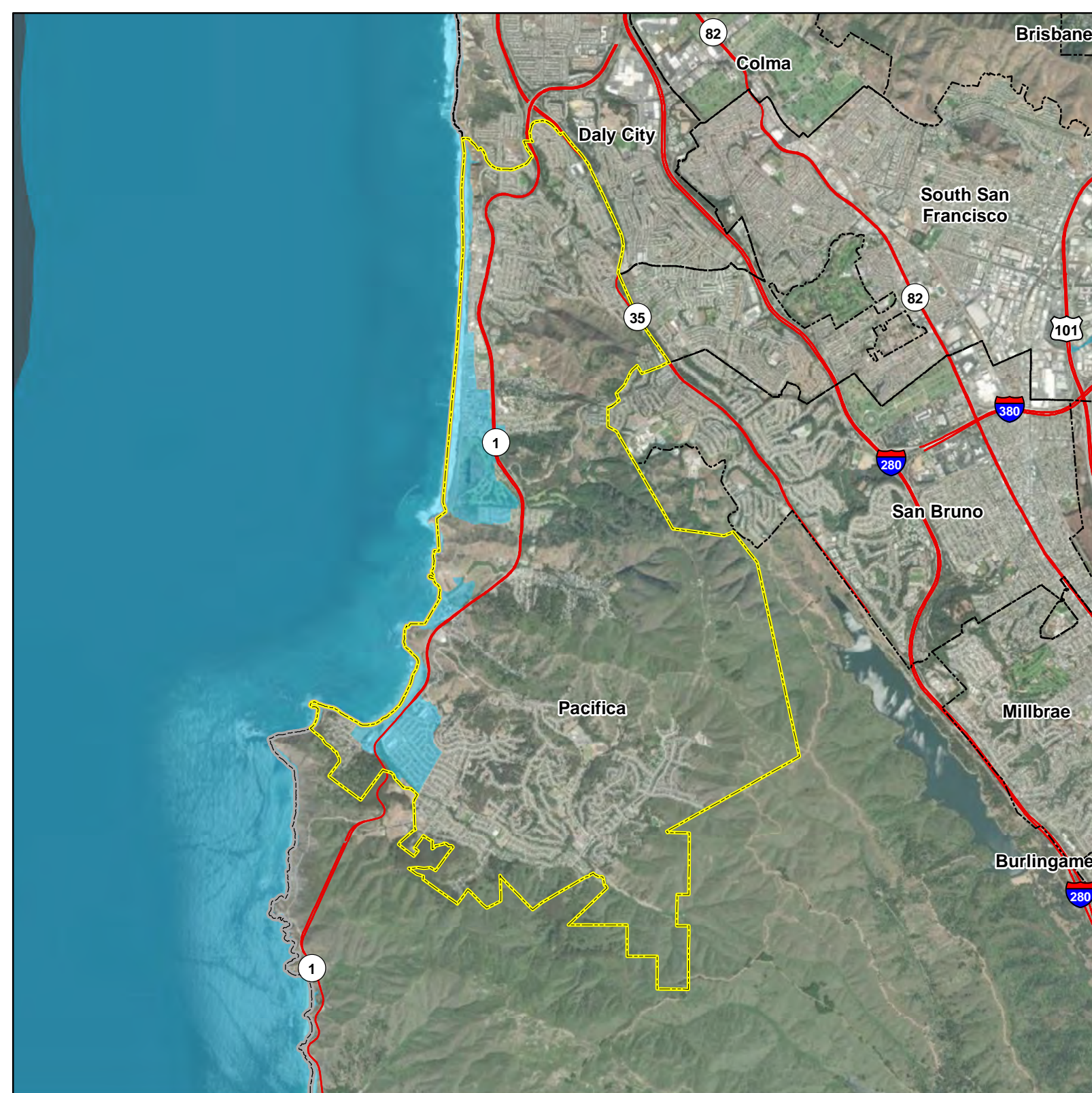
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.4 0.8 1.6  
Miles





# 15. TOWN OF PORTOLA VALLEY

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## 15.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Jeremy Dennis, Town Manager  
765 Portola Road  
Portola Valley, CA 94028  
650-851-1700 X215  
jdennis@portolavalley.net

### Alternate Point of Contact

Brandi de Garmeaux, Assistant to the Town Manager  
765 Portola Road  
Portola Valley, CA 94028  
650-851-1700  
bdegarmeaux@portolavalley.net

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 15-1.

**Table 15-1. Local Mitigation Planning Team Members**

Name	Title
Jeremy Dennis	Town Manager
Brandi de Garmeaux	Assistant to the Town Manager
Howard Young	Public Works Director
Laura Russell	Planning and Building Director

## 15.2 JURISDICTION PROFILE

### 15.2.1 Location and Features

The Town of Portola Valley is a small, rural residential municipality located in San Mateo County. Surrounded by wooded hills, this pristine and picturesque town encompasses approximately ten square miles and is bounded by the Town of Woodside, Unincorporated Stanford lands, unincorporated areas along the Skyline area and the County boundary at Los Trancos Creek. The Town is bisected by the San Andreas Fault Zone which is made up of a number of individual fault traces. An extensive trail system, scenic roads, open space, and natural views contribute to one's feeling of being in the country. Commercial activity is encouraged to the extent that it primarily meets needs of residents of the community. These factors have enabled the town to retain a rural ambiance reminiscent of earlier days.

Weather in Portola Valley is usually mild during most of the year. Summers are dry and can be hot; winter temperatures rarely dip much below freezing. Average January temperatures are a maximum of 60 degrees F and a minimum of 36 degrees F. Average July temperatures are a maximum of 88 degrees F and a minimum of 51 degrees F. The average annual precipitation is 21 inches.

## 15.2.2 History

Named for Spanish explorer Gaspar de Portolá, who led the first party of Europeans to explore the San Francisco Peninsula in 1769, Portola Valley was originally part of the 13,000 acre Rancho el Corte de Madera granted to Maximo Martinez by the Mexican government. The origins of the modern town of Portola Valley are in the little logging town of Searsville that stood along Sand Hill Road from the 1850s until 1891. It offered services for the men who came to cut the redwoods for the post gold rush building boom. By the dawn of the twentieth century, Searsville had been abandoned, and a reservoir, known today as Searsville Lake, had been created. The area became a place of small farms and large estates. Immigrants from Ireland, Portugal, Croatia, Italy, China, the Philippines, Chile, and Germany joined the Californios to raise strawberries, herd cattle and cut firewood. The large landowners came from San Francisco to escape the summer fog. A few were year-round residents. In response to fast-paced residential development after World War II, Portola Valley residents voted to incorporate in order to have local control over development with the goals of preserving the beauty of the land, fostering lower density housing, keeping government costs low through volunteerism, and limiting services to those necessary for local residents.

## 15.2.3 Governing Body Format

Portola Valley is a general law city with five elected council members. The Council selects the Mayor and appoints the Town Manager and Town Attorney. The Town employs 15 full-time employees, contracts for police services with the County of San Mateo Sheriff's Office and receives fire services from the Woodside Fire Protection District.

The Council is responsible for adopting the plan; the Town Manager is responsible for overseeing its implementation.

## 15.3 CURRENT TRENDS

### 15.3.1 Population

According to the California Department of Finance, the population of Portola Valley as of January 2020 was 4,607. Since 2010, the Town's population has grown by approximately 5%, which is not a function of increased housing (see below).

### 15.3.2 Development

The Town's current zoning supports single family resident construction, with second units as allowed by state and local law. Housing development is almost exclusively from the tear down and rebuild of homes, with an occasional subdivision that creates a few new lots for a new home. Multifamily housing is supported by the Affiliated Housing Program in the Housing Element, which allows certain institutions to build multifamily housing for their employees. Only one of the five current partners has built housing.

Over the next two years, the Town will update its Housing Element, with consideration of 253 new housing units to be planned for.

Identifying previous and future development trends is achieved through a comprehensive review of permitting since completion of the previous plan and in anticipation of future development. Tracking previous and future



growth in potential hazard areas provides an overview of increased exposure to a hazard within a community. Table 15-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 15-2. Recent and Expected Future Development Trends**

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes  Stanford University has proposed a housing development of 27 units of faculty housing units and 12 units of low income housing on land owned by the University. The formal entitlement process began in 2019.
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan? (table does not include second units, which average about 10/year)	
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<p>The Town exists in a region susceptible to wildfires. While the Town has not formally adopted any special designations for its lands related to wildfire, such as very high fire severity zones, areas of the Town do have areas of flora that are considered higher risk. The entire town utilized Building Code 7A, beyond the requirements of areas not in certain fire severity zones, and all properties are under the jurisdictions of the Woodside Fire Protection District that contacts residents on an annual basis to reduce vegetation prone to wildfire risk on their private properties.</p> <p>The Town is also bisected by the San Andreas Fault and associated fault systems. Construction on faults is prohibited, per Town Code.</p> <p>Localized flooding and landslide areas exist within town limits, and development in areas that may be affected by such hazards are managed by the Town's code.</p>
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	The Town does not currently zone for multifamily housing, except for partners in the Affiliated Housing Program that allows certain landowners/institutions to build housing for their employees. Additional units, per the Affiliated Housing Program, are available on multiple sites in Town. Additionally, the Housing Element shall be updated for implementation by 2023, and with the increase of units for the Town to plan for will likely require rezoning efforts.

## 15.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 15-3.
- Development and permitting capabilities are presented in Table 15-4.
- An assessment of fiscal capabilities is presented in Table 15-5.
- An assessment of administrative and technical capabilities is presented in Table 15-6.
- An assessment of education and outreach capabilities is presented in Table 15-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 15-8.
- Classifications under various community mitigation programs are presented in Table 15-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 15-10.

**Table 15-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	Yes	Yes	Yes
<p><i>Comment:</i> Title 15, Portola Valley Municipal Code                      (Ord. 2019-434 § 2, 2019; Ord. 2016-413 § 2, 2016; Ord. 2013-400, § 1, 2013; Ord. 2010-388 § 1, 2010; Ord. 2009-377 § 1, 2009; Ord. 2008-373 § 1, 2008; Ord. 2003-348 § 1 (part), 2003; Ord. 1999-321 § 1 (part), 1999)                      Resolution 2820-2020 ratifying Woodside Fire Protection District Ord. 12 and expanding Fire Code 7A (standards applicable to WUI) town-wide, 2020.                      Other Jurisdiction Authority: Chapter 15.16 Woodside Fire Protection District administers the Fire Code                      State Mandated: California Building Codes required by state; Department of Water Resources, Water Efficient Landscape Ordinance Portola Valley Municipal Code 15.32, and Indoor Conservation Ordinance (Portola Valley Municipal Code (PVMC) Section 15.30)</p>				
<b>Zoning Code</b>	Yes	No	No	Yes
<p><i>Comment:</i> Title 18, Portola Valley Municipal Code                      (Ord. 1994-279 § 2 (part), 1994; Ord. 1994-276 § 4 Exh. A (part), 1994; Ord. 1988-242 § 2 Exh. A (part), 1988; Ord. 1987-219 § 3, 1987; Ord. 1986-210 § 2, 1986; Ord. 1981-185 § 1, 1981; Ord. 1967-80 § 1 (6912.1), 1967; Ord. 2001-338 § 8 (part), 2001)</p>				
<b>Subdivisions</b>	Yes	No	Yes	Yes
<p><i>Comment:</i> Title 17, Portola Valley Municipal Code                      (Ord. 1994-276 § 3 (part), 1994; Ord. 1988-230 § 3 (Exh. B) (part), 1988; (Ord. 1985-209 § 5 (part), 1985) (Ord. 1979-168 § 1 (part), 1979; Ord. 1967-71 § 1 (7610.2), 1967)                      State Mandated: Subdivision Map Act</p>				



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Stormwater Management</b> <i>Comment: Chapter 8.28 "Stormwater Management and Discharge Control" (Ord. 1998-308 § 2 (part), 1998) Other Jurisdiction Authority: Regional Water Quality Control Board State Mandated: Water Resources Board, Clean Water Act</i>	Yes	Yes	Yes	Yes
<b>Post-Disaster Recovery</b> <i>Comment: Chapter 15.28 "Disaster Repair and Reconstruction" (Ord. 1999-317 § 3 (part), 1999) Chapter 15.26 "Post-Disaster Demolition", Chapter 15.24, "Post Disaster Safety Assessment Placards", Chapter 15.28 Disaster Repair and Reconstruction" (Ord. 1999-317 § 2 (part), 1999)</i>	Yes	/No	No	Yes
<b>Real Estate Disclosure</b> <i>Comment: Chapter 15.08, Ord. 1970.100 "Residential Data Reports" (Ord. 1978-163 § 1, 1978; Ord. 1975-138 § 1, 1975; Ord. 1970-100§ 4, 1970)</i>	Yes	No	No	Yes
<b>Growth Management</b> <i>Comment: Title 18, Zoning, Portola Valley Municipal Code (Ord. 1994-279 § 2 (part), 1994; Ord. 1994-276 § 4 Exh. A (part), 1994; Ord. 1988-242 § 2 Exh. A (part), 1988; Ord. 1987-219 § 3, 1987; Ord. 1986-210 § 2, 1986; Ord. 1981-185 § 1, 1981; Ord. 1967-80 § 1 (6912.1), 1967; Ord. 2001-338 § 8 (part), 2001)</i>	Yes	No	No	Yes
<b>Site Plan Review</b> <i>Comment: Chapter 18.64 "Architectural and Site Plan Review" (Ord. 2015-407 § 1, 2015; Ord. 1994-279 § 2 (part), 1994; Ord. 1994-276 § 4 Exh. A (part), 1994; Ord. 1988-242 § 2 Exh. A (part), 1988; Ord. 1987-219 § 3, 1987; Ord. 1986-210 § 2, 1986; Ord. 1981-185 § 1, 1981; Ord. 1967-80 § 1 (6912.1), 1967; Ord. 2001-338 § 8 (part), 2001)</i>	Yes	No	No	Yes
<b>Environmental Protection</b> <i>Comment: Site Development and Tree Protection PVMC Chapter 15.12 (Ord. 1988-230 § 1, 1988; Ord. 1984-201 § 1 (7100), 1984) 15.22 Electric Vehicle Charging Systems (Ord. 1988-230 § 1, 1988; Ord. 1984-201 § 1 (7100), 1984) Green Building Ordinance, PVMC Chapter 15.10 (Ord. 2017-414, § 2, adopted Jan. 11, 2017) Sustainability Element, Portola Valley General Plan January 28, 2009 State Mandated: California Energy Commission approved Green Building Ordinance</i>	Yes	Yes	Yes	Yes
<b>Flood Damage Prevention</b> <i>Comment: Chapter 18.32 "F-P (Floodplain) Combining District Regulations" (Ord. 2005-358, § 1, 2005)</i>	Yes	Yes	Yes	Yes
<b>Emergency Management</b> <i>Comment: Chapter 2.24 "Emergency Organization and Protection" (Ord. 2017-416 § 1, 2017)</i>	Yes	No	No	Yes
<b>Climate Change</b> <i>Comment: Sustainability Element, Portola Valley General Plan January 28, 2009</i>	Yes	Yes	No	Yes
<b>Other</b> <i>Comment: Chapter 8.34 "Red Flag Warning/Spare the Air Days Restrictions" (Ord. 2021-437 § 1, 2021) Chapter 8.32 Leaf Blower Use (Ord. 2019-428, § 1, 2019)</i>	Yes	No	No	Yes

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
General Plan	Yes	No	Yes	Yes
<i>Is the plan compliant with Assembly Bill 2140? Yes</i>				
<i>Comment: The town has a comprehensive Safety Element which discusses major potential safety issues and mitigations</i>				
Capital Improvement Plan	Yes	No	No	Yes
<i>How often is the plan updated? Annually</i>				
<i>Comment: The Town's CIP regularly contains projects that support hazard mitigation.</i>				
Disaster Debris Management Plan	No	No	Yes	Yes
<i>Comment: Provisions incorporated into waste collection franchise agreement</i>				
Floodplain or Watershed Plan	Yes	Yes/No	Yes	Yes
<i>Comment: PVMC Section 18.32 Floodplain Overlay – regulates development in floodplains</i>				
<i>PVMC Section 18.56 Impervious Surface and Landscaping</i>				
<i>PVMC Section 18.59 Creek Setbacks</i>				
<i>Safety Element, Portola Valley General Plan; Chapter 18.32 "F-P (Floodplain) Combining District Regulations; no adopted management plan</i>				
<i>July 28, 2010</i>				
Stormwater Plan	No	No	No	Yes
<i>Comment: Stormwater Requirements as part of single family home construction; no Plan</i>				
Urban Water Management Plan	No	Yes	Yes	No
<i>Comment: n/a; not a water purveyor</i>				
Habitat Conservation Plan	Yes	No	No	Yes
<i>Comment: Conservation Element in General Plan, May 25, 2011</i>				
Economic Development Plan	No	No	No	No
<i>Comment: None</i>				
Shoreline Management Plan	No	No	No	No
<i>Comment: N/A</i>				
Community Wildfire Protection Plan	No	CAL FIRE	No	Yes
<i>Comment: Fuels Assessment adopted in 2009, Community Wildfire Protection Plan as part of the San Mateo County Plan amended in 2018</i>				
Forest Management Plan	No	No	No	No
<i>Comment: None</i>				
Climate Action Plan	Yes	No	Yes	Yes
<i>Comment: Planning has begun -- late 2022 completion anticipated</i>				
Emergency Operations Plan	Yes	Yes	No	Yes
<i>Comment: Town adopted an Emergency Operations Plan in 2017</i>				
Threat & Hazard Identification & Risk Assessment (THIRA)	No	No	No	Yes
<i>Comment: Expected to be included in Safety Element update scheduled for 2022-23</i>				
Post-Disaster Recovery Plan	No	No	No	Yes
<i>Comment: Elements included in Emergency Operations Plan</i>				
Continuity of Operations Plan	No	No	No	Yes
<i>Comment: Town adopted an Emergency Operations Plan in 2017</i>				
Public Health Plan	No	Yes	No	No
<i>Comment: None</i>				
Other	Yes	No	No	Yes
<i>Comment: Resolution No. 2746-2017 regarding land use policies for areas of ground movement.</i>				



**Table 15-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Planning and Building and Engineering
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No – to be included in Housing Element Update

**Table 15-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes, Utility User Tax
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	No current
Development Impact Fees for Homebuyers or Developers	Yes

**Table 15-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Planning and Public Works Department; Planning Director and Public Works Director
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works Department; PW Director
Planners or engineers with an understanding of natural hazards	Yes	Planning and Public Works Department; Planning Director and Public Works Director
Staff with training in benefit/cost analysis	Yes	Town Administration
Surveyors	Yes	Public Works Department and Consultant basis; PW Director
Personnel skilled or trained in GIS applications	Yes	Planning Department; Planning Director
Scientist familiar with natural hazards in local area	Yes	Town Geologist, Geologic Committee
Emergency manager	Yes	Town Manager
Grant writers	Yes	Town Administration and Public Works Department; Sustainability Manager and PW Director
Other – Volunteers for Emergency Operations Center and CERPP	Yes	Town Administration; WFPD

**Table 15-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Safety Element; Wildland Fire Mitigation information; Flood, Earthquake and Landslide Information
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes On community list serves, Town News, Emergency Committee information
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes Emergency Preparedness, Wildfire Preparedness and Public Works Committees
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes SMC Alert, Rapid Notify, and EPC-run radio systems
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes Two separate phone tree call programs, local ham and am radio systems

**Table 15-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works
Who is your floodplain administrator? (department/position)	Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	2010
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	6/26/2008
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	33 \$42,711 \$10,367,700
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	25 \$554,142

a. According to FEMA statistics as of March 31, 2021



**Table 15-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608158380	N/A
DUNS#	Yes	102490120	2/14/2021
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	N/A	N/A	N/A

**Table 15-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Sustainability Committee; Completion of Climate Action Plan in 2022</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: Sustainability Committee; Completion of Climate Action Plan in 2022</i>	High
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: High rating if including consultants who assist in these matters</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Small community allows for accurate understanding of inventory, completed in 2017</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Sustainability and climate issues well integrated in consideration of capital planning, purchases, and land use.</i>	High
Participation in regional groups addressing climate risks <i>Comment: San Mateo County and regional participation</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Town Council and relevant town committees support these efforts</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: First strategies developed as part of inventory in 2017</i>	High
Identified strategies for adaptation to impacts <i>Comment: Climate Action Plan completion will include additional adaptation strategies, but already including such thinking in current activities</i>	Medium
Champions for climate action in local government departments <i>Comment: Assistant to the Town Manager serves as sustainability manager; Sustainability Committee</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: Sustainability efforts a community driven priority</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Small community with appropriately-sized budget of \$7 million general fund</i>	Medium
Local authority over sectors likely to be negative impacted <i>Comment: Land use authority over development that is primarily residential</i>	High

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: See above – community progressive on sustainability issues</i>	High
Local residents support of adaptation efforts <i>Comment: Residents active on Sustainability Committee and non-governmental climate awareness activities</i>	High
Local residents’ capacity to adapt to climate impacts <i>Comment: Affluent Community</i>	High
Local economy current capacity to adapt to climate impacts <i>Comment: Brick and Mortar Businesses are small in nature</i>	Medium
Local ecosystems capacity to adapt to climate impacts <i>Comment: Less rain is affecting wetland areas of the Town, and increased heat events exasperating potential wildfire impacts</i>	Medium

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 15.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 15.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Safety Element of the General Plan** – The Safety Element explicitly states the dangers related to earthquakes, wildfires, flooding, and landslides. Early in its history, the Town integrated these hazards into land use policy and emergency preparedness; CERPP was created early in the town’s existence, and the Emergency Preparedness Committee has been active for many years. Land use policy limiting certain developments near faults, areas prone to landslide and other hazards has been in place for many years as well. Recent expansion of second unit production was not expanded to areas of town with one escape route (wildfire mitigation).
- **Conservation Element of the General Plan**- the Conservation Plan speaks to protection of water as a resource and flooding as a hazard and describes the use of the Geologic Map and Ground Movement Potential Map to assist in flooding issues.
- **Sustainability Element** – This element recommends the use of drought-resistant plants.
- **Land Use Element** – This element cites as two of its general objectives the following – 5.To encourage and, where appropriate, require the conservation of water in new and existing developments and buildings. 6. To ensure that development in areas subject to geologic, fire and flooding hazards is controlled so that people and structures are not exposed to unacceptable levels of risk.



- **Communications** – the Town hired a Communications Manager that has regularly been promoting hazard mitigation information
- **Neighborhood Associations** – the Town assisted in the development of nearly two dozen neighborhood watch groups that are, in some cases, have expanded efforts into local hazard mitigation efforts
- **Full integration of CERPP with Town Emergency Operations** – efforts are underway, expected to be completed later in 2021, to ensure that the volunteer CERPP organization is integrated into the Town’s emergency operations.

## 15.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Climate Action Plan** – Expected to be completed in 2022 and will be utilized (in part) to identify hazards related to climate change.
- **General Plan Update** – expected to begin in 2022 and will further integrate hazard mitigation planning efforts, including wildfire impacts.

## 15.6 RISK ASSESSMENT

### 15.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 15-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 15-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Severe Winter Storms, Flooding, and Mudslides	DR-4308	2017	Unknown
Severe Storm	N/A	December 2012	\$237,000
Severe Storm	N/A	March and April, 2006	\$30,000
Severe Storm/Landslide on Upper Alpine Road	DR-1203	December 1997- February 1998	\$10 million
Loma Prieta Earthquake	DR-845	October 17, 1989	\$37,662

### 15.6.2 Hazard Risk Ranking

Table 15-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 15-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	36	High
2	Landslide/Mass Movements	33	High
3	Severe weather	24	Medium
4	Wildfire	18	Medium
5	Flood	15	Low
6	Drought	9	Low
7	Sea Level Rise / Climate Change	0	Low
8	Dam Failure	0	Low
9	Tsunami	0	Low

### 15.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 1
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Some properties, such as the Highlands, have only one entry/exit route, and are vulnerable to wildfires, localized flooding, and wind events.
- CAL FIRE lists very high, high, and moderate fire severity zones.
- The Town has a total of 3 publicly available routes in and out of the community.
- Cell phone sites have not installed mandated 72-hour back-up power.
- Wind events can cause loss of cell/internet/power.
- Public Safety Power Shutoff events are called a few times a year in Portola Valley.
- The Town’s stormwater system is a natural gravity system, with few manmade infrastructure facilities (except under roads and other critical locations). No pumps or other mechanical means in the Town’s stormwater drainage system.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.



## 15.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 15-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 15-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
PV-1 - The Town will adopt a comprehensive 2030 Climate Action Plan in 2016. <b>Comment:</b> The Town plans to adopt a Climate Action Plan in 2022. – no longer and HMP action item			✓	PTV-23
PV – 2 - The Town has adopted two successive Water Efficient Landscape Ordinances to assist residents create drought-tolerant landscaping; each has been stricter in its allowances on the types and amount of landscaping and the amount of budgeted water. <b>Comment:</b> The Town's Water Efficient Landscape Ordinances are highly restrictive and may be further modified as needed.	✓			
PV – 3 - The Town is amending its Green Building Ordinance to continue to encourage higher levels of energy and water efficiency in new construction. <b>Comment:</b> New ordinance is expected to be completed by the end of 2021	✓			
PV- 4 - CalWater water main project provides for seismic protection across the San Andreas Fault along Portola Road at Town Center <b>Comment:</b> Completed	✓			
PV – 5 Buy Earthquake simulation/asset allocation software <b>Comment:</b> Purchased in 2016 but vendor no longer offering services as purchased, contract ended	✓			
PV- 6 The Town has planted drought-tolerant demonstration gardens so residents can see the types of plants that can flourish in low-water conditions. <b>Comment:</b> This demonstration has been at Town Center since 2014	✓			
PV- 7 - The Town is undergoing a Town Center Master Planning effort that, in part, will plan for the accommodate future emergency planning efforts, including staging and evacuation. <b>Comment:</b> Completed in 2017 and will be incorporated into General Plan as needed.	✓			
PV – 8 - The Town is exploring weather-based irrigation controllers and end-point water meters for Town fields to maximize water use. <b>Comment:</b> Town has been engaged with California Public Utilities Commission, and anticipating authorization in 2021	✓			
PV-9 - The Town is exploring rainwater catchment and graywater reuse projects in Town facilities, both to reduce water use and serve as a demonstration and example to residents <b>Comment:</b> With little rain, program was not prioritized.		✓		
PV – 10 - The Town will complete paving of road sections used by bicyclists in 2019, providing a wider roadway to use in the case of an emergency evacuation. <b>Comment:</b> Where possible, the Town's right of way on major evacuation routes has been expanded into bike lanes.	✓			
PV – 11 - Town is rebranding and launching an online energy/water analysis tool to assist residents in understanding where they are using the most resources and connect them with tools to use them more efficiently. <b>Comment:</b> Town did not pursue this tool as a smart water meter is anticipated to be offered by CalWater later this year.		✓		

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>PV-12</b> - The Town, together with the Woodside Fire Protection District, continue to fund, and encourage residents to take advantage of, a chipping program offered each year.</p> <p><b>Comment:</b> Program remains popular and may be expanded in 2021-22</p>			✓	PTV-14
<p><b>PV-13</b> - The Water Conservation Committee continues to explore innovative methods to conserve water for residents.</p> <p><b>Comment:</b> Committee succeeded by a Sustainability Committee which continues this work, including the endorsement of a smart water meter system expected to be allowed by the California Public Utilities Commission later this year.</p>	✓			
<p><b>PV – 14</b> - The Town hosts Firewise workshops and two CERPP trainings provided by the Woodside Fire Protection District. In 2011, the Conservation Committee worked with the Fire District and developed a “Fire Safety and Habitat Preservation” workshop with is on the Town’s website.</p> <p><b>Comment:</b> Ongoing. CERPP has been reorganized as WPV-Ready to allow for additional management and connections to Town emergency services. CERPP has expanded into previously-unrepresented areas of town.</p>	✓			
<p><b>PV-15</b> - The Emergency Preparation Committee provides residents with shelter in place educational materials and hosts a table at the annual Town Picnic to conduct outreach on developing a family disaster plan, among others.</p> <p><b>Comment:</b> Ongoing</p>			✓	PTV-41
<p><b>PV – 16</b> - The Town regularly conducts emergency preparedness exercises and will open its Emergency Operations Center at least once a year to ensure its usefulness and operational capacity.</p> <p><b>Comment:</b> The EOC is opened at least once a year and has been open during COVID-19. The Town is actively exploring the purchase of a virtual EOC system that will expand volunteer opportunities and ensure continuity of operations if the physical EOC is damaged.</p>			✓	PTV-18
<p><b>PV-17</b> - The Town’s Emergency Preparedness Committee continues to explore ways to improve the town’s disaster readiness; recent activity includes creating a Portola Valley emergency radio station and advertising it to residents through direct mail and email marketing, improving existing communications equipment and better coordination with adjacent town’s preparedness efforts.</p> <p><b>Comment:</b> AM radio wattage expanded, and new location for equipment located and will established in that location. SMC Alert subscriptions is highest in County; emails are used for emergencies and was deployed successfully during CZU fire. Committee continues to meet to develop further improvements to the Town’s disaster readiness.</p>			✓	PT-41
<p><b>PV-18</b> - The Town’s senior management sits on the CERPP board and partially funds and participates in its efforts.</p> <p><b>Comment:</b> Team was involved in restructuring CERPP with a new management level called WPV-Ready</p>	✓			
<p><b>PV-19</b> - The Town coordinates with Woodside Fire Protection District on efforts to maintain brush and vegetative growth for fire prevention including tree trimming programs, brush clearance, and other defensible space outreach efforts as necessary to ensure all roads are passable.</p> <p><b>Comment:</b> Town began removing fuel from its right-of-way in 2019.</p>			✓	PTV-15
<p><b>PV- 20</b> - Work with the Town Geologist to continue maintaining and updating the Town’s Geologic and Ground Movement Potential Map to ensure that it contains the most current and correct information.</p> <p><b>Comment:</b> Committee meets as new information is made available</p>	✓			
<p><b>PV- 21</b> - The Town will explore a seismic retrofit program for existing residences.</p> <p><b>Comment:</b> Program has not been initiated; will be carried over into next work plan.</p>			✓	PTV-45



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>PV – 22</b> - Work with the Emergency Preparedness Committee to improve public education regarding hazard risks (e.g., fire, earthquake, flood) and preparation tools.</p> <p><b>Comment:</b> Ongoing, with both the EPC and Wildfire Preparedness Committee engaged with the Town's Community Engagement Analyst.</p>			✓	PTV-41
<p><b>PV-23</b> - Work with Public Works Committee to ensure all emergency access gates are maintained.</p> <p><b>Comment:</b> Completed in 2020</p>	✓			
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> Has not been necessary.</p>	✓			
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b> Per the 2016 HMP, Community Rating System participation</p>	✓			
<p><b>Action G-3</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.</p> <p><b>Comment:</b> Maintained</p>			✓	PTV-20
<p><b>Action G-4</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> Not implemented as of 2021</p>			✓	PTV-3
<p><b>Action G-5</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Safety Element update to be completed by 2022.</p>			✓	PTV-16
<p><b>Action G-6</b>—Consider the development and implementation of a Capital Improvements Program (CIP) to increase regulatory, financial, and technical capability to implement mitigation actions.</p> <p><b>Comment:</b> Implemented in 2016</p>	✓			
<p><b>Action G-7</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> Wildfire Preparedness Committee formed to work on such issues; home hardening ordinance is to be implemented this calendar year, and design guidelines to support should be completed in 2022.</p>			✓	PTV-35
<p><b>Action G-8</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	PTV-1
<p><b>Action G-9</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	PTV-1

## 15.8 HAZARD MITIGATION ACTION PLAN

Table 15-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 15-15 identifies the priority for each action. Table 15-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 15-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action PTV-1</b>—Actively participate in the plan maintenance protocols and initiatives outlined in Volume 1 of this hazard mitigation plan.  <u>Hazards Mitigated:</u> Earthquake, Landslide/Mass Movements, Severe weather, Wildfire, Flood, Drought, Climate Change, Dam Failure, Tsunami</p>						
New and Existing	1, 2, 3, 4, 5, 6, 7, 8, 9	San Mateo County	Portola Valley	Low	Staff Time, General Funds	Short-term
<p><b>Action PTV-2</b>— Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to San Mateo County Flood &amp; Sea Level Rise Resiliency District Flood Zone channels and infrastructure.  <u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather</p>						
New & Existing	1, 2, 4, 6, 7, 8	Portola Valley	San Mateo County Flood & Sea Level Rise Resiliency District, County	Medium	Tax-Funded Flood Zones, Property/ Vehicle Fees, Stormwater Fees, Grant Funding, City Capital Project Funding	Ongoing
<p><b>Action PTV-3</b>— Develop and implement a program to capture perishable data after significant events (e.g. high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.  <u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Tsunami</p>						
New & Existing	1, 5, 6, 7, 8	Portola Valley	County, San Mateo County Flood & Sea Level Rise Resiliency District	Medium	General Fund	Short-term
<p><b>Action PTV-4</b>— Plan, design, and implement long-term resilience to sea level rise, extreme storms, and coastal erosion for culverts, roadways, and bridges in the vicinity of other flood protection projects, including assets identified in the Caltrans District 4 Adaptation Priorities Report.  <u>Hazards Mitigated:</u> Climate Change, Landslide/Mass Movements, Flood, Severe weather</p>						
New & Existing	2, 4, 6, 7, 8, 13	Portola Valley	Caltrans, County, San Mateo County Flood & Sea Level Rise Resiliency District,	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<p><b>Action PTV-5</b>— Identify and pursue strategies to enhance recycled water infrastructure planning/implementation in the vicinity of San Mateo County Flood &amp; Sea Level Rise Resiliency District projects.  <u>Hazards Mitigated:</u> Drought</p>						
New & Existing	1, 6, 7, 8	Portola Valley	County, San Mateo County Flood & Sea Level Rise Resiliency District	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action PTV-6</b> — Complete work identified in resource grant with Community Partners for Wildfire Assistance (CPAW), granted with the County of San Mateo, the Town of Woodside, and the Woodside Fire Protection District in Spring 2021, including development of a comprehensive community wildfire resiliency strategy, improved and enhanced communication tools, increased land use planning capacity such as a community wildfire protection plan and improved hazard maps, broadening the network of partners to provides resources and support, and evacuation planning and modeling.						
<i>Hazards Mitigated:</i> Wildfire						
Existing	All	Portola Valley	Woodside Fire Protection District	High	Grant Funding-FEMA HMA (BRIC, FMA, FMAG and HMGP), General Fund	Long-Term
<b>Action PTV-7</b> — Implement additional home hardening code, beyond current Very High Fire Severity Zone requirements in Chapter 7A of the Building Code in Summer/Fall 2021						
<i>Hazards Mitigated:</i> Wildfire						
Existing	2, 6, 7, 8, 9,13	Portola Valley	N/A	Medium	General Fund	Short-Term
<b>Action PTV-8</b> — Make the Ad Hoc Wildfire Preparedness Committee a standing committee, and continue to support their recommendations						
<i>Hazards Mitigated:</i> Wildfire						
Existing	All	Portola Valley	Woodside Fire Protection District, Pacific Gas and Electric	Medium-High	Staff Time, General Fund, Volunteer Time,	Long-Term
<b>Action PTV-9</b> — Support Woodside Fire Protection District's annual defensible space call to action with additional education and communications resources, as well as "how to" materials as approved by the District						
<i>Hazards Mitigated:</i> Wildfire						
Existing	1, 3, 4, 5, 6, 7, 8, 9	Portola Valley	Woodside Fire Protection District	Low	Staff Time, General Funds	Short-Term
<b>Action PTV-10</b> — Where possible and appropriate, consider additional evacuation infrastructure, including new vehicular lanes, on both public right-of-way and acquisition of private property, including when new development projects are proposed						
<i>Hazards Mitigated:</i> Wildfire						
Existing	1, 2, 6, 8, 9, 10	Portola Valley	Private landowners	High	General Fund, Grants-FEMA HMA (BRIC, FMA and HMGP), Transportation Funds	Long-Term
<b>PTV-11</b> — Formalize agreements with private landowners to provide alternative evacuation routes						
<i>Hazards Mitigated:</i> Wildfire						
Existing	2, 10	Portola Valley		Low	Staff Time, General Funds	Short-Term
<b>Action PTV-12</b> —Consider joining Firewise town-wide						
<i>Hazards Mitigated:</i> Wildfire						
Existing	1, 2, 6, 7, 9, 10, 13, 14	Portola Valley	Woodside Fire Protection District,	Medium	Staff Time, General Funds	Short-Term
<b>Action PTV-13</b> —Encourage insurance providers to share information with residents to reduce wildfire risks on their properties that will ensure continued availability of insurance						
<i>Hazards Mitigated:</i> Wildfire						
Existing	1, 2, 5, 6, 8,10	Portola Valley	Woodside Fire Protection District	Low	Staff Time	Short-Term
<b>Action PTV-14</b> —Consider expansion of the WFPD Chipper Program						
<i>Hazards Mitigated:</i> Wildfire						
Existing	2, 5, 8, 9, 14	Portola Valley	Woodside Fire	Medium	General Fund, Grant Funding--FEMA HMA (BRIC, FMA, FMAG and HMGP)	Short-Term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action PTV-15</b> —Encourage residents who own property along shared high-risk areas (such as canyons) to develop defensible space/vegetation management programs						
<i>Hazards Mitigated:</i> Wildfire						
Existing	1, 2, 5, 6, 8, 10, 14	Portola Valley	Woodside Fire Protection District	Low	Staff Time, General Funds	Short-Term
<b>Action PTV-16</b> —Adopt updated Safety Element by the end of 2022						
<i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements, Severe weather, Wildfire, Flood, Drought, Climate Change, Dam Failure, Tsunami						
New and Existing	1-14	Portola Valley	N/A	Medium-High	Staff Time, General Fund	Short-Term
<b>Action PTV-17</b> —Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the updated Safety Element						
<i>Hazards Mitigated:</i> Earthquake, landslide/mass movements, severe weather, wildfire, flood, drought, climate change, dam failure, tsunami						
New and Existing	4, 7, 8, 9, 10	Portola Valley	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action PTV-18</b> —Fully implement the “Veoci” virtual emergency operations center tool, and expand the roster of residents who will serve in an EOC capacity						
<i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements, Severe weather, Wildfire, Flood, Drought, Climate Change, Dam Failure, Tsunami						
Existing	2, 11	Portola Valley	N/A	Low	Staff Time, General Fund	Ongoing
<b>Action PTV-19</b> —Work with partners to purchase backup power infrastructure for critical facilities and infrastructure that lack adequate backup power						
<i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements						
Existing	1, 3, 5, 6, 7, 8, 9, 10, 13, 14	Portola Valley	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action PTV-20</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: 1) Enforce the flood damage prevention ordinance; 2) Participate in floodplain identification and mapping updates; 3. Provide public assistance/information on floodplain requirements and impacts						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe weather						
New and Existing	1, 2, 3, 7, 8, 9, 10	Portola Valley	N/A	Low	Staff Time	Ongoing
<b>Action PTV-21</b> —Continue to develop, maintain, and enhance the County’s classification under the Community Rating System by improving community response to flood emergencies in various ways, including but not limited to: - Upgrade and expand the countywide flood early warning system - Conduct community flood preparation, education, and recovery outreach.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe weather						
New & Existing	2, 3, 7, 8, 9, 10, 11	Portola Valley	County, San Mateo County Flood & Sea Level Rise Resiliency District,	Low	General Funds	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action PTV-22</b> —Advance the long-term resilience of Hillsborough, Woodside, Portola Valley to extreme storms, as well as provide environmental, recreation, and community/connectivity enhancements where possible. This may include regional stormwater capture projects that also benefit downstream, flood-prone communities.						
<u>Hazards Mitigated:</u> Flood, Severe weather						
New & Existing	2, 4, 6, 7, 8, 14	Portola Valley	Hillsborough, Woodside, Portola Valley, C/CAG, San Mateo County Flood & Sea Level Rise Resiliency District	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding-FEMA HMA (BRIC, FMA and HMGP), City Capital Project Funding	Ongoing
<b>Action PTV-23</b> —Complete and Implement Climate Action Plan by end of 2023						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Drought, Wildfire						
Existing	1, 2, 3, 4, 5, 7, 8, 9, 10, 12, 14	Portola Valley	N/A	Medium	General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<b>Action PTV-24</b> —Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including backup power, culvert/pipeline infrastructure.						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather						
New & Existing	2, 6, 7, 8	San Mateo County Flood & Sea Level Rise Resiliency District	County, All municipalities	Medium	Tax-Funded Flood Zones, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action PTV-25</b> —Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.						
<u>Hazards Mitigated:</u> Climate Change, Landslide/Mass Movements, Flood, Severe weather, Drought						
New & Existing	2, 6, 7, 8, 14	Portola Valley	San Mateo County Flood & Sea Level Rise Resiliency District, County	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding EPA Grants (Section 319 grants, CWSRF), City Capital Project Funding	Ongoing
<b>Action PTV-26</b> —Consider additional amendments to the existing Water Efficient Landscape Ordinances to further reduce water needs for landscaping projects						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	7,8	Portola Valley	N/A	Low	General Fund	Short-Term
<b>Action PTV-27</b> —Install demonstration rain catchment and greywater systems at Town Center						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	7,8	Portola Valley	County Office of Sustainability	Low	General Fund	Short-Term
<b>Action PTV-28</b> —Consider long-term water storage at Town Center for emergency use and/or support for general Town Center needs						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	7,8	Portola Valley	N/A	High	General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<b>Action PTV-29</b> — Consider an incentive program for residents who reduce/eliminate water-dependent landscaping						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	7,8	Portola Valley	N/A	Low	General Fund	Short-Term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action PTV-30</b> — Work with CalWater to develop additional drought mitigation strategies						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	7,8	Portola Valley	CalWater	Medium	General Fund	Long-Term
<b>Action PTV-31</b> — Consider permanent voluntary water reductions and promote through education and public programming						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	2, 8, 10	Portola Valley	CalWater	Low	Staff Time, General Funds	Short-Term
<b>Action PTV-32</b> — Explore options to utilize ground water for emergency uses						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	1, 2, 7,14	Portola Valley	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<b>Action PTV-33</b> — Support the Town's Sustainability Committee as it explores water conservation ideas						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	1, 2, 5, 6, 7, 8, 9, 10, 14	Portola Valley	N/A	Low	Staff Time, General Fund	Short-Term
<b>Action PTV-34</b> — Develop "triggers" when certain drought thresholds are met that result in lower water usage on Town properties						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	7, 8	Portola Valley	N/A	Low	General Fund	Short-Term
<b>Action PTV-35</b> — Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<u>Hazards Mitigated:</u> Wildfire, Flood, Landslide/Mass Movements, Earthquake						
Existing	13	Portola Valley	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action PTV-36</b> — Maximize undergrounding utilities.						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Severe weather						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Portola Valley	Pacific Gas and Electric	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Fund, State and Federal Resources, Rule 20A	Long-Term
<b>Action PTV-37</b> — Remove hazardous trees near electrical/phone lines, critical infrastructure, or evacuation routes, where feasible beyond current Town/PG&E practice						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Severe weather						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Portola Valley	Pacific Gas and Electric	High	Grant Funding-FEMA HMA (BRIC, FM, FMA, FMAG and HMGP), General Fund, State and Federal Resources	Long-Term
<b>Action PTV-38</b> — Modify land use policies, including the General Plan, to support the removal of hazardous trees near critical infrastructures						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Severe weather						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Portola Valley	Pacific Gas and Electric	Medium	Staff Time, General Funds	Long-Term
<b>Action PTV-39</b> — Modify land use policies to encourage appropriate plantings near overhead power, phone, and cable lines						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Severe weather						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Portola Valley	N/A	Low	Staff Time, General Funds	Short-Term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action PTV-40</b> — Continue to hold the annual Emergency Communications and Radio Day						
<u>Hazards Mitigated:</u> Earthquake, Landslide/Mass Movements, Severe weather, Wildfire, Flood, Drought, Climate Change, Dam Failure, Tsunami						
Existing	8,11	Portola Valley	N/A	Low	Staff Time, Volunteer Support	Short-Term
<b>Action PTV-41</b> — Support the Town's Emergency Preparedness Committee as it explores new ways to mitigate hazards, improve emergency communications, and engage with residents						
<u>Hazards Mitigated:</u> Earthquake, Landslide/Mass Movements, Severe weather, Wildfire, Flood, Drought, Climate Change, Dam Failure, Tsunami						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Portola Valley	N/A	Low	Staff Time, Volunteer Support	Short-Term
<b>Action PTV-42</b> — Require Geologic Safety Committee to meet at least once a year.						
<u>Hazards Mitigated:</u> Earthquakes, Landslide/Mass Movements						
Existing	1, 5, 6, 7, 8, 9	Portola Valley	N/A	Low	Staff Time, General Funds	Short-Term
<b>Action PTV-43</b> — Regularly update the Town's Geologic Map and Ground Movement Potential Map						
<u>Hazards Mitigated:</u> Earthquakes, Landslide/Mass Movements						
Existing	1, 5, 6, 7, 8, 9	Portola Valley	N/A	Medium	Staff Time, Consultants, General Fund	Ongoing
<b>Action PTV-44</b> — Contact utility companies to ensure orderly programs of installing shut-off devices on lines that cross active fault traces						
<u>Hazards Mitigated:</u> Earthquakes, Landslide/Mass Movements, Wildfire						
Existing	1,2	Portola Valley	Utility Providers	Low	Staff Time	Ongoing
<b>Action PTV-45</b> — Identify funding sources for structural and non-structural retrofitting of structures that are identified as seismically vulnerable for residents, including the California Earthquake Authority Brace and Bolts Program						
<u>Hazards Mitigated:</u> Earthquakes, Landslide/Mass Movements						
Existing	1, 5, 6, 7, 8, 9	Portola Valley	N/A	Low	Staff Time, General Funds	Short-Term
<b>Action PTV-46</b> — Educate citizens about seismic risks, the potential impacts of earthquakes and opportunities for mitigation actions						
<u>Hazards Mitigated:</u> Earthquakes, Landslide/Mass Movements						
Existing	1, 5, 6, 7, 8, 9	Portola Valley	N/A	Low	Staff Time, General Funds	Short-Term
<b>Action PTV-47</b> — Encourage Town partners with critical infrastructure (such as schools, utilities, and critical businesses) to upgrade their facilities (including old plumbing and piping)						
<u>Hazards Mitigated:</u> Earthquakes						
Existing	1, 5, 6, 7, 8, 9	Portola Valley	N/A	Low	Staff Time, General Funds	Short-Term
<b>Action PTV-48</b> — Educate residents on the potential impacts of Severe weather events and potential mitigations, including back-up power, insulation of structures, and removal of vegetation near powerlines						
<u>Hazards Mitigated:</u> Severe weather						
Existing	1, 2, 3, 4, 6, 8, 9, 13	Portola Valley	N/A	Low	Staff Time, General Funds	Short-Term
<b>Action PTV-49</b> — Consider the construction of a microgrid system for at least the Town Center campus, but potential expanded to other critical infrastructure/institutions						
<u>Hazards Mitigated:</u> Climate Change, Earthquake, Wildfire, Severe weather						
Existing	2, 3, 8, 9, 10	Portola Valley		High	Staff Time, General Funds, Grant Funding	Long-Term

**Table 15-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	All	Low	Low	Yes	Yes	Yes	High	Medium
2	6	Low	Low	Yes	Yes	No	Low	Medium
3	5	Medium	Low	Yes	No	No	Medium	Low
4	6	Low	Low	Yes	Yes	No	Low	Medium
5	4	Low	Low	Yes	Yes	No	Low	Low
6	All	High	High	Yes	Yes	No	Low	Medium
7	6	High	Medium	Yes	No	Yes	High	Low
8	All	Medium	Low	Yes	Yes	Yes	Low	Low
9	8	High	Low	Yes	No	Yes	High	Low
10	6	Medium	High	Yes	No	No	Low	Low
11	2	Medium	Low	Yes	No	Yes	High	Low
12	8	Medium	Low	Yes	No	Yes	High	Low
13	6	Medium	Low	Yes	No	Yes	High	Low
14	5	High	Medium	Yes	Yes	No	Medium	Medium
15	8	High	Low	Yes	No	Yes	High	Low
16	All	Medium	High	No	No	Yes	High	Low
17	5	Medium	High	No	No	No	Medium	Low
18	2	High	Medium	Yes	No	Yes	High	Low
19	2	Medium	Low	Yes	No	Yes	High	Low
20	7	Medium	Low	Yes	No	Yes	High	Low
21	8	Medium	Low	Yes	Yes	Yes	High	High
22	6	Low	Low	Yes	Yes	No	Medium	Low
23	11	Medium	Medium	Yes	Yes	No	Medium	Medium
24	4	Medium	High	No	Yes	No	Medium	Low
25	5	Low	High	No	Yes	No	Medium	Low
26	2	Medium	Medium	Yes	No	Yes	High	Low
27	2	Low	Medium	No	No	No	Medium	Low
28	2	Medium	High	No	Yes	No	Low	Low
29	2	Medium	Low	Yes	No	Yes	Medium	Low
30	2	Medium	Low	Yes	No	Yes	Low	Low
31	3	Medium	Low	Yes	No	Yes	High	Low
32	4	Low	High	No	Yes	No	Low	Low
33	9	Medium	Low	Yes	No	Yes	High	Low
34	2	Medium	Medium	Yes	No	Yes	High	Low
35	1	Medium	High	No	Yes	No	Low	Low
36	All	Medium	High	No	Yes	No	Low	Low
37	All	High	High	Yes	Yes	No	Low	Low
38	All	Medium	Medium	Yes	No	No	Low	Low
39	All	Medium	Low	Yes	No	Yes	High	Low
40	2	Medium	Low	Yes	No	Yes	High	Low



Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
41	All	Medium	Low	Yes	No	Yes	High	Low
42	6	Medium	Low	Yes	No	Yes	High	Low
43	6	Medium	Low	Yes	Yes	No	Medium	Medium
44	2	Medium	Low	Yes	No	Yes	High	Low
45	6	Medium	High	No	No	No	Low	Low
46	6	Medium	Low	Yes	No	Yes	High	Low
47	6	Medium	Low	Yes	No	Yes	High	Low
48	8	Medium	Low	Yes	No	Yes	High	Low
49	5	High	High	Yes	Yes	No	Low	Medium

Table 15-16. Analysis of Mitigation Actions

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquakes	PTV-17, 18, 20, 43, 44, 45	PTV-6, 17, 18, 20, 43, 44, 45, 46, 48,	PTV-17, 18, 19, 43, 47, 48	PTV-17, 18, 45, 46, 48	PTV-17, 18, 19, 20, 43, 44, 45	PTV-17, 18, 43, 44, 46	PTV-17, 18, 47	PTV-6, 17, 18, 19, 43, 47,
Landslide/ Mass Movements	PTV-44, 45, 46, 47	PTV-44, 45, 47, 48	PTV-44,48	PTV-44	PTV-18, 19, 20,	PTV-18, 19, 20, 46, 47, 49		PTV-46
<b>Medium-Risk Hazards</b>								
Severe weather	PTV-3, 6, 7, 17, 18, 24, 25, 26,	PTV-17,18	PTV-7, 17, 118,49	PTV-7, 17, 18, 26	PTV-17, 18, 25, 26	PTV-17, 18, 25, 26	PTV-7, 17, 18, 25, 26	PTV-6, 7, 49
Wildfire	PTV-7, 8, 9, 13, 17, 18, 24, 25, 26, 38, 39, 40, 43	PTV-6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 20, 25, 28, 29, 36, 37, 38, 40,	PTV-7, 9, 10, 13, 14, 17, 18, 24, 28, 41, 42	PTV-7, 10, 13, 15, 16, 17, 18, 24, 26, 37, 38, 29, 30	PTV-7, 11, 12, 13, 17, 18, 19, 20, 25, 29, 41, 42	PTV-7, 10, 14, 15, 17, 18, 25, 36, 37, 38, 39, 40	PTV-7, 8, 9, 11, 13, 16, 17, 18, 24, 25, 26, 28, 29, 36, 37, 38, 39, 40	PTV-6, 7, 9, 17, 18, 19, 24, 26, 41, 42,
<b>Low-Risk Hazards</b>								
Flood	PTV-2, 21, 22, 23, 24	PTV-2, 3, 21, 22, 23, 24	PTV-3, 21, 22, 24	PTV-2, 3, 21, 23, 25	PTV-23	PTV-21, 23, 24	PTV-2, 3, 21, 22, 23, 24	PTV-22,24
Drought	PTV-5, 24, 25, 26, 27, 30, 31, 32, 34, 35, 36	PTV-29, 33, 34, 36	PTV-28, 30, 31, 32, 34	PTV-27, 28, 31, 33, 34, 35, 36	PTV-29, 33, 4	PTV-4, 27, 29, 33, 34, 36	PTV-4, 5, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35	PTV-4, 24, 28, 30, 31, 32, 33

## 15.9 PUBLIC OUTREACH

Table 15-17. Local Public Outreach

Local Outreach Activity	Date	Number of People Involved
Discussion at Council Meeting, Town Manager Report	2-24-21	N/A
Countywide Survey Promotion	3-18-21	N/A
Discussion at Council Meeting, Council Priorities FY 2021-22	4-28-21	N/A
Discussion at Planning Commission Meeting, Council Priorities FY 2021-22	5-5-21	N/A

## 15.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Portola Valley Safety Element** – This element of the General Plan was reviewed to ensure that identified programs that should be discussed in the HMP are included.
- **Portola Valley Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **Portola Valley Flood Damage Prevention Ordinance (2005-358)**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards**; FEMA, 2013
- **How to Prepare Your Home for Wildfires**; Firewise
- **How to Reduce Drought Risk**; Western Drought Coordination Council

## 15.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

The CPAW grant will provide additional information related to wildfire risk beyond current Town information, including previously-produced reports on vegetation risk assessment; in conjunction with anticipated updates to the CAL FIRE maps, the Town can further refine high-fire impacted areas for future potential regulations.



# Portola Valley

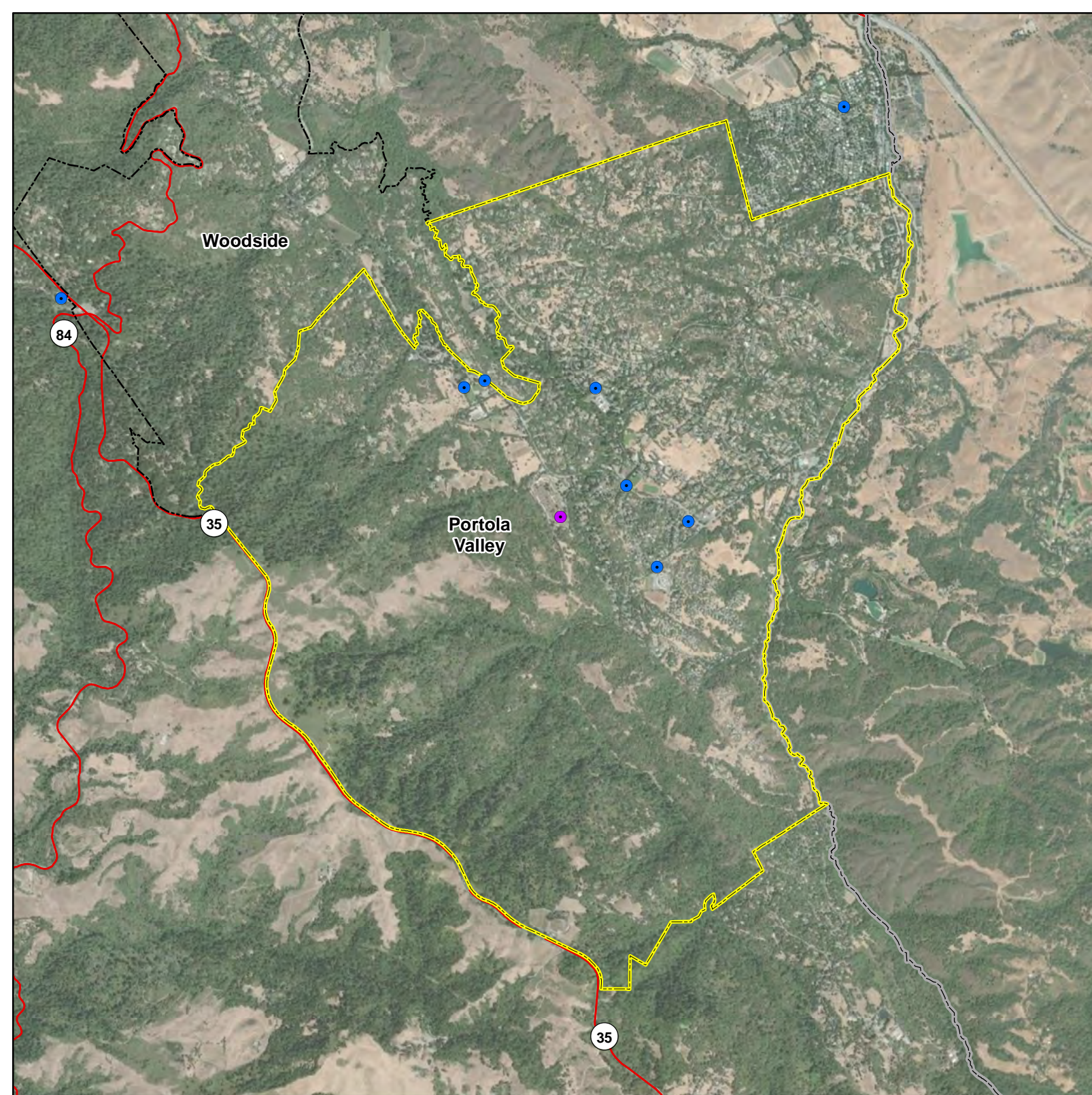
## Critical Facilities, 1 of 2

- Food, Water, Shelter
- Health and Medical
- Safety and Security
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



0 0.25 0.5 1 Miles





# Portola Valley

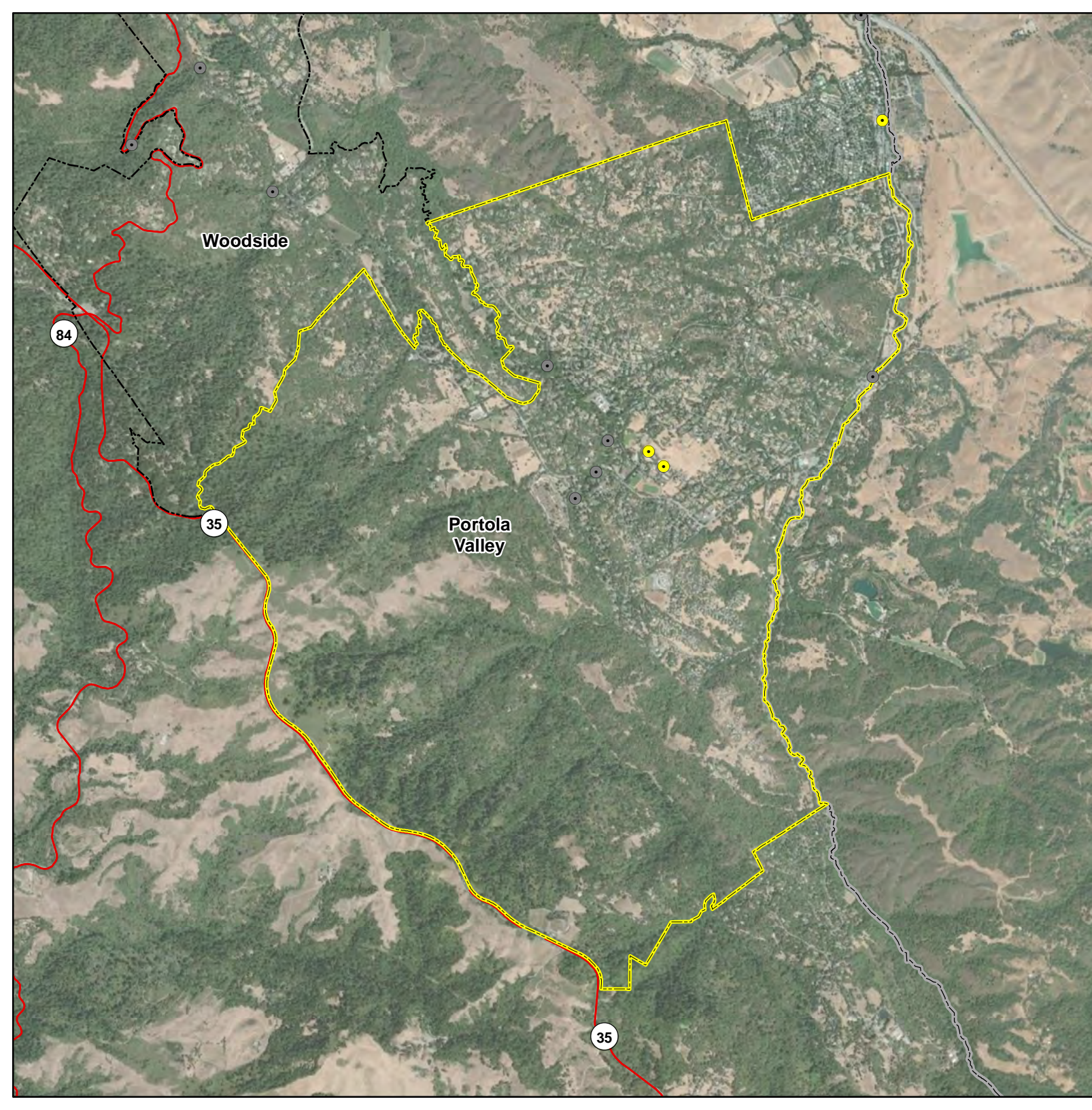
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.25 0.5 1 Miles





# Portola Valley

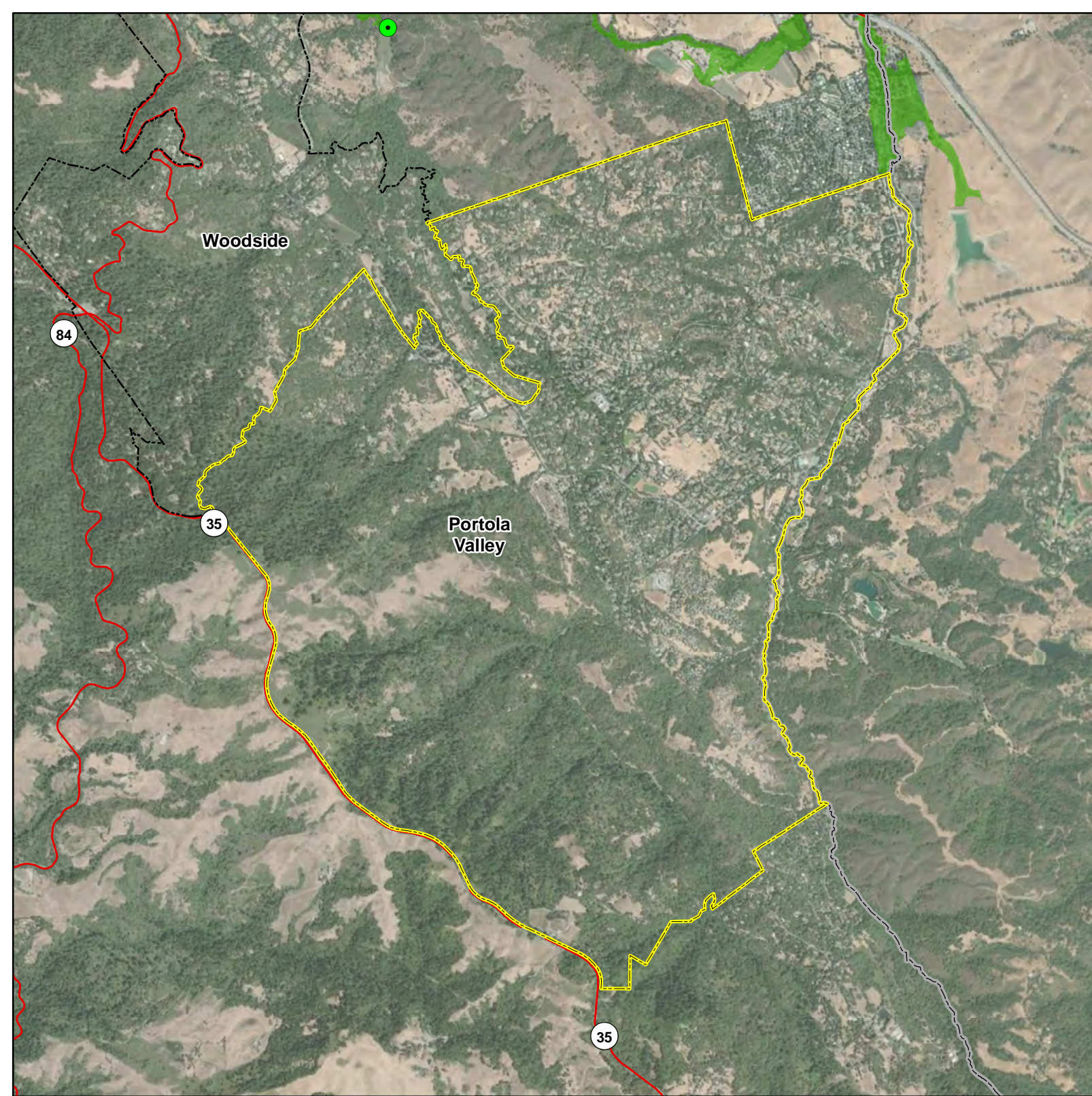
## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










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# Portola Valley

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.25 0.5 1 Miles

Woodside

Portola  
Valley

84










35

35



# Portola Valley

## Liquefaction Susceptibility

-  Very Low
-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., ABAG (USGS)



0 0.25 0.5 1 Miles

Woodside

Portola  
Valley

84

35

35



# Portola Valley

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.25 0.5 1 Miles

Woodside

Portola  
Valley

84

35

35



# Portola Valley

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.25 0.5 1 Miles

Woodside

Portola  
Valley

84

35

35



# Portola Valley

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

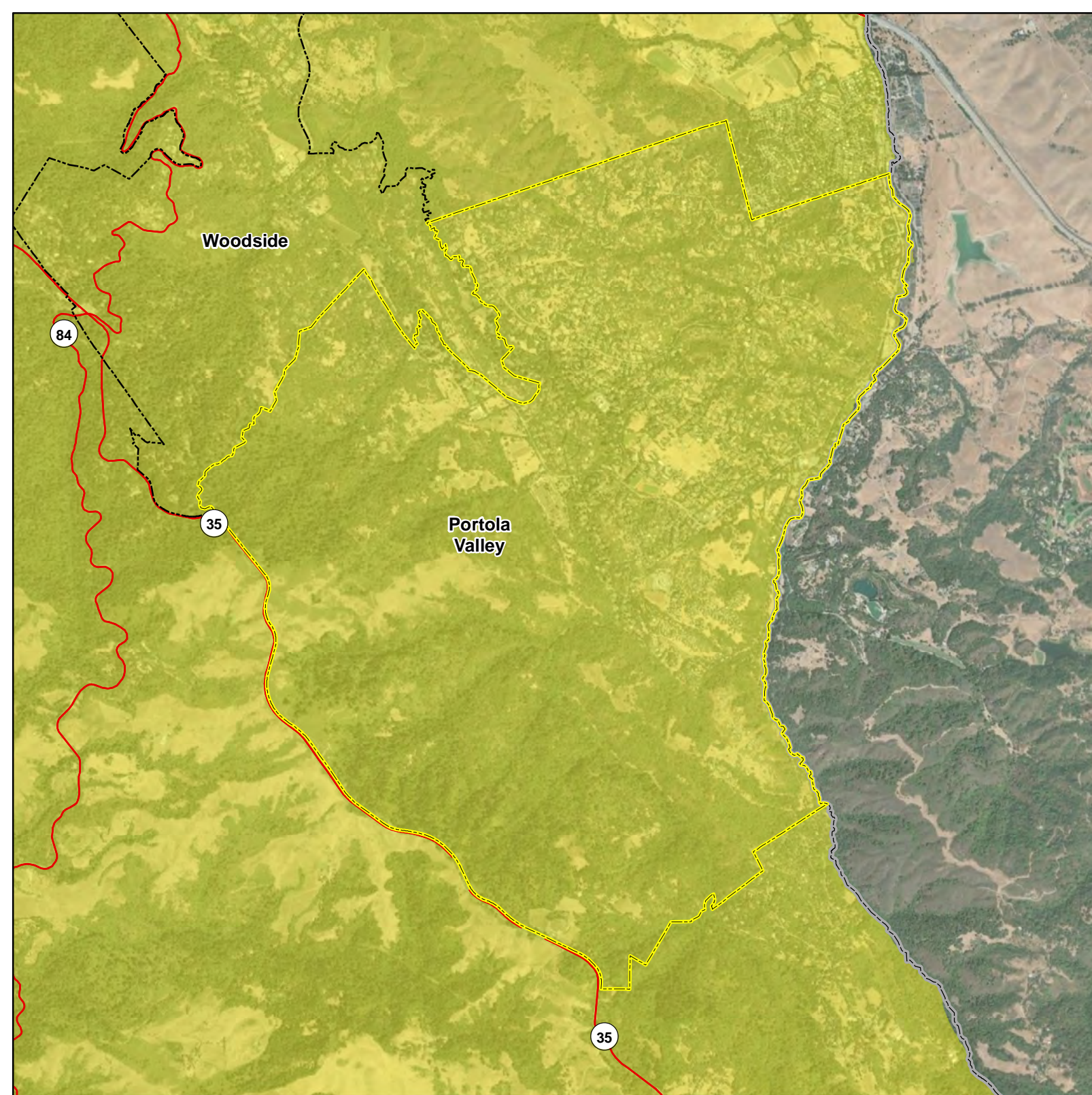
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.25 0.5 1 Miles





# Portola Valley

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.25 0.5 1 Miles

Woodside

Portola  
Valley

84

35

35



# Portola Valley

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.25 0.5 1 Miles

Woodside

Portola  
Valley

84







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# Portola Valley

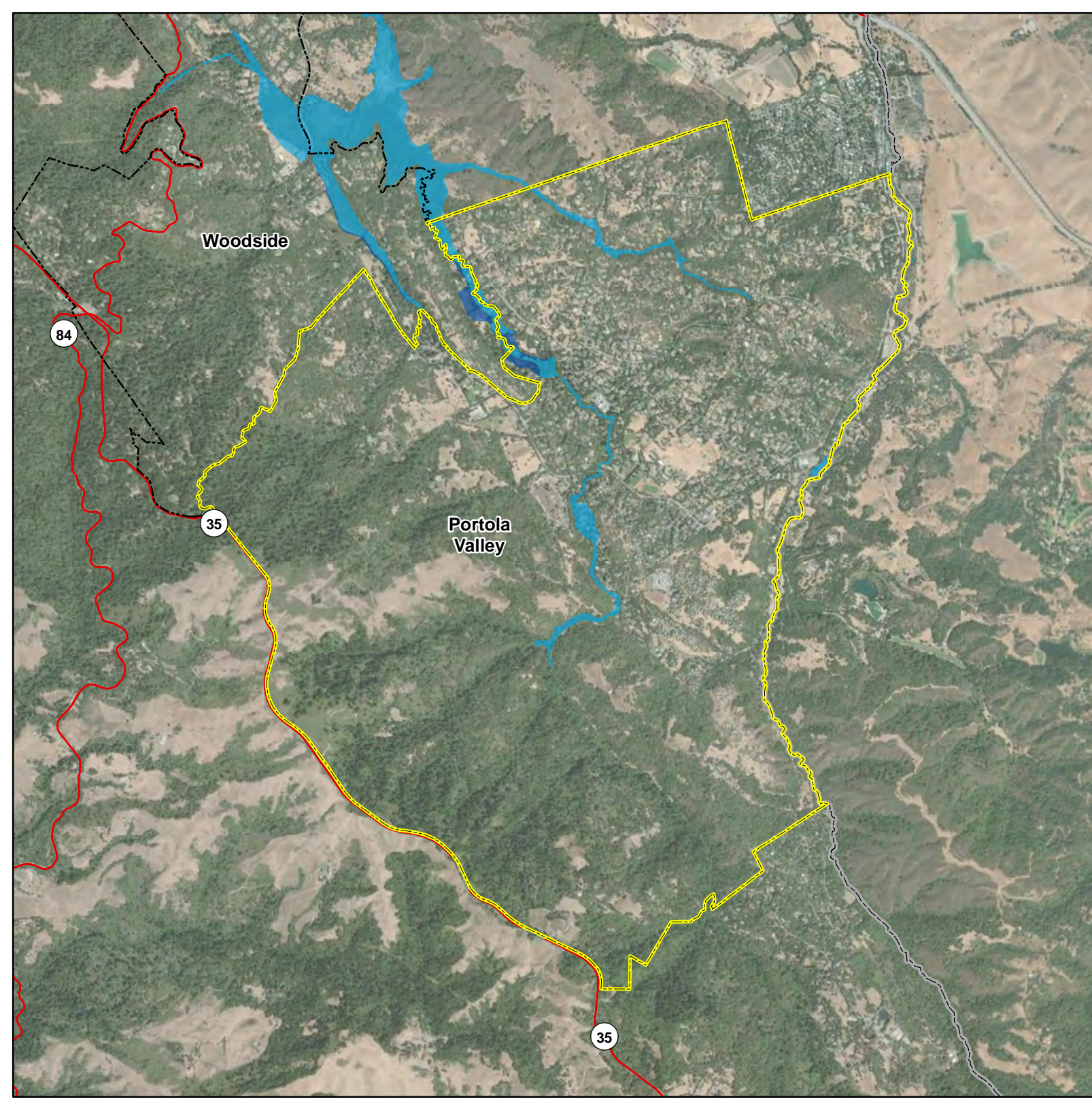
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.25 0.5 1 Miles





# Portola Valley

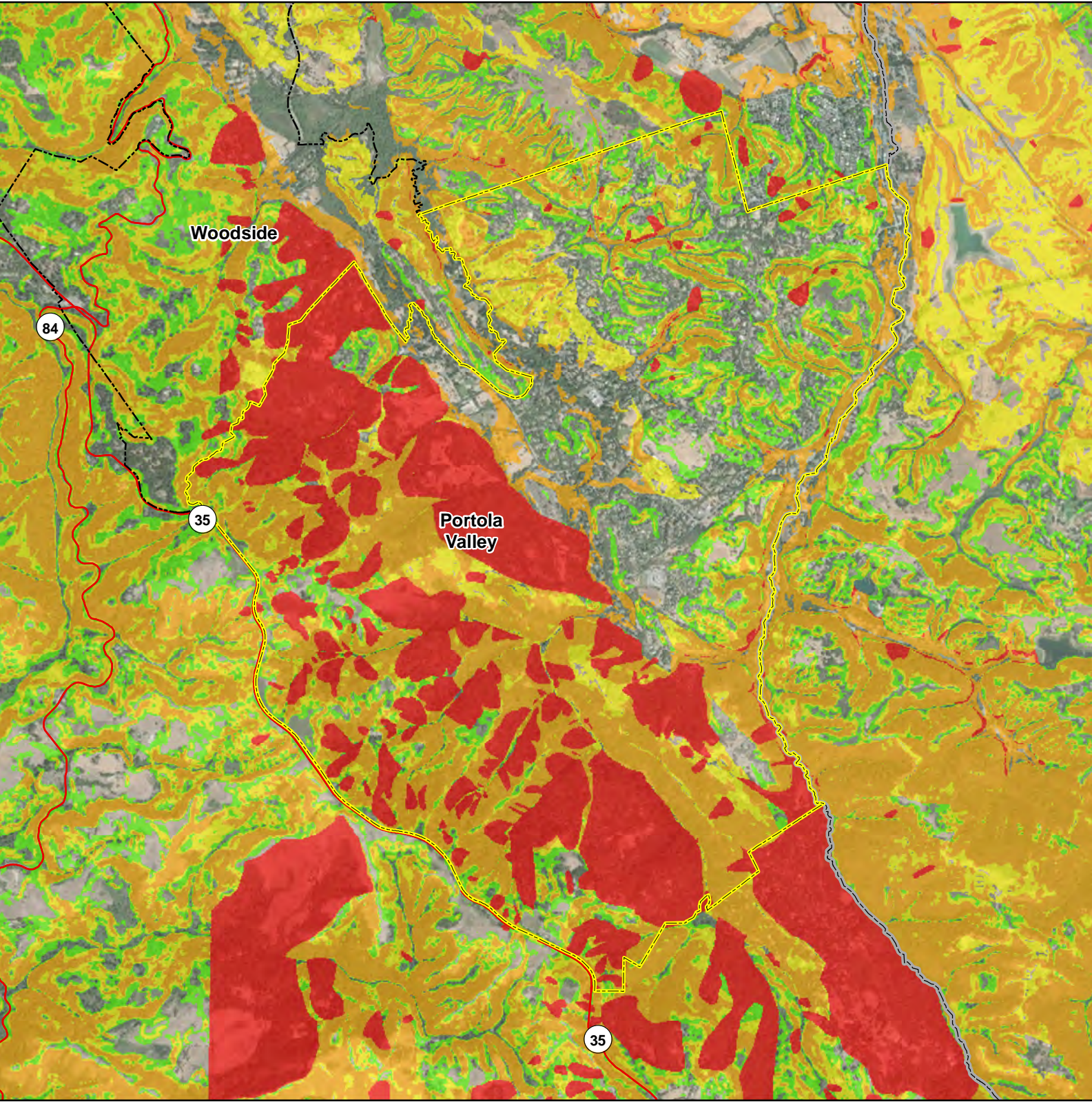
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.25 0.5 1 Miles





# Portola Valley

## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CAL FIRE



0 0.25 0.5 1 Miles

Woodside

Portola  
Valley

84

35

35





# 16. CITY OF REDWOOD CITY

## 16.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

David Pucci, Deputy Fire Chief  
755 Marshall St.  
Redwood City, CA 94063  
650-780-7400  
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### Alternate Point of Contact

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This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 16-1.

**Table 16-1. Local Mitigation Planning Team Members**

Name	Title
Sue Exline	Assistant Community Development and Transportation Director
Sylvia Peters	Principle Analyst-Finance
Alin Lancaster	Housing Leadership Manager
Vicki Sherman	Environmental Initiatives Coordinator
Lucas Wilder	Assistant Parks Director
Sindy Mulyono-Danre	Public Works Superintendent
Yessika Dominguez	Assistant City Clerk
Simarjit Kaur	Deputy City Attorney
Jenny Barnes	Library Services Supervisor

## 16.2 JURISDICTION PROFILE

### 16.2.1 Location and Features

The City of Redwood City is located in the State of California on the San Francisco Peninsula approximately 25 miles south of San Francisco and 27 miles north of the City of San Jose. The City is located in San Mateo County and is approximately 19 square miles in land area with a mean elevation of 15 feet above sea level. Redwood City is bordered by Menlo Park to the east, North Fair Oaks to the south, Foster City to the north, and San Carlos to the east. The City additionally wraps partially around Emerald Lake Hills to the west. The San Francisco Bay borders Redwood City to the east. The City hosts a section of U.S. Route 101 along to the east and provides easy access to Highway 280. Additionally, California’s historic thoroughfare, the El Camino Real (as California State Route 82), passes through central Redwood City. Redwood City is considered densely populated, with an estimated 3,955 persons per square mile compared to the California state average of 239 persons per square mile.

Redwood City contains natural geographical features along its border with the East Bay. Specifically, the City contains Redwood Shores, a community located on a San Francisco Bay lagoon. In addition to the developed Redwood Shores Lagoon, Redwood City contains Bair Island, a marsh area consisting of three islands – Inner, Middle, and Outer. The California Department of Fish and Game’s Bair Island Ecological Reserve consists of approximately 2,000 acres of the Middle and Outer Island while the remainder of the area are part of the Don Edwards Wildlife Refuge. Bair Island represents the largest open space island in the San Francisco Bay and is home to a variety of animal species.

Redwood City’s location on the San Francisco Bay serves as key factor in water transportation. The Port of Redwood City is the only deep water port in south San Francisco Bay with inland transportation access to the Union Pacific Railroad and U.S. Highway 101.

Redwood City has a typically Mediterranean climate characterized by warm, dry summers and mild winters. Historically, July is the warmest month for the city, with average high temperatures reaching low 80s. December and January are typically the coolest months, with average lows reaching the low 40s. July 1972 and January 1949 experienced record high and low temperatures of 110 degrees Fahrenheit and 16 degrees Fahrenheit, respectively. Average precipitation for the city is approximately 20 inches per year, with the wettest month being February (4.1”) and the driest being July (0”).

## **16.2.2 History**

Redwood City is the oldest city on the San Francisco Peninsula. Originally a port town during the Gold Rush, Redwood City became the County Seat of the newly formed San Mateo County in 1856. Redwood City was first incorporated 1867 and re-incorporated as a town in 1897.

The land that eventually became Redwood City was originally home of the Muwekma Ohlone Tribe. Later, the land was part of a vast Spanish rancho owned by the Arguello family, which was used for grazing cattle and horses and for providing missions in the area with supplies of food and animal hides. When California became part of the United States in 1850, the redwoods in the Santa Cruz Mountains were logged for use in construction to the north in rapidly growing San Francisco. Initially, the logs, cut from the redwood forests along the peninsula skyline, were dragged overland by oxen teams. Soon, a deep-water channel off the bay was discovered in what is now downtown Redwood City. A wharf was established at the point furthest inland. The availability of water transport greatly increased the efficiency of the lumber trade.

Following World War II, the town expanded rapidly, annexing territory toward the Bay and inland toward the Santa Cruz Mountains. As San Mateo County grew, the county government built many large institutional buildings in the downtown area. Downtown became a vital center for commerce, government, and manufacturing in the early 20th Century. As regional shopping malls, freeways, and suburban sprawl developed, downtown began declining in the 1960s and 1970s. Many historic buildings fell into disrepair or were lost altogether. Beginning in the late 1900s, downtown Redwood City began revitalizing, and this revitalization continues today. The Port of Redwood City is now used for maritime commerce and recreation. In 2017, FEMA designated the Port as a Federal Staging Area (FSA) to support regional emergency response.



### 16.2.3 Social Equity Consideration

Redwood City has applied a social equity lens to the hazard mitigation actions in this annex. It is based on the Foundational Guiding Principle amended to the 2020 Redwood City Strategic Plan on October 12, 2020:

*Redwood City will put equity first, urging a collective restart so that policies serve the entire community*

### 16.2.4 Governing Body Format

The City of Redwood City is a Charter City. The type of government employed by the Redwood City is a Council-Manager format. This format is characterized by a legislative and executive branch. The legislative branch consists of a seven-member City Council. The City Council generally functions to provide legislative direction and set City policy. The executive branch consists of a Council-appointed City Manager. This City Manager is responsible for the operational activities of all City Departments; implementing the City's general policy guidelines; submitting for adoption a balanced budget; recommending strategies and solutions to City Council; following legislative activities and keeping Council apprised of potential impacts to the City.

The City Council assumes responsibility for the adoption of this plan; the City Manager or her designee will oversee its implementation.

## 16.3 CURRENT TRENDS

### 16.3.1 Population

According to the California Department of Finance, the population of Redwood City as of January 2020 was 86,754. Since 2016, the population has grown at an average annual rate of 0.22 percent.

### 16.3.2 Development

The City of Redwood City has experienced a sustained period of rapid growth over the last 5 years. Development has included a significant growth in commercial development and high density housing along major transportation corridors.

Identifying previous and future development trends is achieved through a comprehensive review of permitting since completion of the previous plan and in anticipation of future development. Tracking previous and future growth in potential hazard areas provides an overview of increased exposure to a hazard within a community. Table 16-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 16-2. Recent and Expected Future Development Trends**

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No

Criterion	Response					
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No					
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes  Continued development in the downtown area and along the US-101 corridor including commercial space and high density residential housing.					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	
	Single Family	16	22	53	44	61
	Multi-Family	5	1	1	8	7
	Other (commercial, mixed use, etc.)	12	10	5	3	6
	<b>Total</b>	<b>33</b>	<b>5</b>	<b>59</b>	<b>55</b>	<b>74</b>
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 2016-0, 2017- 9, 2018-3, 2019-6, 2020-4</li> <li>• Landslide: 2017-1, 2018-1, 2019-1</li> <li>• High Liquefaction Areas: 2016-10, 2017-43, 2018-52, 2019-40, 2020-26</li> <li>• Tsunami Inundation Area: None</li> <li>• Wildfire Risk Areas: 2017-1, 2018-1, 2019-2</li> </ul>					
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	City is 95% built out					

## 16.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 16-3.
- Development and permitting capabilities are presented in Table 16-4.
- An assessment of fiscal capabilities is presented in Table 16-5.
- An assessment of administrative and technical capabilities is presented in Table 16-6.
- An assessment of education and outreach capabilities is presented in Table 16-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 16-8.
- Classifications under various community mitigation programs are presented in Table 16-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 16-10.



**Table 16-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	No	Yes	Yes
<i>Comment: The 2019 California Building Residential, Electrical, Mechanical, Plumbing, Energy, Historical Building, Existing Building, and Green Building Standards Codes, as adopted by the California Building Standards Commission, the 2018 International Property Maintenance Code, were adopted by reference by Redwood City in December 2020. Redwood City Municipal Code (RCMC) Chapter 9</i>				
<b>Zoning Code</b>	Yes	No	No	Yes
<i>Comment: Redwood City Zoning Codes were most recently updated on January 27, 2020 through Ordinance No. 1130-381</i>				
<b>Subdivisions</b>	Yes	No	No	Yes
<i>Comment: RCMC Chapter 30. Subdivision Ordinance was updated on January 9, 2012, Ord 2374.</i>				
<b>Stormwater Management</b>	Yes	No	Yes	Yes
<i>Comment: RCMC, Chapter 27A, Ordinance No. 2465, August 26, 2019</i>				
<b>Post-Disaster Recovery</b>	No	No	No	No
<i>Comment:</i>				
<b>Real Estate Disclosure</b>	No	No	Yes	No
<i>Comment: CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.</i>				
<b>Growth Management</b>	Yes	No	Yes	Yes
<i>Comment: The Housing Element of the Redwood City General Plan contains information regarding growth management in Redwood City. The Housing Element was last updated and adopted in October 2014.</i>				
<b>Site Plan Review</b>	Yes	No	Yes	Yes
<i>Comment: Engineering Standards – 2019</i>				
<b>Environmental Protection</b>	Yes	No	No	Yes
<i>Comment: RCMC, Chapter 13, Ordinance No. 2393, March 25, 2013</i>				
<b>Flood Damage Prevention</b>	Yes	No	No	Yes
<i>Comment: RCMC Chapter 41, Ordinance No. 2410, January 26, 2015</i>				
<b>Emergency Management</b>	Yes	No	Yes	Yes
<i>Comment: RCMC, Chapter 10, Ordinance No. 2030, November 5, 1990</i>				
<b>Climate Change</b>	No	No	Yes	Yes
<i>Comment: SB 97 directs California Environmental Quality Act (CEQA) Guidelines to address greenhouse gas emissions. Other state policies include AB 32 and SB 375 and regulations of the Climate Action Plan.</i>				
<b>Other</b>	Yes	No	No	Yes
<i>Comment: Water Model Efficient Landscape Ordinance, December 2015; Eastern Low Lying Area Drainage Master Plan, 2015 Urban Water Management Plan; Seismic Vulnerability Assessment, 2011</i>				
<b>Planning Documents</b>				
<b>General Plan</b>	Yes	No	Yes	Yes
<i>Is the plan compliant with Assembly Bill 2140? In process. Update expected at the end of 2022.</i>				
<i>Comment: Safety and housing elements are regularly updated and provide opportunity for hazard mitigation integration.</i>				
<b>Capital Improvement Plan</b>	Yes	No	No	Yes
<i>How often is the plan updated? 5 years</i>				
<i>Comment: CIP part of RC Master Plan</i>				
<b>Disaster Debris Management Plan</b>	No	No	No	No
<i>Comment:</i>				
<b>Floodplain or Watershed Plan</b>	No	No	No	No
<i>Comment:</i>				
<b>Stormwater Plan</b>	Yes	No	Yes	Yes
<i>Comment: California Statewide Stormwater Management Plan, last revised in 2012; Redwood City – June 2015 (currently being updated)</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Urban Water Management Plan <i>Comment: 2015 Urban Water Management Plan for the City of Redwood City</i>	Yes	No	Yes	Yes
Habitat Conservation Plan <i>Comment:</i>	No	No	No	No
Economic Development Plan <i>Comment: Economic Development is addressed in the General Plan.</i>	Yes	No	No	Unsure
Shoreline Management Plan <i>Comment: Working on segmented shoreline management plan for the southern portion of the city. Redwood Shore.</i>	No	No	No	Yes
Community Wildfire Protection Plan <i>Comment: San Mateo County CWPP, April 2018</i>	Yes	Yes	Yes	Yes
Forest Management Plan <i>Comment:</i>	No	No	No	N/A
Climate Action Plan <i>Comment: City of Redwood City Climate Action Plan, November 16, 2020</i>	Yes	No	No	Yes
Emergency Operations Plan <i>Comment: Redwood City Emergency Operations Plan – 2018</i>	Yes	No	Yes	Yes
Threat & Hazard Identification & Risk Assessment (THIRA) <i>Comment: Bay Area UASI THIRA Plan</i>	No	No	No	No
Post-Disaster Recovery Plan <i>Comment:</i>	No	No	No	No
Continuity of Operations Plan <i>Comment: The Continuity of Operations Plan was updated by an outside consultant in early 2020</i>	Yes	No	No	Unsure
Public Health Plan <i>Comment: San Mateo County Health Plans, reports, and Community Health Needs Assessments</i>	No	Yes	No	No
Other <i>Comment: Downtown Precise Plan, May 2016; Flood Incident Response Annex to the Redwood City EOP.</i>	Yes	No	No	Yes

**Table 16-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No



**Table 16-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes – water, sewer, solid waste
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes – Police Grants, DWM
Development Impact Fees for Homebuyers or Developers	Yes
Other (Utility User Tax)	Yes

**Table 16-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development Department – Planning & Engineering, Engineers
Engineers or professionals trained in building or infrastructure construction practices	Yes	Community Development Department – Building Inspection and Code Enforcement, Building Inspectors
Planners or engineers with an understanding of natural hazards	Yes	Community Development Department – Planning & Engineering, Engineers
Staff with training in benefit/cost analysis	Yes	Community Development Department – Planning & Engineering, Engineers
Surveyors	Yes	Community Development Department – Contracted service – dependent on funding
Personnel skilled or trained in GIS applications	Yes	Community Development Department – Planning Services - Maps, GIS & Property Research - GIS Coordinator
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Fire Department – Disaster Preparedness, Emergency Preparedness Coordinator
Grant writers	Yes	Grant writers available in departments for most grants – contracted service for larger grants (dependent on funding)

**Table 16-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes – City Manager’s Office – Public Communication Manager
Do you have personnel skilled or trained in website development?	Yes – Administrative Services - Information Technology’s function and City Manager’s Office – Communications Division
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	No
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Facebook, Instagram, Twitter, Nextdoor
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	No
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	No
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes Redwood City encourages registration with SMC Alert

**Table 16-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Community Development Department
Who is your floodplain administrator? (department/position)	Community Development Department – City Engineer
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	January 10, 2005
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	October 2014
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	Yes The study case # is 18-09-0032S, the project ID is “Redwood City LAMP (levee analysis and mapping procedures)”. The effective Flood Insurance Rate Maps show a seclusion zone for a portion of redwood city that has non-certified levees along the SF Bay. A natural valley analysis has been created to determine inundation limits assuming the levees do not provide any flood protection, and we have since been convening local levee partnership team meetings to determine next steps.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	No Not revised to include coastal hazards and Sea Level Rise.



Criterion	Response
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	Yes CFM training/designation would be beneficial
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	508 \$184,687,800 \$558,165
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	39 \$396,533

a. According to FEMA statistics as of April 12, 2021

**Table 16-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608160102	N/A
DUNS#	Yes	077372423	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule (in the process of certifying)	Yes	In process	In process
Public Protection	Yes	1	2018
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 16-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: City's General Plan and Climate Action Plan demonstrate an understanding of potential climate change impacts. At this point, there is no adaptation plan for the City, however, in 2020, an interdepartmental Climate Adaptation Team and a Council Climate Action subcommittee were formed to study climate impacts, develop measures to address them, and manage climate initiatives.</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment: City monitors GHG emissions with annual inventories, but does not systematically monitor climate change impacts.</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: City has worked collaboratively with County initiatives such as SeaChange San Mateo County and Climate Ready SMC on SLR vulnerability assessments and preparing for the effects of climate change.</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: City works with countywide RICAPS initiative to conduct a GHG inventory each year. Inventories are currently available for 2005, 2010, and 2015-2017.</i>	High

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Capital planning and land use decisions informed by potential climate impacts</b> <i>Comment: City's General Plan informs land use and has a sustainability focus, however some areas may be at greater risk from sea level rise and flooding than indicated in the 2010 Plan, and their FEMA Flood Zone designation may change. Capital planning for infrastructure at greatest risk, (SVCW, water, wastewater, and sewer infrastructure) is severely hindered by available budget for long-term improvements and relocation of facilities.</i>	Low
<b>Participation in regional groups addressing climate risks</b> <i>Comment: City participates in the countywide RICAPS initiative, SeaChange SMC, Climate Ready SMC, and SM Flood and Sea Level Rise Dist..</i>	High
<b>Implementation Capacity</b>	
<b>Clear authority/mandate to consider climate change impacts during public decision-making processes</b> <i>Comment: Climate impacts of projects are not currently required to be addressed in staff reports to Council. Projects are not required to show consistency with the City's CAP, but consideration of climate change impacts is allowed.</i>	Low
<b>Identified strategies for greenhouse gas mitigation efforts</b> <i>Comment: City has a robust Climate Action Plan with 33 strategies for reducing GHG emissions 50% below 2005 levels by 2030.</i>	High
<b>Identified strategies for adaptation to impacts</b> <i>Comment: General strategies for climate adaptation are included in the Climate Action Plan as a reference, but not refined, robust, or specific to the City. The intent is to produce a well-developed Climate Adaptation Plan for the City with actionable measures, timelines, and budgets in the next 2-5 years.</i>	Low
<b>Champions for climate action in local government departments</b> <i>Comment: City has a FT Environmental Initiatives Coordinator in Public Works and has formed an interdepartmental Climate Adaptation Team. While there are a few interested staff, deeply committed departmental champions have yet to emerge.</i>	Medium
<b>Political support for implementing climate change adaptation strategies</b> <i>Comment: The City has a supportive Council and a Climate Action subcommittee of Council dedicated to climate action and adaptation. We also have active and engaged community-based organizations and community members and active environmental organizations supporting climate action and adaptation. However, there are some competing goals and priorities expressed by the development community that can pose a challenge to climate initiatives.</i>	Medium
<b>Financial resources devoted to climate change adaptation</b> <i>Comment: The budget for climate initiatives is not insignificant, however at this point it is mostly earmarked for GHG mitigation measures rather than adaptation measures. We anticipate allocating funding for Adaptation planning in the near-term, but not for implementing adaptation measures in the next 2-3 years.</i>	Medium
<b>Local authority over sectors likely to be negative impacted</b> <i>Comment: City has limited authority over some sectors likely to be negatively impacted (state highways, gas and electric utility lines, private levees, shared authority over port/SVCW, pockets of unincorporated County at risk of wildfire adjacent to private properties in Redwood City, private properties prone to flooding/wildfire, and public health as a County function).</i>	Medium
<b>Public Capacity</b>	
<b>Local residents knowledge of and understanding of climate risk</b> <i>Comment: The City has active and engaged community-based organizations and community members and active environmental organizations supporting climate action and adaptation. There are pockets of climate denial amongst community members, and there may be significant gaps in understanding communitywide regarding the magnitude of SLR/flood risk, wildfire risk, infrastructure risk, and public health risk. There are also some competing goals and priorities expressed by the development community that can pose a challenge to climate initiatives..</i>	Medium
<b>Local residents support of adaptation efforts</b> <i>Comment: Adaptation efforts may have high level of support from many local residents in theory, but that support may drop when other priorities are advanced which compete for the same funding and staff time. As the adaptation strategies and measures are defined and refined over time, the more costly or disruptive they are, the more the basic level of support will drop among residents.</i>	Medium



Criterion	Jurisdiction Rating <sup>a</sup>
<b>Local residents' capacity to adapt to climate impacts</b> <i>Comment: Adaptive capacity ranges from very high to very low, based on income, location, and health. Those low-income residents living in flood-prone areas, for example, have very little capacity for relocation due to high land cost. High-income residents located in the upland areas would more likely be affected by power outages and wildfires, but have the resources to deploy solar and emergency backup generator systems or to rebuild/relocate.</i>	Low
<b>Local economy current capacity to adapt to climate impacts</b> <i>Comment: Adaptive capacity is highly dependent on the scope and severity of climate impacts. Rebuilding levees, managed retreat, and rebuilding/relocating buildings and infrastructure in the face of extreme flooding and SLR are extremely costly adaptation measures and, in many cases, would require substantial public funding and a multi-jurisdictional approach to implement. Securing long-term water supply for the City in the face of sustained drought conditions would likewise impact the local economy significantly on a number of levels.</i>	Low
<b>Local ecosystems capacity to adapt to climate impacts</b> <i>Comment: The City is built out and the local ecosystems are generally confined to the upland wooded areas and the Bay and Bay-adjacent protected areas. Water quality may be significantly impacted in the Bay with sewer spills and runoff from flooding. Wildfires may be extremely detrimental to the local Ecosystems in the short-term, but the capacity to adapt over the medium and long-term may not be seriously impacted. Drought may be the most serious threat to local ecosystems, which may have the least capacity to adapt to extreme changes in water supply.</i>	Medium

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 16.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 16.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **City of Redwood City General Plan, Safety Element**—The City of Redwood City has already integrated hazard mitigation into the General Plan Safety Element, including specific initiatives on hazard mitigation planning updates, hazard risks, and associated objectives.
- Neighborhood association meetings are being held on a bi-monthly basis.

### 16.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **General Plan, Safety Element**—Per SB-379, Redwood City is anticipating an update to its safety element to reflect vulnerability assessment results for climate change impacts. Assessment results will prioritize climate change related goals, policies and objectives currently in the Safety Element.

- **General Plan, Housing Element**—The Housing Element of the City’s General Plan currently includes information on certain hazards (i.e. fire, earthquake, and hazardous materials). The City recognizes that the next update to the Housing Element would benefit greatly through the incorporation of elements of the hazard mitigation. The City intends to review current parallels between both planning initiatives for future integration.
- **Redwood City Community Climate Action Plan**—The Climate Action Plan provides the City with an opportunity to directly integrate hazard mitigation with existing goals and objectives. Since the Climate Action Plan already provides a strategic guide for minimizing the impact of human activity on the environment, integration of hazard mitigation is a fitting and strategic next step. Redwood City anticipates that future assessments to the Climate Action Plan will include hazard mitigation as it relates to air quality, land use, and other factors.
- Redwood City is currently working with other jurisdictions to establish a flood control district before the next hazard mitigation update cycle. The establishment of the flood control district would provide Redwood City and other affected jurisdictions with additional subject matter expertise and assistance in regional flood hazard identification, regulations, remediation, and public education.
- **The City of Redwood City’s Downtown Precise Plan** describes the future of the downtown area, regulates private development, and recommends future City projects. Integration of hazard mitigation goals and objectives will be considered during the next update of this plan.
- **The City of Redwood City’s Draft Inner Harbor Specific Plan** includes information regarding sea-level rise and an overall, long term adaptation strategy for the Inner Harbor area. Integration of appropriate hazard mitigation goals and objectives could be considered for inclusion in the final, adopted Inner Harbor Specific Plan. The final plan is currently stalled but expected sometime after the adoption of the HMP.
- The City of Redwood City is in the process of certifying and intends to review the Building Code Effectiveness Grading Schedule for potential implementation.

## 16.6 RISK ASSESSMENT

### 16.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 16-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

### 16.6.2 Hazard Risk Ranking

Table 16-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.



**Table 16-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Fire	FM-5336	August 20, 2020	Mutual aid provided in fire response.
Lightning	N/A	August 16, 2020	Lightning struck a redwood tree in Redwood City.
Fire	DR-4558	August 14-September 26, 2020	Mutual aid provided in fire response.
California COVID-19	DR-4482	January 20, 2020 continuing	Ongoing
California COVID-19	EM-3428	January 20, 2020 continuing	Ongoing
Flood	N/A	December 11, 2014	Flooding caused damage to multiple manufactured homes. Property and personal property damage reported.
Fire	FM-2856	September 10, 2010	Mutual aid provided in fire response.
Severe Storm(s)	N/A	January 20, 2010	Minor flooding. Power outages reported. Tree debris from winds.
Severe Storm(s)	N/A	October 13, 2009	Minor flooding. Power outages reported. Tree debris from winds.
Severe Storm(s)	DR-1646	June 5, 2006	Minor flooding. Power outages reported. Tree debris from winds.
Severe Storm(s)	DR-1628	February 3, 2006	Minor flooding. Power outages reported. Tree debris from winds.
Severe Storm(s)	DR-1203	February 9, 1998	Minor flooding. Power outages reported. Tree debris from winds.
Severe Storm(s)	DR-1155	January 4, 1997	Minor flooding. Power outages reported. Tree debris from winds.
Severe Storm(s)	N/A	March 4, 1996	Minor flooding. Power outages reported. Tree debris from winds.
Severe Storm(s)	DR-1046	March 12, 1995	Minor flooding. Power outages reported. Tree debris from winds.
Severe Storm(s)	DR-1044	January 10, 1995	Minor flooding. Power outages reported. Tree debris from winds.
Freezing	DR-894	February 11, 1991	Reports of dead trees – subsequent safety concern for falling trees and wildfire fuels.
Earthquake	DR-845	October 18, 1989	\$3 million in damages to old City courthouse.
Flood	DR-758	February 21, 1986	Unknown
Coastal Storm	DR-677	February 9, 1983	Unknown
Flood	DR-651	January 7, 1982	Unknown
Drought	EM-3023	January 20, 1977	Unknown
Flood	DR-145	February 25, 1963	Unknown
Severe Storm(s)	DR-138	October 24, 1962	Unknown
Flood	DR-122	March 6, 1962	Unknown
Flood	DR-82	April 4, 1958	Unknown
Fire	DR-65	December 29, 1956	Unknown
Flood	DR-47	December 23, 1955	Unknown
Flood	DR-15	February 5, 1954	Unknown

**Table 16-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea Level Rise / Climate Change	126	High
2	Flood	114	High
3	Earthquake	84	High
4	Landslide/Mass Movements	72	High
5	Dam Failure	36	High
6	Wildfire	27	Medium
7	Severe weather	24	Medium
8	Tsunami	18	Low
9	Drought	9	Low

### 16.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Redwood Shores – The Redwood Shores Community was built upon reclaimed land in the San Francisco Bay marshes. The soft ground that supports the community, known as bay mud, poses serious liquefaction concerns for a moderate to large earthquake. Additionally, Redwood Shores is vulnerable to sea-level rise due to the large levee system that currently shields the community from the bay.
- Pacific Shores and Seaport Center – Both areas are known to be at-risk flood areas, particularly when combined with natural tidal phenomenon.
- US 101/Bayshore Road – A series of manufactured homes along US 101 and Bayshore Road are identified at-risk areas for flooding.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

### 16.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 16-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 16-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action RC-1</b> —Train Redwood City staff directly involved in hazard mitigation process and project implementation to levels appropriate for their hazard mitigation tasks and responsibilities. Comment: Ongoing			✓	RWC-12
<b>Action RC-2</b> —Conduct disaster-preparedness exercises for the types of hazards discussed in this LHMP with a focus on less-exercised hazards such as landslide and flood response. Comment: Ongoing			✓	RWC-13



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action RC-3</b>—Develop an awareness level training program for new City staff to address emergencies and to levels appropriate for their hazard mitigation tasks and responsibilities.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-14
<p><b>Action RC-4</b>—Examine the City's existing infrastructure, identify sources of potential funding to upgrade its older facilities, and install new infrastructure to the latest seismic standards under its Seismic Improvement Plan. The seismic vulnerability assessment – Water distribution system assessment has identified key water infrastructure that should be replaced to mitigate the effect of seismic events.</p> <p><b>Comment:</b> Ongoing, grants have been received for infrastructure upgrades.</p>			✓	RWC-11
<p><b>Action RC-5</b>—Develop and carry out environmentally sensitive flood reduction programs.</p> <p><b>Comment:</b> Flood reduction is performed on an annual basis.</p>			✓	RWC-15
<p><b>Action RC-6</b>—Develop a targeted wildfire awareness public information program for property owners in the WUI, including information on managing potential fuel sources on their privately owned property.</p> <p><b>Comment:</b> Several community meetings have been conducted.</p>			✓	RWC-16
<p><b>Action RC-7</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-1
<p><b>Action RC-8</b>—Continue to support the countywide actions identified in this plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-4
<p><b>Action RC-9</b>—Actively participate in the plan maintenance strategy identified in this plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-3
<p><b>Action RC-10</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b> Tree City is ongoing. Rework to reflect current considerations.</p>			✓	RWC-17
<p><b>Action RC-11</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-5
<p><b>Action RC-12</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> Routinely performed. Does not need to be carried over.</p>				
<p><b>Action RC-13</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-2
<p><b>Action RC-14</b>—Improve the recycled water system as outlined in Phase II.A and Phase II.B Pipeline Alignment Study to alleviate demand on the domestic water system during times of drought.</p> <p><b>Comment:</b> Phase II.A Complete. Ongoing.</p>			✓	RWC-19

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action RC-15</b>—Continue to evaluate the City's stormwater drainage and pumping system to determine upgrades to mitigate flooding conditions.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-21
<p><b>Action RC-16</b>—Upgrade and add sanitary sewer lines in accordance with the 2013 Sewer System Master Plan to add capacity and redundancy, while reducing the risk of major service blockage.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-22
<p><b>Action RC-17</b>—Seek opportunities to improve upon or exceed minimum standards regarding defensible space, where able and appropriate.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-23
<p><b>Action RC-18</b>—Conduct engineering study on Fire Station 12 to test seismic stability and other hazard-related structural standards.</p> <p><b>Comment:</b> Facility Assessment was completed 11/30/2017 including property research for building location in Seismic Zone 4</p>	✓			
<p><b>Action RC-19</b>—Implement recommendations provided by Fire Station 12 study.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-25
<p><b>Action RC-20</b>—Conduct engineering study on Public Works building to test seismic stability and other hazard-related structural standards.</p> <p><b>Comment:</b> Facility Assessment was completed 5/15/2017 including property research for building location in Seismic Zone 4</p>	✓			
<p><b>Action RC-21</b>—Implement recommendations provided by Public Works building study.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-26
<p><b>Action RC-22</b>—Determine status of local dams through continued communications with the County.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-27
<p><b>Action RC-23</b>—Establish a vegetation management program that focuses on clearing and maintenance of the hillsides.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-24
<p><b>Action RC-24</b>—Continue drought public outreach, including the encouragement of water conservation methods during non-drought times.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-20
<p><b>Action RC-25</b>—Expand the recycled water system to work towards City-wide coverage.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-19
<p><b>Action RC-26</b>—Collect data to better understand the tsunami hazard and its effect on Redwood City.</p> <p><b>Comment:</b> FEMA inundation mapping is available.</p>				
<p><b>Action RC-27</b>— Evaluate adequacy of existing levees and make improvements on levees to reduce impacts from flooding and coastal hazards.</p> <p><b>Comment:</b> Ongoing</p>			✓	RWC-28

## 16.8 HAZARD MITIGATION ACTION PLAN

Table 16-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 16-15 identifies the priority for each action. Table 16-16 summarizes the mitigation actions by hazard of concern and mitigation type.



**Table 16-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action RWC-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami, Sea Level Rise						
Existing	6, 7, 9,13	Redwood City	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action RWC-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the General Plan, the Redwood City Community Climate Action Plan, the City of Redwood City's Downtown Precise Plan, and the City of Redwood City's Draft Inner Harbor Specific Plan.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami, Drought, Sea Level Rise						
New & Existing	10, 12	Redwood City	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action RWC-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami, Drought, Sea Level Rise						
New & Existing	10, 12	Redwood City	San Mateo County	Low	Staff Time, General Funds	Short-term
<b>Action RWC-4</b> —Continue to support the countywide actions identified in this plan.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami, Drought, Sea Level Rise						
New & Existing	10, 12	Redwood City	N/A	Low	Staff Time, General Funds	Short-term
<b>Action RWC-5</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<i>Hazards Mitigated:</i> Climate Change, Flood, Dam Failure, Tsunami						
New & Existing	1, 2, 10, 14	Redwood City	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action RWC-6</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
• Implementation of Redwood City's Climate Action Plan						
<i>Hazards Mitigated:</i> Climate Change, Drought, Sea Level Rise						
New & Existing	7, 14	Redwood City	N/A	Low	Staff Time, General Funds	Short-term
<b>Action RWC-7</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power.						
<i>Hazards Mitigated:</i> Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami						
Existing	6, 7	Redwood City		Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action RWC-8</b> — Purchase portable generators for critical facilities and infrastructure that lack adequate backup power.						
<i>Hazards Mitigated:</i> Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami						
Existing	6, 7	Redwood City	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action RWC-9</b> —Conduct a feasibility study to inventory soft-story structures in the city.						
<i>Hazards Mitigated:</i> Earthquake						
Existing	1, 2, 10	Redwood City	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action RWC-10</b> —Develop an inventory of soft-story structures in the city.						
<i>Hazards Mitigated:</i> Earthquake						
Existing	1, 2, 10	Redwood City	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action RWC-11</b> —Examine the City's existing infrastructure, identify sources of potential funding to upgrade its older facilities, and install new infrastructure to the latest seismic standards under its Seismic Improvement Plan. The Seismic Vulnerability Assessment – Water Distribution System Assessment has identified key water infrastructure that should be replaced to mitigate the effect of seismic events.						
<i>Hazards Mitigated:</i> Earthquake						
Existing	1, 2, 10	Redwood City	N/A	Medium	Grant Funding, -FEMA HMA (BRIC, FMA and HMGP) General Funds	Short-term
<b>Action RWC-12</b> —Train Redwood City staff directly involved in hazard mitigation process and project implementation to levels appropriate for their hazard mitigation tasks and responsibilities.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami, Drought, Sea Level Rise						
New and Existing	8, 10, 12	Redwood City	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action RWC-13</b> —Conduct disaster-preparedness exercises for all hazards, guided by the Cal OES Type 3 credential program.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami, Drought						
New and Existing	8, 10, 12	Redwood City	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action RWC-14</b> —Develop an awareness level training program for new City staff to address emergencies and to levels appropriate for their hazard mitigation tasks and responsibilities.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami, Drought, Sea Level Rise						
New and Existing	8, 10, 12	Redwood City	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action RWC-15</b> —Develop and carry out environmentally sensitive flood reduction programs.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Sea Level Rise						
New and Existing	1, 2, 8, 10, 14	Redwood City	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Ongoing
<b>Action RWC-16</b> —Develop a targeted wildfire awareness public information program for property owners in the WUI, including information on managing potential fuel sources on their privately owned property.						
<i>Hazards Mitigated:</i> Wildfire						
New and Existing	1, 2, 8, 10, 14	Redwood City	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA, FMAG and HMGP), General Funds	Ongoing
<b>Action RWC-17</b> —Consider participation in incentive-based programs such as the Community Rating System and StormReady.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe weather, Sea Level Rise						
New and Existing	1, 2, 8, 10, 14	Redwood City	N/A	Medium	Staff Time, General Funds	Short-term
<b>Action RWC-18</b> —Improve the recycled water system as outlined in Phase II.B Pipeline Alignment Study to alleviate demand on the domestic water system during times of drought.						
<i>Hazards Mitigated:</i> Drought						
New and Existing	1, 2, 6, 7, 8, 10, 14	Redwood City	N/A	Low	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action RWC-19</b> —Expand the recycled water system to work towards City-wide coverage including a rain barrel system.						
<i>Hazards Mitigated:</i> Drought						
New and Existing	1, 2, 6, 7, 8, 10, 14	Redwood City	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action RWC-20</b> —Continue drought public outreach, including the encouragement of water conservation methods during non-drought times.						
<i>Hazards Mitigated:</i> Drought, Sea Level Rise						
New and Existing	2, 3, 5	Redwood City	N/A	Low	General Funds	Ongoing
<b>Action RWC-21</b> —Continue to evaluate the City's stormwater drainage and pumping system to determine upgrades to mitigate flooding conditions.						
<i>Hazards Mitigated:</i> Flood, Sea Level Rise, Sea Level Rise						
New and Existing	1, 2, 8, 10, 14	Redwood City	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action RWC-22</b> —Upgrade and add sanitary sewer lines in accordance with the 2013 Sewer System Master Plan to add capacity and redundancy, while reducing the risk of major service blockage.						
<i>Hazards Mitigated:</i> Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather, Tsunami, Sea Level Rise						
New and Existing	1, 2, 6, 7, 8, 9, 10	Redwood City	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action RWC-23</b> —Improve or exceed minimum standards regarding defensible space, where able and appropriate.						
<i>Hazards Mitigated:</i> Wildfire						
New and Existing	1, 2, 6, 7, 8, 9, 10, 14	Redwood City	N/A	Medium	General Funds	Ongoing
<b>Action RWC-24</b> —Expand existing vegetation management program that focuses on clearing and maintenance of the hillsides.						
<i>Hazards Mitigated:</i> Landslide/Mass Movements, Wildfire						
New and Existing	1, 2, 6, 7, 8, 9, 10, 14	Redwood City	N/A	Low	Grant Funding, General Funds	Ongoing
<b>Action RWC-25</b> —Implement recommendations provided by 2017 Facility Assessment for Fire Station 12.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather,						
Existing	6, 7, 9, 13	Redwood City	N/A	High	Grant Funding, -FEMA HMA (BRIC, FMA and HMGP), AFG General Funds	Short-term
<b>Action RWC-26</b> —Implement recommendations provided by 2017 Facility Assessment for Public Works building.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Dam Failure, Wildfire, Severe weather,						
Existing	6, 7, 9, 13	Redwood City	N/A	High	Grant Fundin-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action RWC-27</b> —Determine status of local dams through continued communications with the County.						
<i>Hazards Mitigated:</i> Dam Failure						
New and Existing	1, 2, 10	Redwood City	San Mateo County	Low	Staff Time, General Funds	Ongoing
<b>Action RWC-28</b> —Evaluate adequacy of existing levees and make improvements on levees to reduce impacts from flooding and coastal hazards.						
<i>Hazards Mitigated:</i> Flood, Tsunami, Sea Level Rise						
New and Existing	1, 2, 10	Redwood City	N/A	Low	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

Table 16-15. Mitigation Action Priority

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	4	High	High	Yes	Yes	No	Medium	High	Medium
2	2	Medium	Low	Yes	No	Yes	High	Low	Medium
3	2	Medium	Low	Yes	No	Yes	High	Low	Medium
4	2	Medium	Low	Yes	No	Yes	High	Low	Medium
5	4	Medium	Low	Yes	No	Yes	High	Low	High
6	2	Medium	Low	Yes	No	Yes	High	Low	High
7	2	High	Medium	Yes	Yes	No	Medium	High	Medium
8	2	High	Medium	Yes	Yes	No	Medium	High	Medium
9	3	Medium	Medium	Yes	Yes	No	Medium	Medium	Medium
10	3	Medium	Medium	Yes	Yes	No	Medium	Medium	Medium
11	3	Medium	Medium	Yes	Yes	No	Medium	Medium	Medium
12	3	Medium	Low	Yes	No	Yes	High	Low	Medium
13	3	Medium	Low	Yes	No	Yes	High	Low	Medium
14	3	Medium	Low	Yes	No	Yes	High	Low	Medium
15	5	High	High	Yes	Yes	No	Medium	High	High
16	5	Medium	High	Yes	Yes	No	Medium	Medium	Low
17	5	Medium	Medium	Yes	No	Yes	High	Low	High
18	7	High	Low	Yes	Yes	Yes	High	Low	Medium
19	7	High	Medium	Yes	Yes	Yes	Medium	High	Medium
20	3	Medium	Low	Yes	Yes	Yes	Medium	Medium	Medium
21	5	Medium	Low	Yes	No	Yes	High	Low	Medium
22	7	High	Medium	Yes	Yes	No	Medium	High	Medium
23	8	Medium	Medium	Yes	No	Yes	High	Low	Low
24	8	High	Low	Yes	Yes	Yes	High	High	Low
25	5	High	High	Yes	Yes	No	Medium	High	Low
26	4	High	High	Yes	Yes	No	Medium	High	Medium
27	3	Medium	Low	Yes	No	Yes	High	Low	Medium
28	3	Medium	Low	Yes	Yes	No	Medium	Medium	Medium

a. See the introduction to this volume for explanation of priorities.



**Table 16-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea Level Rise / Climate Change		1, 25, 25		15		1, 25, 26	2, 3, 4, 6, 18, 19	2, 3, 4, 5, 6, 12, 13, 14, 17
Flood	5, 15, 21, 22	1, 25, 26		15	7, 8	1, 22, 25, 26		2, 3, 4, 5, 12, 13, 14, 17, 28
Earthquake		1, 25, 26			7, 8	1, 11, 22, 25, 26		2, 3, 4, 9, 10, 11, 12, 13, 14
Landslide/ Mass Movements	24	1, 25, 26		24	7, 8	1, 22, 25, 26	24	2, 3, 4, 12, 13, 14
Dam Failure	27	1, 25, 26			7, 8	1, 22, 25, 26		2, 3, 4, 5, 12, 13, 14
<b>Medium-Risk Hazards</b>								
Wildfire	16, 23, 24	1, 25, 26	16	23, 24	7, 8	1, 22, 25, 26	23, 24	2, 3, 4, 12, 13, 14
Severe weather		1, 25, 26			7, 8	1, 22, 25, 26		2, 3, 4, 12, 13, 14, 17
<b>Low-Risk Hazards</b>								
Tsunami		1, 25, 26			7, 8	1, 22, 25, 26		2, 3, 4, 5, 12, 13, 14, 28
Drought			20	19, 20		18, 19, 25, 26	18, 19	2, 3, 4, 6, 12, 13, 14

a. See the introduction to this volume for explanation of mitigation types.

## 16.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **The City of Redwood City Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **The City of Redwood City General Plan**—The General Plan was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **The City of Redwood City Continuity of Operations Plan**—The Continuity of Operations Plan was reviewed for the capability assessment and for identifying opportunities for action plan integration.
- **The City of Redwood City Capital Improvement Program**—The CIP was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **Flood Damage Prevention Ordinance**—The flood damage prevention ordinance in the Redwood City Municipal Code was reviewed for compliance with the National Flood Insurance Program.
- **The City of Redwood City Emergency Operations Plan**—The City of Redwood City Emergency Operations Plan was reviewed for the capability assessment and for identifying opportunities for plan integration.

- **The City of Redwood City Climate Action Plan**—The City of Redwood City Climate Action Plan was reviewed for the capability assessment and for identifying opportunities for action plan integration.
- **2015 Urban Water Management Plan**—The Urban Water Management Plan was reviewed for the capability assessment and for identifying opportunities for action plan integration.
- **Redwood City Downtown Precise Plan**—The Redwood City Downtown Precise Plan was reviewed for the capability assessment and for identifying opportunities for action plan integration.
- **The San Mateo County Community Wildfire Protection Plan**—The CWPP was reviewed for the capability assessment and for identifying opportunities for action plan integration.








The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.



# Redwood City

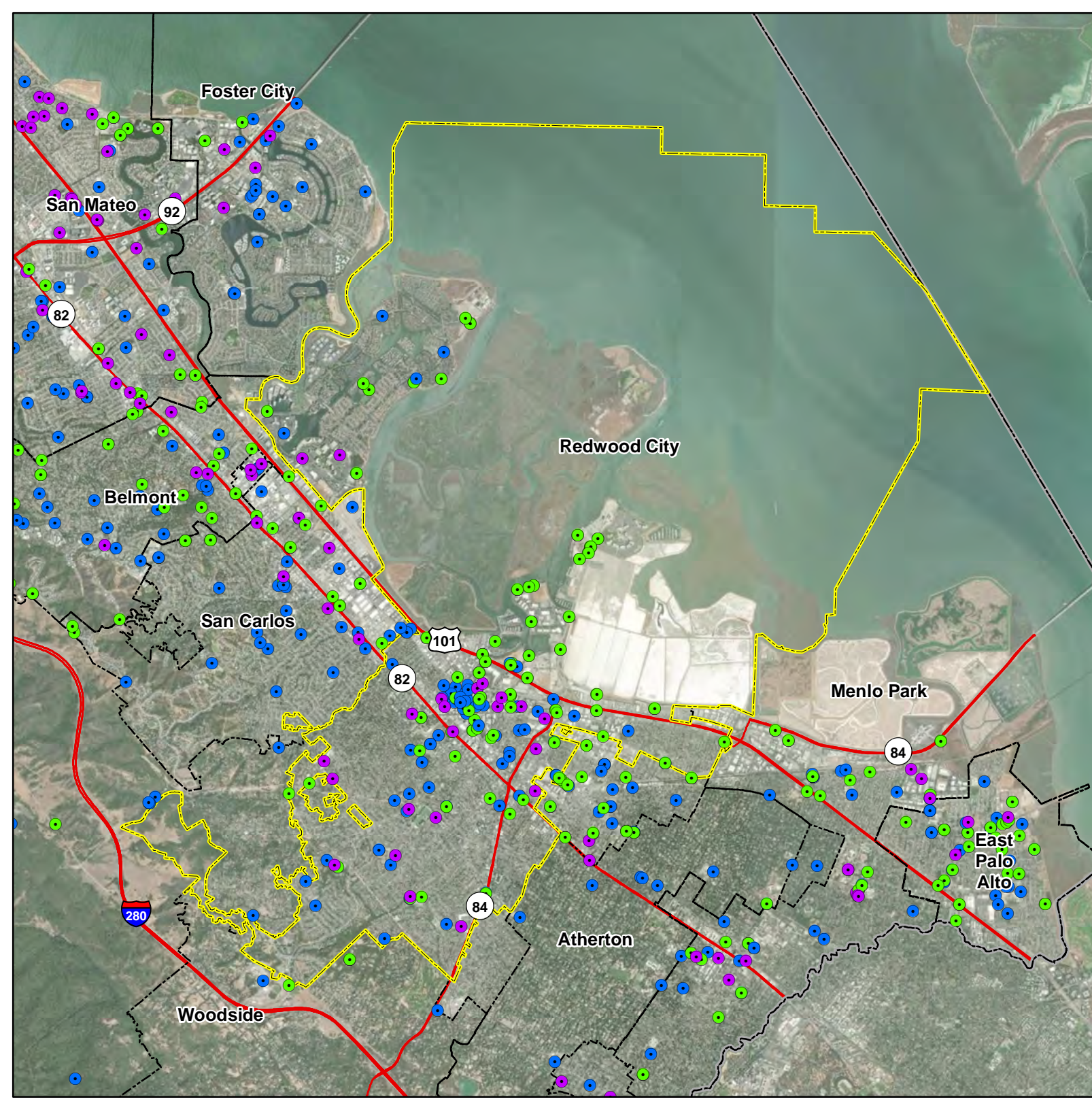
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



0 0.5 1 2 Miles





# Redwood City

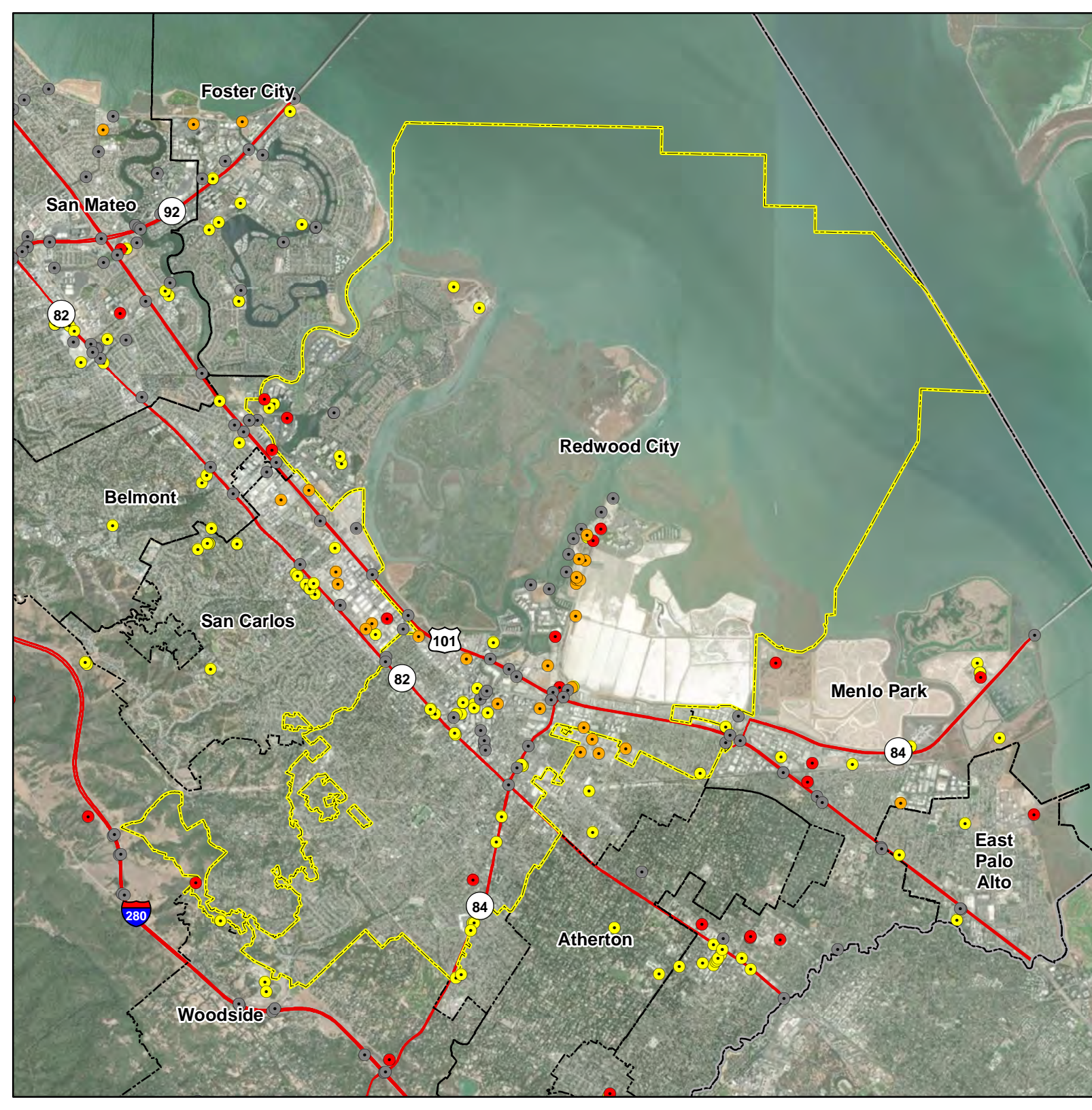
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.5 1 2 Miles





# Redwood City

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










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# Redwood City

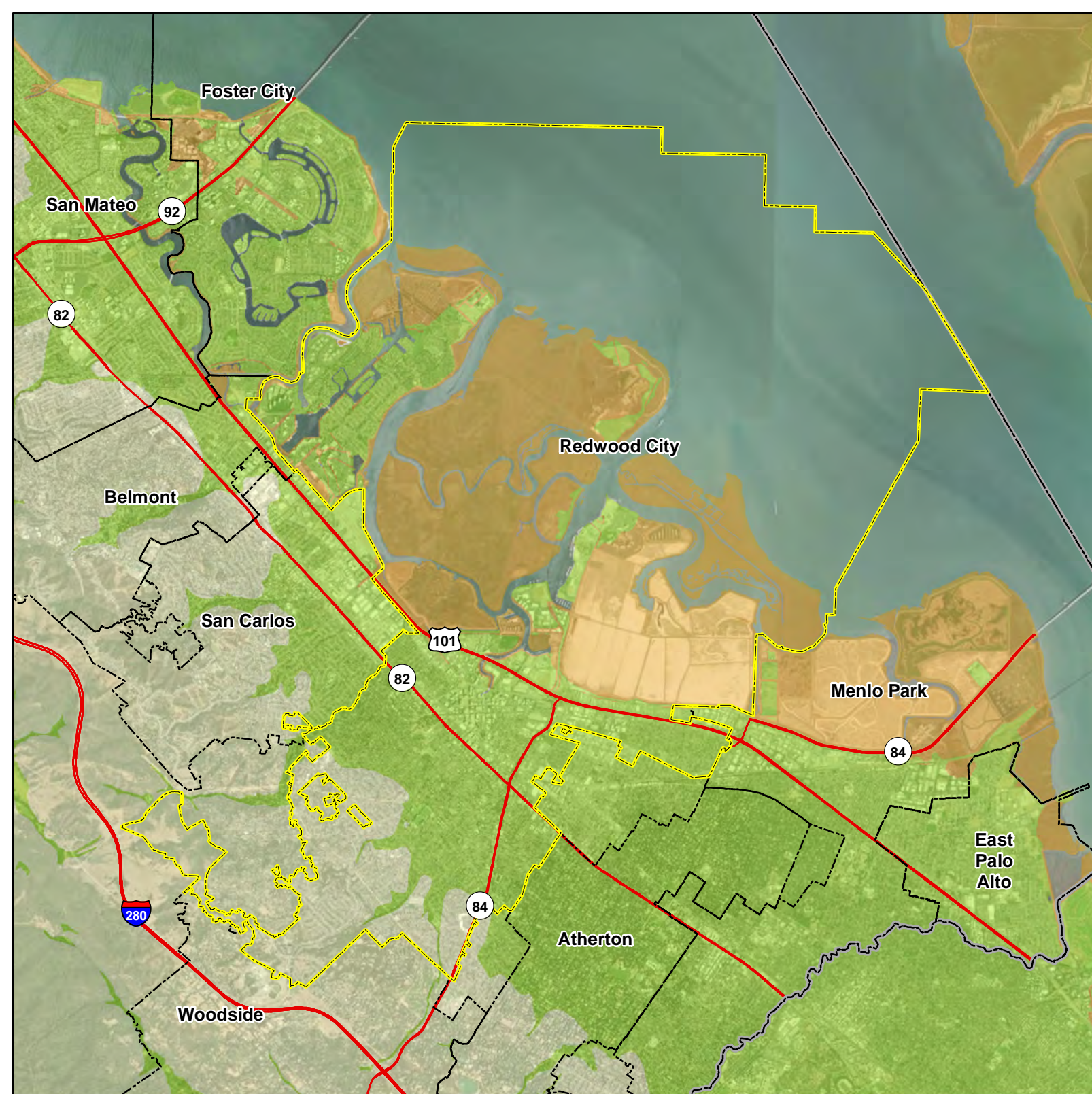
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



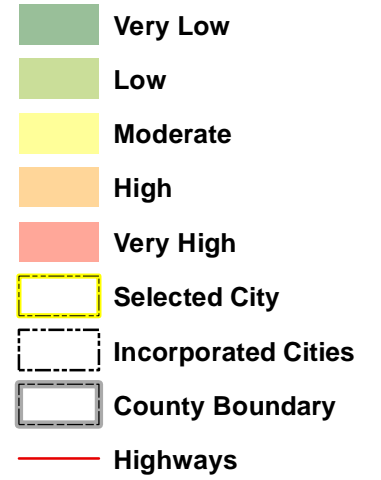
0 0.5 1 2 Miles



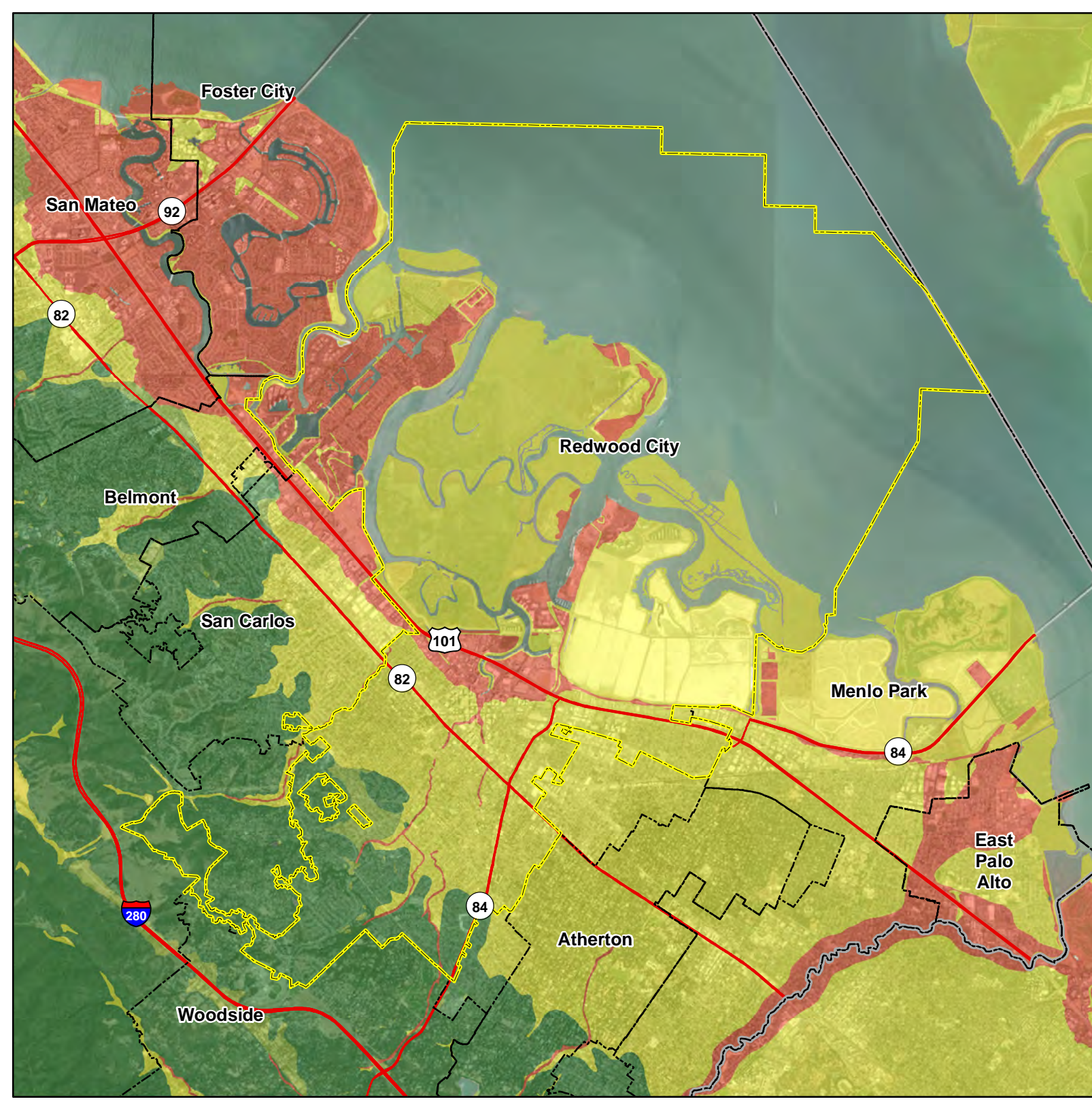


# Redwood City

## Liquefaction Susceptibility



Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)





# Redwood City

## Butano M6.93 Earthquake Scenario

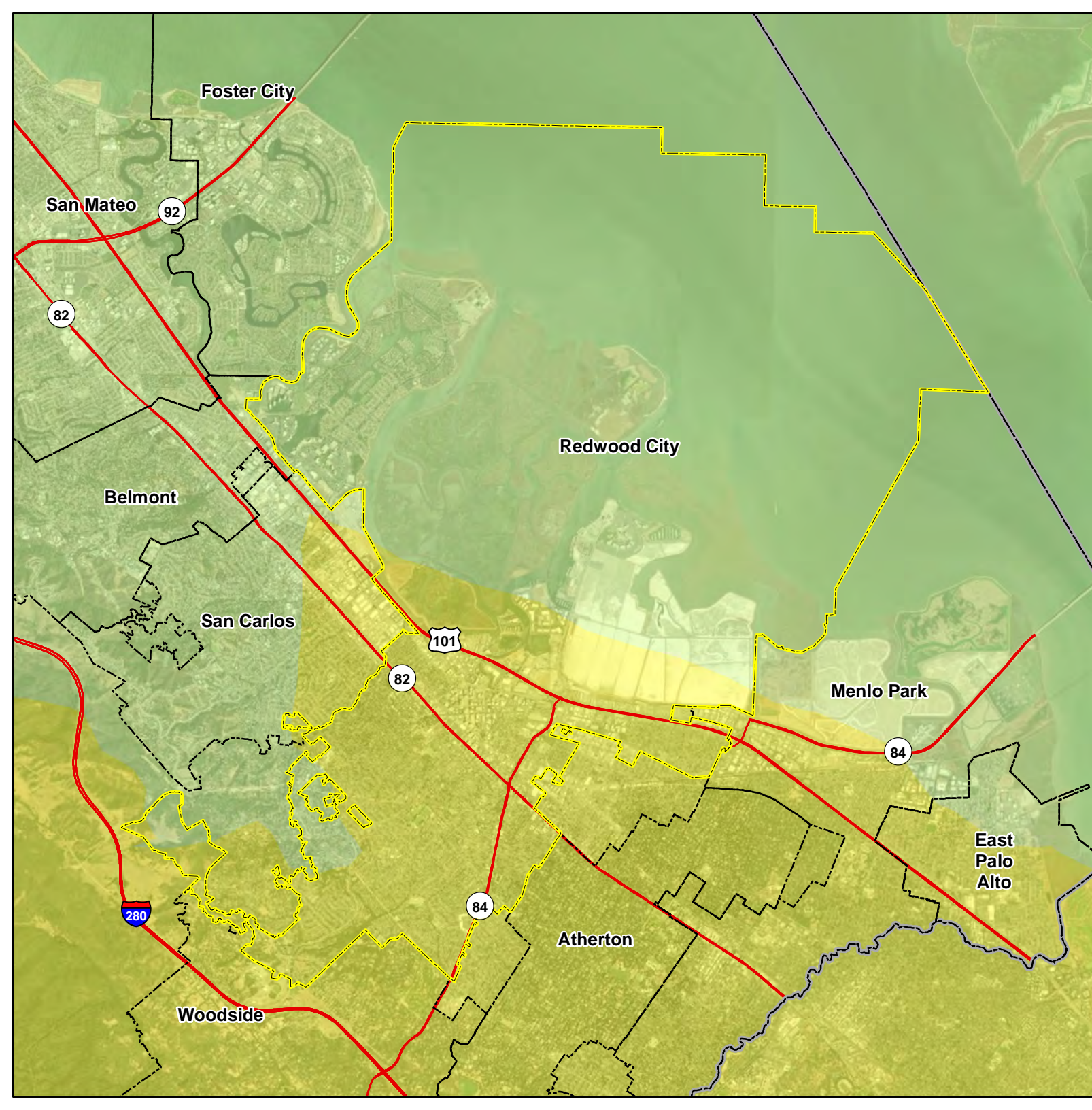
### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)

- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Redwood City

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Redwood City

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

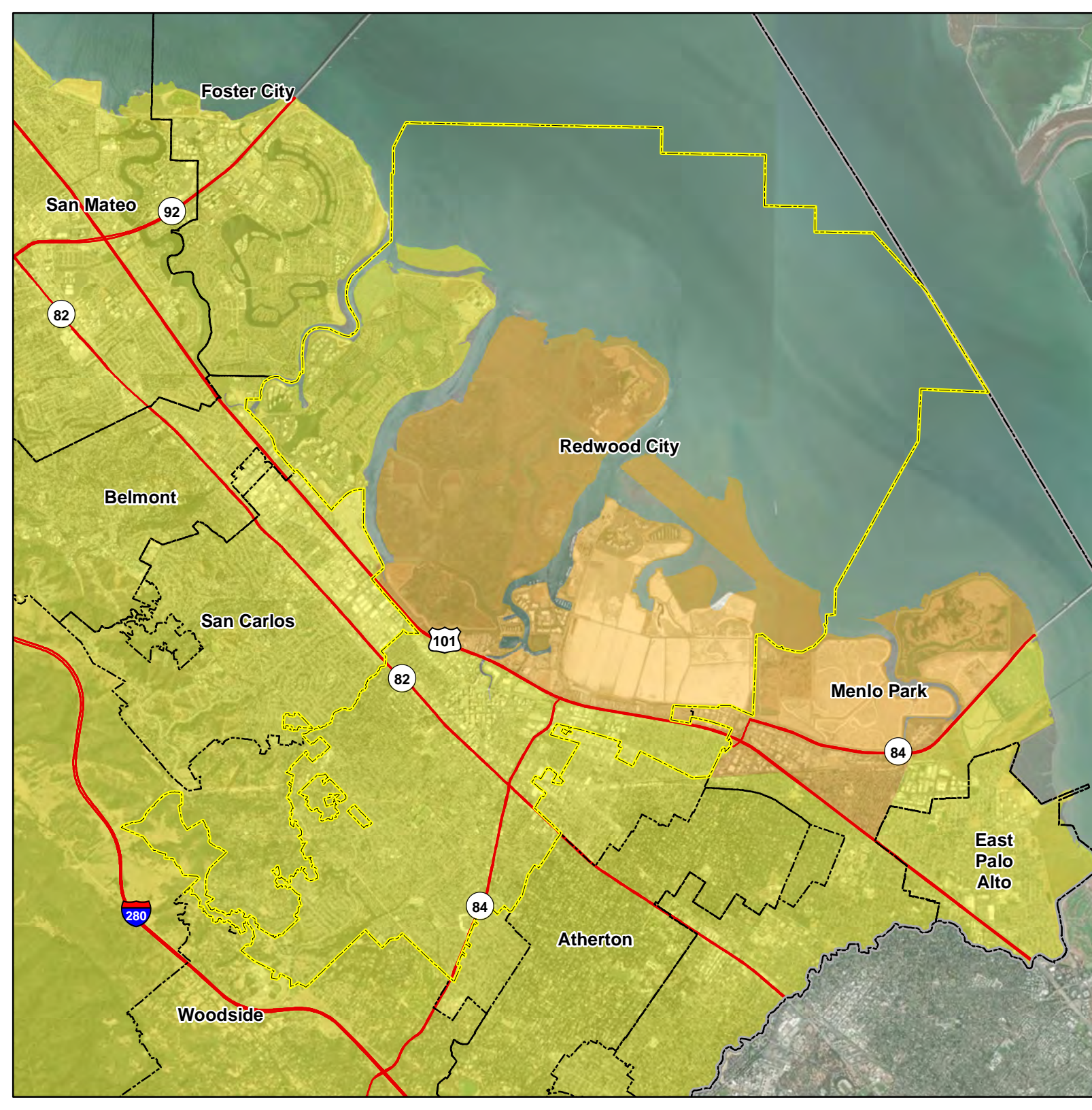
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.5 1 2 Miles





# Redwood City

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# Redwood City

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)

- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.5 1 2 Miles





# Redwood City

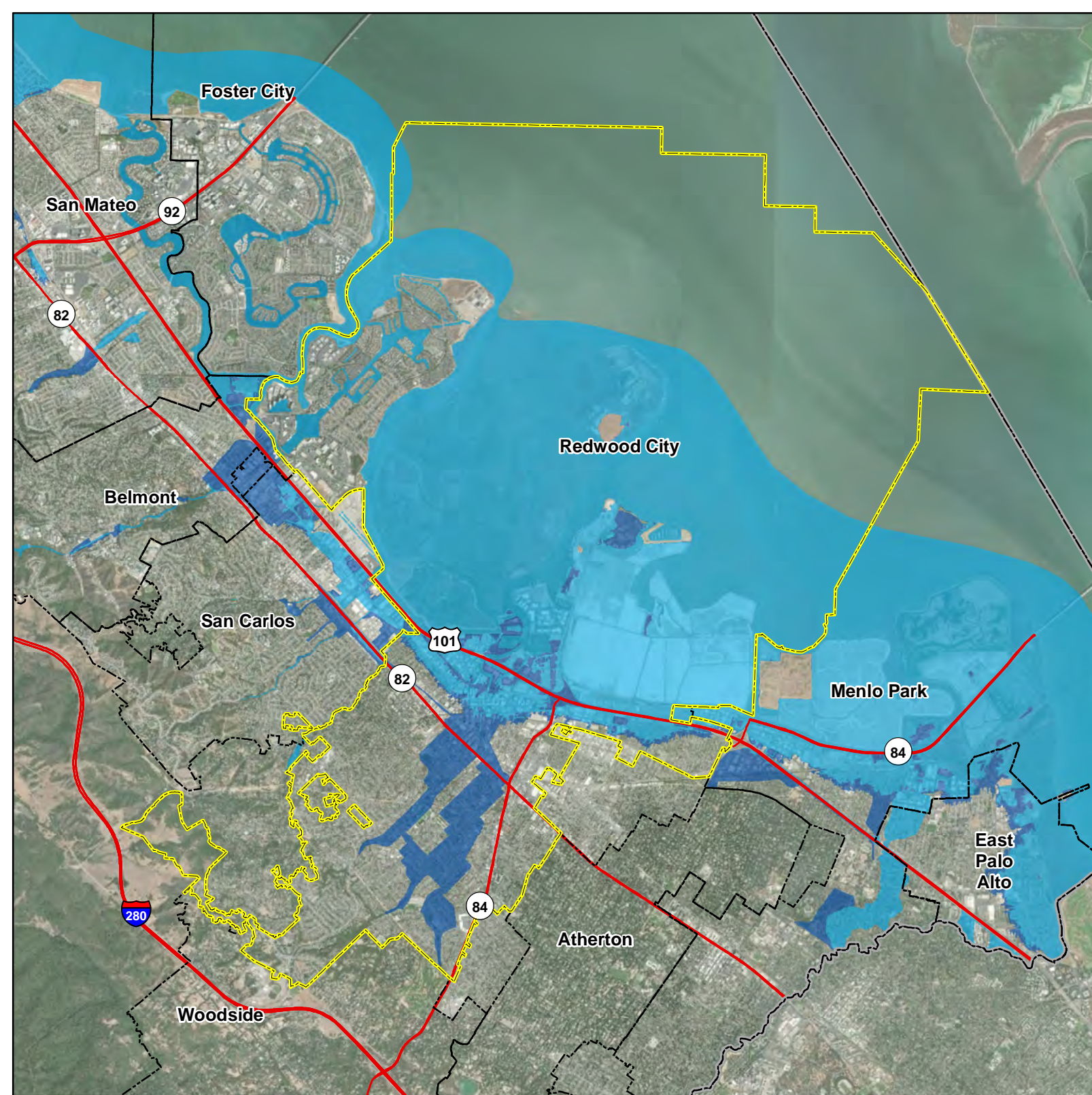
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.5 1 2 Miles





# Redwood City

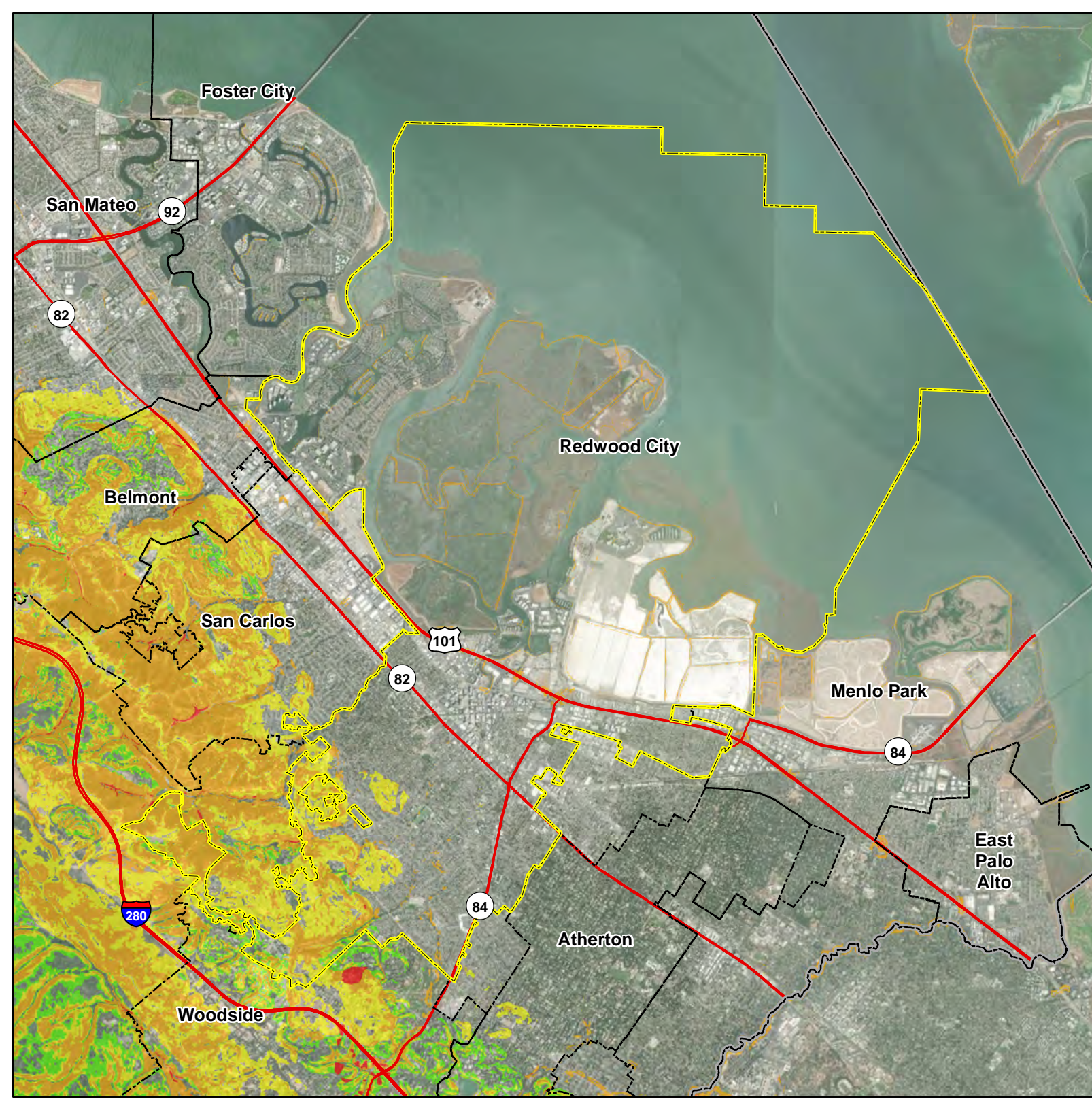
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS








0 0.5 1 2 Miles





# Redwood City

## Sea Level Rise

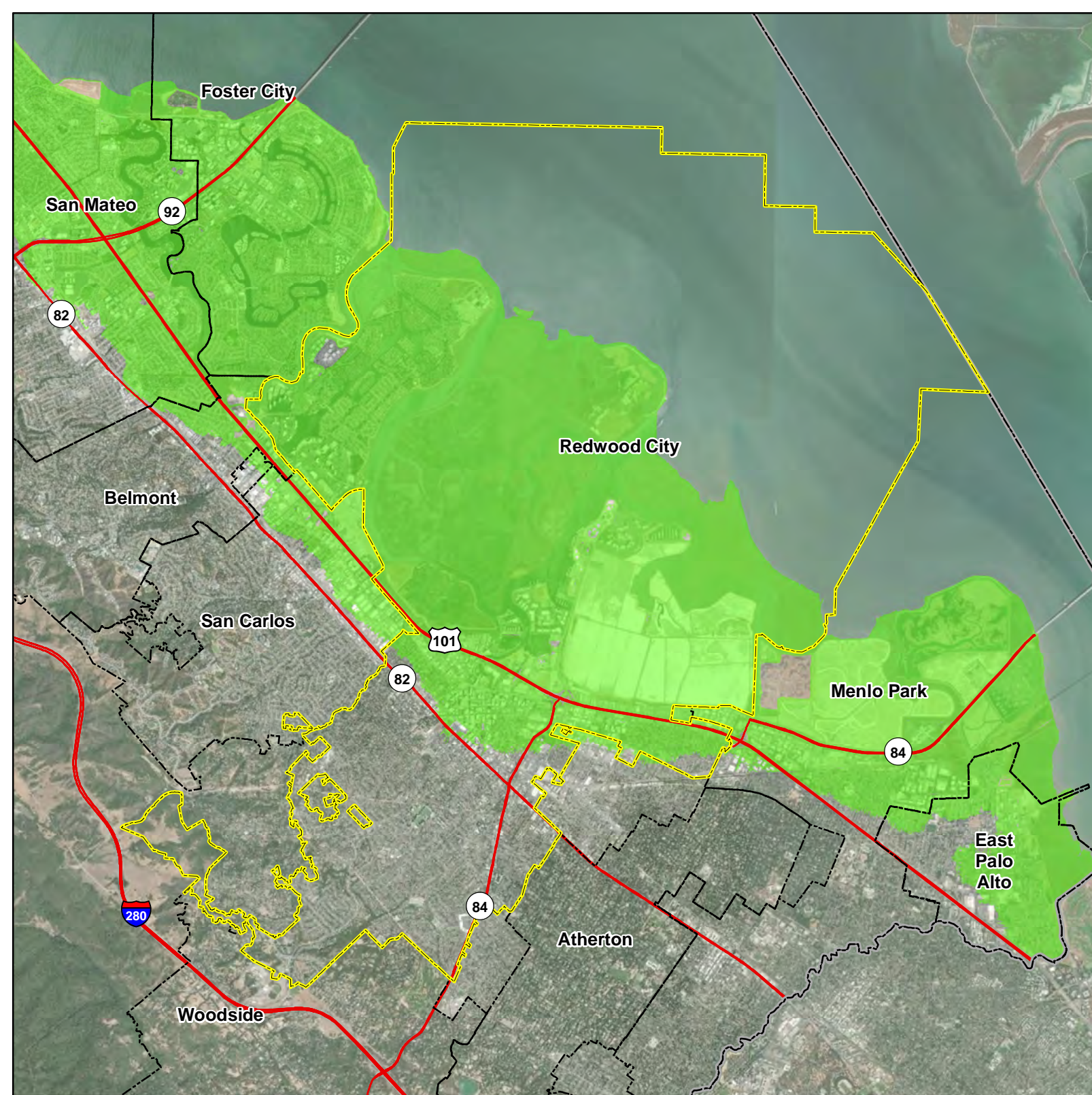
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.5 1 2 Miles





# Redwood City

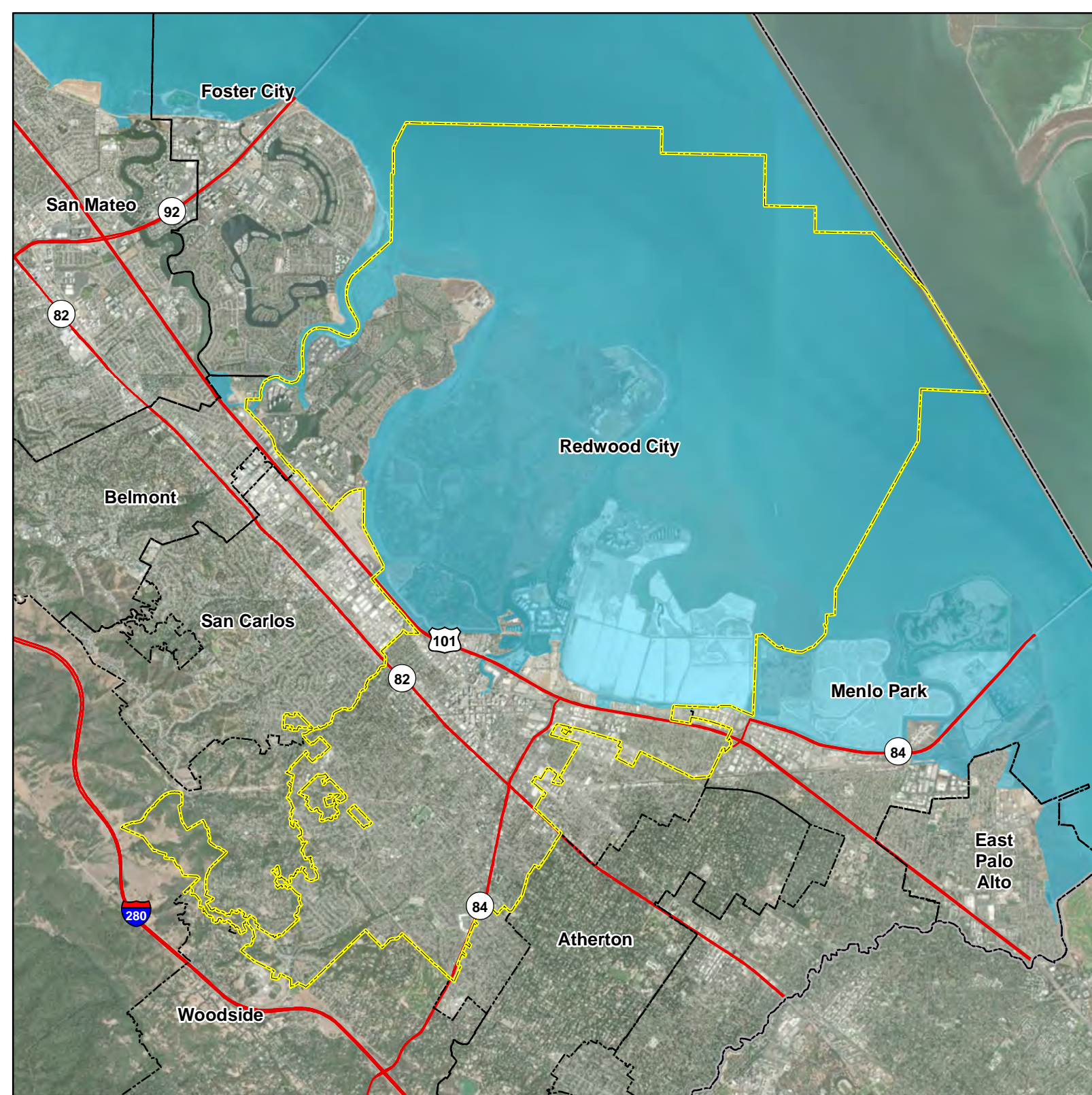
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.5 1 2 Miles





# Redwood City

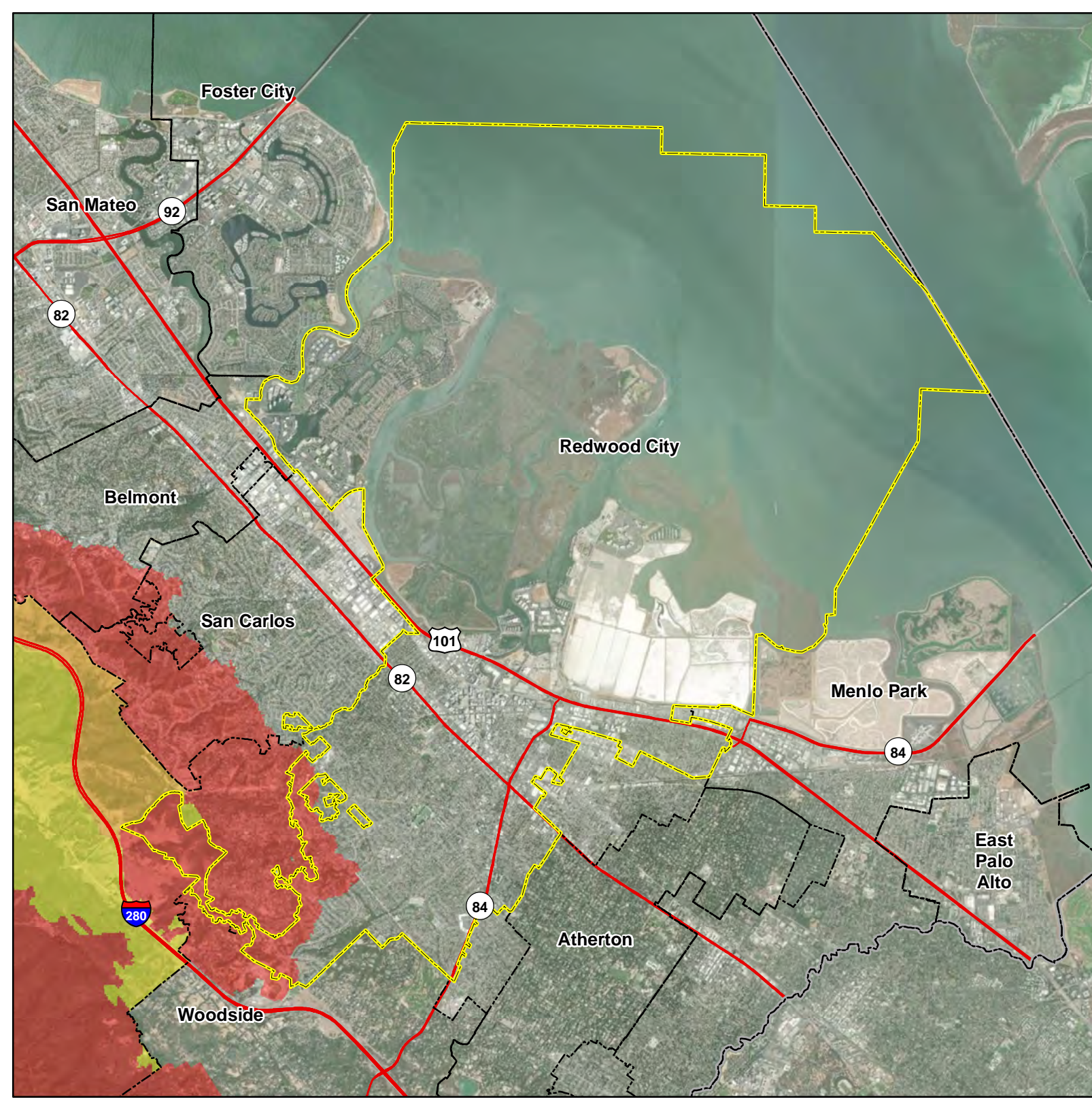
## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.5 1 2 Miles







# 17. CITY OF SAN BRUNO

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## 17.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Ari Delay, Fire Chief  
555 El Camino Real  
San Bruno, CA 94066  
650-616-7096  
adelay@sanbruno.ca.gov

### Alternate Point of Contact

Jennifer Brizel, Assistant City Manager  
567 El Camino Real  
San Bruno, CA 94066  
650-616-7002  
jbrizel@sanbruno.ca.gov

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 17-1.

**Table 17-1. Local Mitigation Planning Team Members**

Name	Title
Jovan Grogan	City Manager
Jennifer Brizel	Assistant City Manager
Ari Delay	Fire Chief
Ryan Johansen	Police Chief
Hae Won Ritchie	Interim Public Works Director
Gage Schlice	Fire Marshall
Dennis Bosch	Public Works Deputy Director

## 17.2 JURISDICTION PROFILE

### 17.2.1 Location and Features

San Bruno is located on the San Mateo Peninsula, approximately 12 miles south of San Francisco. San Bruno is adjacent to the San Francisco International Airport, US Highways 101, and California Interstate 280. San Bruno borders the cities of Millbrae to the south, Pacifica to the west, and South San Francisco to the north.

San Bruno enjoys a mild climate characterized by cool, dry summers and chilly wet winters. January is the coldest month with an average high is 55.9 °F. September is the warmest month with an average high of 72.7 °F. Temperatures exceed 90 °F on an average of 4 days annually. Fog and low overcast are common during the night and morning hours in the summer months, which are generally very dry except for occasional light drizzle from the fog. Total annual precipitation, most of which falls from November to April, averages 20.11 inches.

## 17.2.2 History

Much of San Bruno had been developed from wilderness to ranch land by the 1880s. The ranches supplied San Francisco with horses, milk, and meat. After the San Francisco earthquake and fire in 1906, the San Bruno Park addition was developed into housing. Several other new neighborhoods sprung up in the area until 1914, when San Bruno was incorporated and became an official municipality. At that time, San Bruno had roughly 1,400 residents. Today San Bruno is known as an airport city. Mills Field was dedicated in 1927 near the site now occupied by San Francisco International Airport, but it took many years for the airport to become the success it is today. The many other more established airports in the area and the short and often swampy runways made Mills Field unpopular with aviators and businesses alike until 1945 when voters approved a bond to support the airport's improvement and expansion. Since then, the airport has become one of the busiest globally, and San Bruno has grown into an international city right along with it.

## 17.2.3 Governing Body Format

The City of San Bruno is a General Law City. San Bruno is governed by the City Council and operates under a Council-Manager form of government. As the policy-making body, the City Council has the ultimate responsibility to the people of San Bruno and the implementation of all programs and City services. It approves all ordinances, resolutions, and major contracts, modifies and approves the budget, and has the responsibility of employing a City Manager and City Attorney. The Council appoints citizens to nine advisory boards, commissions, and committees. The City Council must approve all major changes in direction or emphasis and organizational changes. The City Manager is responsible for implementing the programs and policies which the City Council establishes.

The City Council is responsible for adoption and implementation of this plan.

## 17.3 CURRENT TRENDS

### 17.3.1 Population

According to the California Department of Finance, San Bruno's population as of January 2020 was 45,454. Since 2016, the population has grown at an average annual rate of 0.05 percent.

### 17.3.2 Development

The City of San Bruno General Plan identifies policies and programs addressing the development and redevelopment of land, preservation of parks and open spaces, provision of housing for current and future residents, conservation of natural resources, improvement of the circulation and transportation system, control of noise and protection of life and property from hazards. Additionally, the General Plan assures that tax money is generated to provide high levels of public services and maintenance of public facilities and infrastructure.

Table 17-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan and expected future development trends.



**Table 17-2. Recent and Expected Future Development Trends**

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan?	No					
Is your jurisdiction expected to annex any areas during the performance period of this plan?	No					
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes  The City of San Bruno plans for major redevelopment of the Transit Corridor Plan Development Area and Tanforan Redevelopment Area. The San Bruno Transit Corridors Plan (TCP) builds on the General Plan vision for mixed-use transit oriented development in proximity to the new San Bruno Caltrain station and a revitalized downtown. The TCP seeks to promote economic development and private investment while implementing measures to transition new projects into the existing City. The majority of new residential development in San Bruno will likely occur in the TCP area during the housing element cycle, with plans for up to 1,610 new units. The approximately 155-acre TCP area includes San Bruno's principal streets of El Camino Real, San Bruno Avenue, Huntington Avenue, and San Mateo Avenue within about one half mile of the new San Bruno Avenue Caltrain station. The TCP vision and development framework were crafted during two community workshops. The TCP development standards and design guidelines were refined in response public comments about the impacts of new projects on existing low-density residential uses. To minimize these potential impacts, "Mixed-use to Residential Transition Measures" were included in the adopted plan.					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2016	2017	2018	2019	2020
	Single Family	0	0	1	3	39
	Multi-Family	83	1	0	60	0
	Other (commercial, mixed use, etc.)	1	2	0	0	0
	<b>Total</b>	<b>84</b>	<b>3</b>	<b>1</b>	<b>63</b>	<b>39</b>
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 0</li> <li>• Landslide:</li> <li>• High Liquefaction Areas: 0</li> <li>• Tsunami Inundation Area: 0</li> <li>• Wildfire Risk Areas: 39</li> </ul>					
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	The level of buildout in the City of San Bruno is described in the <a href="#">General Plan Housing Element document 2015-2023</a> . Between 2014 and 2022, San Bruno planned for a total of 1,155 housing units affordable at a range of income levels. This number is referred to as the City's RHNA, and the Housing Element identifies opportunity sites to meet the City's RHNA.					

## 17.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The "Analysis of Mitigation Actions" table in this

annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 17-3.
- Development and permitting capabilities are presented in Table 17-4.
- An assessment of fiscal capabilities is presented in Table 17-5.
- An assessment of administrative and technical capabilities is presented in Table 17-6.
- An assessment of education and outreach capabilities is presented in Table 17-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 17-8.
- Classifications under various community mitigation programs are presented in Table 17-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 17-10.

**Table 17-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
Building Code	Yes	No	Yes	Yes
<i>Comment: Title 11, updated by Ord. 1816 (2014), the 2019 update adopted in-2020</i>				
Zoning Code	Yes	No	No	Yes
<i>Comment: Title 12, Article III, last comprehensive update Ord. 1410 (August 23, 1982) However recent amendments to zoning code 2020 / 2021</i>				
Subdivisions	Yes	No	No	Yes
<i>Comment: Title 12, Article II, last comprehensive update Ord. 1352 (September 22, 1980)</i>				
Stormwater Management	Yes	Yes	Yes	Yes
<i>Comment: San Mateo Water Pollution Prevention Program, Chapter 10.18 / San Bruno Municipal Code (Ord. 1558 § 1, 1994)</i>				
Post-Disaster Recovery	No	No	No	No
<i>Comment:</i>				
Real Estate Disclosure	Yes	No	Yes	Yes
<i>Comment: Civil Code Section 1102.6a. (Ord. 1897 § 3, 2021; Ord. 1646 § 1, 2001)</i>				
Growth Management	Yes	No	No	Yes
<i>Comment: Ordinance 1284 (June 1, 1977) and Transit Corridors Plan (March 12, 2013)</i>				
Site Plan Review	Yes	No	No	Yes
<i>Comment: Coordinated between Community and Economic Development Public Works Departments, Title 12, Article III</i>				
Environmental Protection	No	No	Yes	Yes
<i>Comment: CA Environmental Quality Act (CEQA)</i>				
Flood Damage Prevention	Yes	Yes	Yes	Yes
<i>Comment: Addressed through section 1612 of the 2019 CBC / San Bruno Municipal Code 11.40</i>				
Emergency Management	Yes	No	No	Yes
<i>Comment: Fire Department, Chapter 2.48 San Bruno Municipal Code</i>				
Climate Change	Yes	No	No	Yes
<i>Comment: The City of San Bruno does not have a Climate Action Plan</i>				



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Other</b>	Yes	No	No	Yes
<i>Comment: Chapter 10.12 (Water Quality Control), Chapter 10.13 (Inspection, repair, and replacement of private sewer laterals), Chapter 10.16 (Water Conservation), Chapter 11.30 (Seismic hazard identification program for unreinforced masonry buildings), Chapter 11.24 (San Bruno Fire Code)</i>				
<b>Planning Documents</b>				
<b>General Plan</b>	Yes	No	No	Yes
<i>Is the plan compliant with Assembly Bill 2140? No</i>				
<i>Comment: San Bruno General Plan – Adopted 3/24/09; The Plan includes the Public Services and Facilities Element; and the Healthcare and Safety Element</i>				
<b>Capital Improvement Plan</b>	Yes	No	No	Yes
<i>How often is the plan updated? Annually</i>				
<i>Comment: The CIP is adopted annually, and the budget covers a 5-year span; it addresses City facilities, Water, Storm, Sewer Infrastructure</i>				
<b>Disaster Debris Management Plan</b>	No	No	No	Yes
<i>Comment: San Bruno will be participating in the disaster debris management plan currently being developed throughout the County</i>				
<b>Floodplain or Watershed Plan</b>	Yes	No	No	Yes
<i>Comment: San Bruno participates in NFIP</i>				
<b>Stormwater Plan</b>	Yes	No	No	Yes
<i>Comment: Storm Drain Master Plan – Adopted June 10, 2014</i>				
<b>Urban Water Management Plan</b>	Yes	No	Yes	Yes
<i>Comment: 2015 Adopted 2020 Will be adopted in the fall of 2021</i>				
<b>Habitat Conservation Plan</b>	No	No	No	Yes
<i>Comment:</i>				
<b>Economic Development Plan</b>	Yes	No	No	Yes
<i>Comment: Chapter 3 of the City of San Bruno General Plan – Economic Development Element</i>				
<b>Shoreline Management Plan</b>	No	No	No	Yes
<i>Comment:</i>				
<b>Community Wildfire Protection Plan</b>	Yes	No	No	Yes
<i>Comment: The San Bruno Fire Department is in the process of developing a CWPP for the City of San Bruno.</i>				
<b>Forest Management Plan</b>	No	No	No	Yes
<i>Comment: San Bruno Fire Mitigation and Vegetation Management Plan</i>				
<b>Climate Action Plan</b>	No	No	No	Yes
<i>Comment: The City of San Bruno does not have a Climate Action Plan</i>				
<b>Emergency Operations Plan</b>	Yes	No	No	Yes
<i>Comment: Addressed in the City's Emergency Operations Plan May, 2008</i>				
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b>	Yes	No	No	Yes
<i>Comment: Addressed in the City's Emergency Operations Plan, May 2008; also covered under the Bay Area UASI THIRA</i>				
<b>Post-Disaster Recovery Plan</b>	No	No	No	Yes
<i>Comment: Mentioned in the City's Emergency Operations Plan May, 2008</i>				
<b>Continuity of Operations Plan</b>	No	No	No	Yes
<i>Comment: Mentioned in City's Emergency Operations Plan May, 2009</i>				
<b>Public Health Plan</b>	No	Yes	No	Yes
<i>Comment: San Mateo County Public Health</i>				
<b>Other</b>	Yes	No	No	Yes
<i>Comment: Walk Bike Master Plan, San Bruno Transit Corridors Specific Plan (TCP), U.S. Navy Site Specific Plan</i>				

**Table 17-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? Community & Economic Development Department	Yes
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	No

**Table 17-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	Yes (For Water and Sewer)
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	No
Development Impact Fees for Homebuyers or Developers	No
Other	No

**Table 17-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development Department and Public Works Department
Engineers or professionals trained in building or infrastructure construction practices	Yes	Community Development Department and Public Works Department
Planners or engineers with an understanding of natural hazards	Yes	Community Development Department and Public Works Department
Staff with training in benefit/cost analysis	Yes	Finance Department
Surveyors	Yes	Contract surveyor staff
Personnel skilled or trained in GIS applications	Yes	Contract GIS Consultant Long-Range Planning Manager in the Community Development Dept.
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	Fire Battalion Chief
Grant writers	Yes	Management Analyst in the Public Works Department
Other	No	



**Table 17-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes, City Manager's Office
Do you have personnel skilled or trained in website development?	No one on staff who is trained in website development; however, each department has a representative who is trained to update San Bruno's website pages.
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes The Fire Department has a page dedicated to disaster preparedness.
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Individual departments use various social media sites to provide education and information related to hazard mitigation.
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes The Community Preparedness Committee promotes emergency preparedness planning and education to prepare residents to mitigate the potential consequences of natural and man-made disasters.
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes The City operates a cable television station where hazard-related information could be communicated.
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes SMC Alert / Zonehaven

**Table 17-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works, Engineering
Who is your floodplain administrator? (department/position)	Chief Building Official (CBO)
Are any certified floodplain managers on staff in your jurisdiction?	No – Currently Interim CBO (contract)
What is the date that your flood damage prevention ordinance was last amended?	2019
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Yes
When was the most recent Community Assistance Visit or Community Assistance Contact?	?
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No – Currently Interim CBO (contract)
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No Yes

Criterion	Response
How many flood insurance policies are in force in your jurisdiction?	177
<i>What is the insurance in force?</i>	\$57,773,800
<i>What is the premium in force?</i>	\$110,971
How many total loss claims have been filed in your jurisdiction?	22
<i>What were the total payments for losses?</i>	\$218,184

a. According to FEMA statistics as of March 31, 2021

**Table 17-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608165028	May 2019
DUNS#	Yes	030-974-893	June 2021
Community Rating System	Yes	Class 9	April 2021
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	Yes	2	2017
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 17-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment:</i>	Low
Jurisdiction-level monitoring of climate change impacts <i>Comment:</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment:</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment:</i>	Low
Participation in regional groups addressing climate risks <i>Comment:</i>	Low
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Low
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	Low
Identified strategies for adaptation to impacts <i>Comment:</i>	Low
Champions for climate action in local government departments <i>Comment:</i>	Low



Criterion	Jurisdiction Rating <sup>a</sup>
Political support for implementing climate change adaptation strategies <i>Comment:</i>	Medium
Financial resources devoted to climate change adaptation <i>Comment:</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Low
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment:</i>	Low
Local residents support of adaptation efforts <i>Comment:</i>	Medium
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Low

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 17.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 17.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **San Bruno’s General Plan**, last updated in 2009, integrates the hazard mitigation plan through its Public Services and Facilities Element and its Healthcare and Safety Element.
- The development review process includes adhering to CEQA, which requires mitigation for identified natural hazards.
- The City has adopted the **2019 California Building and Fire Codes**, which will further strengthen the city’s plans and programs to address potential risks and hazards.

## 17.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- The City does not currently have a **Climate Action Plan**, which should identify opportunities for hazard mitigation.
- The City will adopt the **2022 CA Building Code**, which will further strengthen the city’s plans and programs to address potential risks and hazards.
- In 2016, the City adopted a comprehensive update of the zoning section of the **Municipal Code**. This will allow for more compact development within the city’s existing core and will align with both the adopted General Plan and Transit Corridors Plan. It will allow for redevelopment of older infrastructure, aligning with LAND f-3 of the Hazard Mitigation Plan.

## 17.6 RISK ASSESSMENT

### 17.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 17-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 17-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
COVID-19 Pandemic	DR-4482	January 20, 2020-Present	\$10 Million
Landslide	Local Disaster	September 26, 2017	\$1.3 Million
Drought Emergency	N/A	2014-2016	N/A
Severe Storms	N/A	December 2014	\$1.1 Million
Fire (San Bruno Pipeline Explosion)	FM-2856	September 10, 2010	\$55 Million
Wildfire – San Bruno Mountain (multiple alarms)	-	Fall 2002	unknown
Winter Storms/Landslides	N/A	1998	N/A
Loma Prieta Earthquake	DR-845	1989	N/A

### 17.6.2 Hazard Risk Ranking

Table 17-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.



**Table 17-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	132	High
2	Earthquake	54	High
3	Sea Level Rise / Climate Change	45	High
4	Flood	45	High
5	Severe weather	24	Medium
6	Wildfire	24	Medium*
7	Drought	9	Low
8	Dam Failure	0	Low
9	Tsunami	0	Low

\* Risk ranking changed due to WUI areas on western portion of City

### 17.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: none
- Number of FEMA-identified Severe-Repetitive-Loss Properties: none
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: none

#### **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Flooding of properties in Belle Air neighborhood during heavy storm events.
- Lack of generators at critical water pump station facilities
- Seismic retrofitting needed at water tanks. Installing flexible connections at inlet and outlet pipes.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 17.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 17-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 17-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>SB-1</b> — Increase public awareness of Disaster Preparedness and Community Resilience by teaching the “Get Ready” Campaign to the community <i>Comment:</i>			✓	SB-1
<b>SB-2</b> — Improve emergency planning by providing training to Care Home Facilities in the Community <i>Comment:</i>			✓	SB-2
<b>SB-3</b> — Ensure adequate water supply during emergencies and disaster recovery <i>Comment:</i>			✓	SB-3
<b>SB-4</b> — Assess City’s vulnerability to drought risk and implementation of water conservation measures to improve water supply <i>Comment:</i>			✓	SB-4
<b>SB-5</b> — Conduct regular maintenance for drainage system and flood control structures <i>Comment: Routine maintenance – no longer an HMP action item</i>		✓		
<b>SB-6</b> — Rehabilitate the City’s stormwater system to reduce local flooding caused by inadequate storm drainage <i>Comment: Stormwater voter measure failed</i>			✓	SB-5
<b>SB-7</b> — Continue to maintain the minimum National Flood Insurance Program participation requirement for communities with no mapped Special Flood Hazard Area. <i>Comment:</i>			✓	SB-6
<b>SB-8</b> — Form partnership between local and regional entities to support multi-jurisdictional floodplain management <i>Comment:</i>			✓	SB-7
<b>SB-9</b> — Establish local funding mechanisms for stormwater flood mitigation <i>Comment: Stormwater Voter Measure Failed</i>			✓	SB-8
<b>SB-10</b> — Increase awareness of urban flood risk and safety for property owners <i>Comment:</i>			✓	SB-9
<b>SB-11</b> — Assess City’s vulnerability to sea level rise on San Bruno bayside coastline <i>Comment:</i>			✓	SB-10
<b>SB-12</b> — Mitigate the impacts of sea-level rise on San Bruno bayside coastline <i>Comment:</i>			✓	SB-11
<b>SB-13</b> — Provide sandbags to residents in anticipation of rainstorms and public outreach on locations to obtain the sandbags <i>Comment: Annual recurring activity; no longer an LHMP activity</i>		✓		
<b>SB-14</b> — Comply with applicable performance standards of any National Pollutant Discharge Elimination System municipal stormwater permit that seeks to manage increases in stormwater run-off flows from new development and redevelopment construction projects <i>Comment: Ongoing maintenance item removed from LHMP activity list</i>		✓		
<b>SB-15</b> — Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards. <i>Comment: Ongoing maintenance item removed from LHMP</i>		✓		



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>SB-16</b> — Retrofit or replace critical lifeline facilities and/or their backup facilities that are shown to be vulnerable to damage in natural disasters. <i>Comment:</i>			✓	SB-12
<b>SB-17</b> — Provide back-up emergency power at critical infrastructure facilities. <i>Comment:</i>			✓	SB-30
<b>SB-18</b> — Seek and implement training for supervisory and management personnel regarding establishing and maintaining a field command post based on ICS principles. <i>Comment:</i>			✓	SB-13
<b>SB-19</b> — Enhance radio communications at critical areas in the city including the mall and the Crossings Complex to ensure officer and public safety. <i>Comment:</i>			✓	SB-14
<b>SB-20</b> — Work to sustain interoperable communications and virtual dispatch capabilities with an allied agency that provides for redundancy and hardening of dispatch center. <i>Comment: Project completed 2018</i>	✓			
<b>SB-21</b> — Take steps to enhance the security of the police station facility to include the repair and replacement of the video system, intercom system, and keyless access system. <i>Comment:</i>			✓	SB-15
<b>SB 22</b> - Continue to support community emergency preparedness through delivery of CERT and other resident training and public education outreach through the Community Preparedness Advisory Committee <i>Comment: Ongoing</i>			✓	SB-16
<b>SB 23</b> – Abate potential fire hazards through an annual program of vegetation management in right-of-way, easements, and open space <i>Comment: Ongoing – New Citywide Wildfire Mitigation CIP 150K per year 5 year</i>			✓	SB-17
<b>SB-24</b> –Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions within the community. <i>Comment:</i>			✓	SB-18
<b>SB-25</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan. <i>Comment:</i>			✓	SB-29
<b>SB-26</b> – Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan. <i>Comment:</i>			✓	SB-29
<b>SB-27</b> – Work with Chief Building Official to obtain a BCEGS classification. <i>Comment:</i>			✓	SB-19
<b>SB-28</b> – Encourage the cooperation of utility system providers and cities, counties, and special districts, and PG&E to develop strong and effective mitigation strategies for infrastructure systems and facilities. <i>Comment: Ongoing work in collaboration with PG&amp;E; no longer an LHMP project</i>		✓		

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>SB-29</b> - Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling infrastructure facilities.</p> <p><i>Comment: Routine work no longer an LHMP activity</i></p>		✓		
<p><b>SB-30</b> – Continue requirements in zoning ordinances to address hillside development constraints in areas of steep slopes that are likely to lead to excessive road maintenance or where roads will be difficult to maintain during winter storms due to landsliding.</p> <p><i>Comment: Routine work with zoning department – no longer a LHMP project</i></p>		✓		
<p><b>SB-31</b> – Coordinate planning for short-term sheltering of residents of the community with the American Red Cross.</p> <p><i>Comment:</i></p>			✓	SB-20
<p><b>SB-32</b> – Develop a plan for interim housing for those displaced by a natural hazard.</p> <p><i>Comment: Project completed 2018</i></p>	✓			
<p><b>SB-33</b> – Encourage local government building inspectors to take classes on a periodic basis on retrofitting of single-family homes</p> <p><i>Comment:</i></p>			✓	SB-21
<p><b>SB-34</b> – Encourage private retrofit contractors and home inspectors doing work in the City to take retrofit classes on a periodic basis (such as the FEMA- developed training classes offered by ABAG or additional classes that might be offered by the CALBO Training Institute) on retrofitting of single- family homes.</p> <p><i>Comment: No longer feasible as a mitigation action item</i></p>		✓		
<p><b>SB-35</b> – Work to educate building owners, local government staff, engineers, and contractors on privately-owned soft-story retrofit procedures and incentives using materials such as those developed by ABAG</p> <p><i>Comment: Initiative launched; no longer a priority for LHMP</i></p>		✓		
<p><b>SB-36</b> – Continue to require that all new housing be constructed in compliance with requirements of the most recently adopted version of the California Building Code.</p> <p><i>Comment: Completed with the most recent update</i></p>	✓			
<p><b>SB-37</b> – Conduct appropriate employee training and support continued education to ensure enforcement of building codes and construction standards, as well as identification of typical design inadequacies of housing and recommended improvements.</p> <p><i>Comment:</i></p>			✓	SB-22
<p><b>SB-38</b> – Adopt and amend as needed updated versions of the California Building and Fire Codes so that optimal fire-protection standards are used in construction and renovation projects of private buildings.</p> <p><i>Comment: Completed with most recent update to SB Building Code</i></p>	✓			
<p><b>SB-39</b> – Consider implementing requirements for fire sprinklers in all new multifamily housing, regardless of distance from a fire station.</p> <p><i>Comment: Now required by state law</i></p>		✓		
<p><b>SB-40</b> – Consider implementing requirements for fire sprinklers in all new mixed use development to protect residential uses from fires started in non- residential areas.</p> <p><i>Comment: Now required by state law</i></p>		✓		



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>SB-41</b> – Conduct periodic fire-safety inspections of all multi- family buildings, as required by State law.</p> <p><i>Comment: Required by state law</i></p>		✓		
<p><b>SB-42</b> – Continue to require the bracing of new water heaters and flexible couplings on gas appliances.</p> <p><i>Comment: Required by state law</i></p>		✓		
<p><b>SB-43</b> – Comply with all applicable building and fire codes, as well as other regulations (such as state requirements for fault, landslide, and liquefaction investigations in particular mapped areas) when constructing or significantly remodeling government-owned facilities.</p> <p><i>Comment: Required by laws and codes</i></p>		✓		
<p><b>SB-44</b> – Establish a framework and process for pre-event planning for post-event recovery that specifies roles, priorities, and responsibilities of various departments within the local government organization, and that outlines a structure and process for policy-making involving elected officials and appointed advisory committees.</p> <p><i>Comment:</i></p>			✓	SB-23
<p><b>SB-45</b> – Prepare a basic Recovery Plan that outlines the major issues and tasks that are likely to be the key elements of community recovery, as well as integrate this planning into response planning.</p> <p><i>Comment:</i></p>			✓	SB-24
<p><b>SB-46</b> – Continue to enforce State-mandated requirements, such as the California Environmental Quality Act, to ensure that mitigation activities for hazards, such as seismic retrofits and vegetation clearance programs for fire threat, are conducted in a way that reduces environmental degradation such as air quality impacts, noise during construction, and loss of sensitive habitats and species, while respecting the community value of historic preservation.</p> <p><i>Comment: Recurring activity – no longer an LHMP priority</i></p>		✓		
<p><b>SB-47</b> – Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities.</p> <p><i>Comment:</i></p>			✓	N/A
<p><b>SB-48</b> – Enforce and/or comply with the State-mandated requirement that site-specific geologic reports be prepared for development proposals within Alquist-Priolo Earthquake Fault Zones and restrict the placement of structures for human occupancy. (This Act is intended to deal with the specific hazard of active faults that extend to the earth's surface, creating a surface rupture hazard.)</p> <p><i>Comment: State requirement – no longer an LHMP priority</i></p>		✓		
<p><b>SB-49</b> - Work to retrofit older downtown areas and redevelopment districts to protect architectural diversity and promote disaster-resistance.</p> <p><i>Comment:</i></p>			✓	SB-25
<p><b>SB-50</b> - Broaden awareness on emergency alerting by educating the public on SMC Alert</p> <p><i>Comment:</i></p>			✓	SB-26
<p><b>SB-51</b> - Update the Emergency Operations Plan with integration of the Hazard Mitigation Plan</p> <p><i>Comment:</i></p>			✓	SB-27

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
SB – 52 – Ensure adequate supplies and equipment to support to support the community’s needs at emergency shelters. <i>Comment: San Bruno Community Foundation Grant to Support emergency shelter trailer</i>	✓			
Action G-1—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses. <i>Comment: No longer an LHMP priority</i>		✓		
Action G-2—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady. <i>Comment:</i>			✓	SB-28

### 17.8 HAZARD MITIGATION ACTION PLAN

Table 17-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 17-15 identifies the priority for each action. Table 17-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 17-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SB-1</b> — Increase public awareness of Disaster Preparedness and Community Resilience by teaching the “Get Ready” Campaign to the community						
<i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms, Climate Change, Sea Level Rise						
Existing & New	1, 2, 5, 9, 11	Fire Department	N/A	Low	Existing Department Budget	Ongoing
<b>Action SB-2</b> — Improve emergency planning by providing training to Care Home Facilities in the Community						
<i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms						
Existing & New	1, 2, 5, 9, 11	Fire Department	N/A	Low	Existing Department Budget	Ongoing
<b>Action SB-3</b> — Ensure adequate water supply during emergencies and disaster recovery						
<i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms						
Existing & New	1, 6, 13	Water Department	N/A	Low	Existing Department Budget	Ongoing
<b>Action SB-4</b> — Assess City’s vulnerability to drought risk and implementation of water conservation measures to improve water supply						
<i>Hazards Mitigated:</i> Drought, climate change						
Existing & New	1,6	Water Department	N/A	Low	Staff Time, Water Funds	Ongoing
<b>Action SB-5</b> — Rehabilitate the City’s stormwater system to reduce local flooding caused by inadequate storm drainage						
<i>Hazards Mitigated:</i> Flood, Storms, drought, Sea Level Rise						
Existing & New	1, 6, 9	Public Works	N/A	High	General Fund	Long Term
<b>Action SB-6</b> — Continue to maintain the minimum National Flood Insurance Program participation requirement for communities with no mapped Special Flood Hazard Area.						
<i>Hazards Mitigated:</i> Flood						
Existing & New	1, 6, 7,11	Public Works	N/A	Medium	Staff Time General Fund	Short Term
<b>Action SB-7</b> — Form partnership between local and regional entities to support multi-jurisdictional floodplain management						
<i>Hazards Mitigated:</i> Flood, Sea Level Rise						
Existing & New	1, 2, 6, 10, 11, 12	Public Works	N/A	Low	Staff Time General Fund	Long Term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SB-8</b> — Establish local funding mechanisms for stormwater flood mitigation <i>Hazards Mitigated:</i> Flood, Sea Level Rise						
Existing & New	1, 2, 10	Public Works	N/A	Low	Staff Time General Fund	Long Term
<b>Action SB-9</b> — Increase awareness of urban flood risk and safety for property owners <i>Hazards Mitigated:</i> Flood, climate change, Sea Level Rise						
Existing & New	1, 2, 5, 6, 9, 11, 12	Public Works	N/A	Lox	Staff Time General Fund	Short Term
<b>Action SB-10</b> — Assess City's vulnerability to sea level rise <i>Hazards Mitigated:</i> Flood, climate change, Sea Level Rise						
Existing & New	1, 5, 7, 8, 9, 12	Public Works	N/A	Medium	Staff Time General Fund; grant funding-FEMA HMA (BRIC, FMA and HMGP)	Long Term
<b>Action SB-11</b> — Following the assessment, mitigate the impacts of sea-level rise in San Bruno <i>Hazards Mitigated:</i> Flood, climate change, Sea Level Rise						
Existing & New	1, 6, 9	Public Works	N/A	Medium	Staff Time General Fund; grant funding-FEMA HMA (BRIC, FMA and HMGP)-, -	Long Term
<b>Action SB-12</b> — Retrofit or replace critical lifeline facilities and/or their backup facilities that are shown to be vulnerable to damage in natural disasters. <i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms, landslide, debris flow						
Existing & New	1, 6, 7, 9, 13	Public Works	N/A	High	Staff Time, Water Fund Wastewater Fund; grant funding-FEMA HMA (BRIC, FMA and HMGP)	Long Term
<b>Action SB-13</b> — Seek and implement training for supervisory and management personnel regarding establishing and maintaining a field command post based on ICS principles. <i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms, landslide, debris flow						
Existing & New	1, 2, 5, 6, 7, 10, 11, 12	Police Department	N/A	Low	Staff Time General Fund	Ongoing
<b>Action SB-14</b> — Enhance radio communications at critical areas in the city including the mall and the Crossings Complex to ensure officer and public safety. <i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms, landslide, debris flow						
Existing & New	1, 2, 6, 9, 11, 12, 13	Police Department	N/A	High	Staff Time General Fund	Long Term
<b>Action SB-15</b> — Take steps to enhance the security of the police station facility to include the repair and replacement of the video system, intercom system, and keyless access system. <i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms, landslide, debris flow						
Existing & New	1, 6, 11, 13	Police Department	N/A	High	General Fund CIP	Short Term
<b>Action SB-16</b> — Continue to support community emergency preparedness and community resilience through delivery of CERT and other resident training and public education outreach through the Community Preparedness Advisory Committee <i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms, landslide, debris flow, climate change						
Existing & New	1, 2, 8, 11, 12	Fire Department	N/A	Low	Staff Time General Fund	Ongoing
<b>Action SB-17</b> — Abate potential fire hazards through an annual program of vegetation management in right-of-way, easements, and open space <i>Hazards Mitigated:</i> Wildfire						
Existing & New	9	Fire Department	N/A	Medium	Staff Time General Fund CIP PROJECT	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SB-18</b> — Integrate the hazard mitigation plan into other City plans, ordinances, and programs <i>Hazards Mitigated:</i> Earthquake, Home Fires, Wildfire, Flood, Storms, landslide, debris flow, climate change, Sea Level Rise						
Existing & New	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	Community Development Department	N/A	Low	Staff Time General Fund	Ongoing
<b>Action SB-19</b> — Work with Chief Building Official to obtain a BCEGS classification. <i>Hazards Mitigated:</i> Earthquake, Wildfire, Flood, Storms, landslide, debris flow						
Existing & New	1, 6, 7, 8, 9	Community Development Department	N/A	Low	Staff Time General Fund	Short Term
<b>Action SB-20</b> — Coordinate planning for short-term sheltering of residents of the community with the American Red Cross. <i>Hazards Mitigated:</i> Earthquake, Wildfire, Flood, Storms, landslide, debris flow, severe weather						
Existing & New	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12	Community Development Department	N/A	Medium	Staff Time General Fund Grant Funding-EMPG and HSGP	Long Term
<b>Action SB-21</b> — Encourage local government building inspectors to take classes on a periodic basis on retrofitting of single-family homes <i>Hazards Mitigated:</i> Earthquake, Wildfire, Flood, Storms, landslide, debris flow, severe weather, climate change						
Existing & New	1, 5, 6	Community Development Department	N/A	Low	Staff Time General Fund	Ongoing
<b>Action SB 22</b> - Conduct appropriate employee training and support continued education to ensure enforcement of building codes and construction standards, as well as identification of typical design inadequacies of housing and recommended improvements. <i>Hazards Mitigated:</i> Earthquake, wildfire, flood						
Existing & New	1, 5, 6	Community Development Department	N/A	Low	Staff Time General Fund	Ongoing
<b>Action SB 23</b> – Establish a framework and process for pre-event planning for post-event recovery that specifies roles, priorities, and responsibilities of various departments within the local government organization, and that outlines a structure and process for policy-making involving elected officials and appointed advisory committees. <i>Hazards Mitigated:</i> Earthquake, landslide, wildfire, flood						
Existing & New	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	City Manager's Office	N/A	Medium	Staff Time General Fund	Ongoing
<b>Action SB-24</b> – Prepare a basic Recovery Plan that outlines the major issues and tasks that are likely to be the key elements of community recovery, as well as integrate this planning into response planning. <i>Hazards Mitigated:</i> Earthquake, landslide, wildfire, flood, Sea Level Rise						
Existing & New	1-12	City Manager's Office	N/A	Medium	Staff Time General Fund	Ongoing
<b>Action SB-25</b> — Work to retrofit older downtown areas and redevelopment districts to protect architectural diversity and promote disaster-resistance. <i>Hazards Mitigated:</i> Earthquake, landslide, wildfire, flood, Sea Level Rise						
Existing & New	1, 2, 6, 7, 8, 9, 12	Community Development Department	N/A	High	Staff Time General Fund Public Private Partnerships	Ongoing
<b>Action SB-26</b> – Broaden awareness on emergency alerting by educating the public on SMC <i>Hazards Mitigated:</i> Earthquake, severe weather, flooding, wildfire, landslides, climate change, drought, tsunami						
Existing & New	1, 5, 11	Fire & Police Departments	N/A	Low	Staff Time	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SB-27</b> – Update the Emergency Operations Plan with integration of the Hazard Mitigation Plan						
<i>Hazards Mitigated:</i> Earthquake, severe weather, flooding, wildfire, landslides, climate change, drought, dam failure, tsunami, Sea Level Rise						
Existing & New	1, 2, 5, 6, 11	Fire Department	N/A	Medium	grant funding-EMPG and HSGP	Short Term
<b>Action SB-28</b> – Explore possible participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.						
<i>Hazards Mitigated:</i> Earthquake, severe weather, flooding, wildfire, landslides, climate change, drought, dam failure, tsunami						
Existing & New	All	Community Development Department	N/A	Low	Staff Time General Fund	Long Term
<b>Action SB-29</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, severe weather, flooding, wildfire, landslides, climate change, drought, dam failure, tsunami, Sea Level Rise						
Existing & New	1, 2, 5, 6, 11	Fire Department	N/A	Low	Staff Time, General Funds	Short-term
<b>Action SB-30</b> — Acquire portable generators for critical infrastructure facilities.						
<i>Hazards Mitigated:</i> Earthquake, severe weather, flooding, landslides, wildfires						
New & existing	3, 5, 11	City of San Bruno	N/A	High	Grand funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 17-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	5	High	Low	Yes	Yes	No	High	Low	High
2	5	High	Low	Yes	Yes	Yes	High	Low	High
3	3	High	Low	Yes	Yes	Yes	High	Low	Low
4	2	High	Low	Yes	Yes	Yes	High	Low	Low
5	3	High	High	Yes	Yes	No	Low	Low	Medium
6	4	High	Medium	Yes	Yes	Yes	Medium	Low	High
7	6	Medium	Low	Yes	Yes	Yes	High	Low	High
8	3	Medium	Medium	Yes	Yes	Yes	High	Low	High
9	7	High	Low	Yes	Yes	Yes	High	Low	High
10	7	High	Low	Yes	Yes	Yes	High	Low	High
11	6	Medium	High	No	Yes	No	Low	Low	High
12	5	Medium	High	No	Yes	No	Medium	Low	Low
13	8	High	Low	Yes	Yes	No	High	Low	Low
14	7	High	High	Yes	Yes	No	High	Low	Low
15	4	High	High	Yes	Yes	Yes	High	Low	Low

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
16	5	High	Low	No	Yes	Yes	High	Low	High
17	1	High	Medium	Yes	Yes	Yes	High	Low	Low
18	10	High	Low	Yes	Yes	Yes	Existing	Low	High
19	5	High	Low	Yes	Yes	Yes	High	Low	Low
20	9	High	Medium	Yes	Yes	Yes	High	Medium	High
21	3	High	Low	Yes	Yes	Yes	Existing	Low	Low
22	3	High	Low	Yes	Yes	Yes	Low	Low	Low
23	10	High	Medium	Yes	Yes	Yes	low	Low	Low
24	10	High	Medium	Yes	Yes	Yes	Low	Low	Medium
25	7	High	High	Yes	Yes	No	Low	Medium	Low
26	3	High	Low	Yes	Yes	Yes	High	Low	High
27	5	Medium	Medium	Yes	Yes	No	Medium	High	Low
28	11	High	Low	Yes	No	Yes	High	Low	Low
29	5	High	Low	Yes	Yes	Yes	Medium	Low	Medium
30	4	High	Low	Yes	Yes	Yes	High	Low	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 17-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Landslide/ Mass Movement	1, 2, 13, 14, 15, 16, 18, 19, 20, 23, 24, 25, 26, 27		1, 2, 13, 16, 20, 23, 25, 26		20, 23, 24, 30			
Earthquake	1, 2, 3, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27	21, 22,	1, 2, 3, 13, 16, 20, 21, 22, 23, 25, 26		3, 20, 23, 24, 30	12		
Flood	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 18, 19, 20, 23, 24, 25, 26, 27	6, 8,	1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 16, 20, 23, 25, 26		20, 23, 24, 30	11		
Sea Level Rise / Climate Change				30			10,11	
<b>Medium-Risk Hazards</b>								
Severe weather	1, 2, 13, 14, 15, 16, 18, 19, 26, 27		1, 2, 13, 26		30			
Wildfire	1, 2, 3, 13, 14, 15, 16, 17, 18, 19, 20, 23, 24, 25, 26, 27		1, 2, 3, 13, 16, 20, 23, 25, 26		3, 20, 23, 24, 30			



Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>Low-Risk Hazards</b>								
Drought	1, 2, 3, 4, 13, 14, 15, 18, 19, 26, 27,		1, 2, 3, 4, 13, 26	30				
Tsunami	28	28						
Dam Failure								

a. See the introduction to this volume for explanation of mitigation types.

## 17.9 PUBLIC OUTREACH

Table 17-17 lists public outreach activities for this jurisdiction.

**Table 17-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Local Outreach Activity and Communications Plan developed to increase registration for SMC Alert	Ongoing	5
Local Hazard Mitigation Plan Community Survey Via Social Media	3/17/2021	3

## 17.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **San Bruno Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **San Bruno Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **2016 San Mateo County Multijurisdictional Hazard Mitigation Plan** – review previous action items

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## 17.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

The City of San Bruno has a significant wildfire threat within the City of San Bruno as well as areas adjacent to our borders. The San Bruno Fire Department desires to create a CWPP for the City of San Bruno to identify and prioritize areas to target wildfire mitigation efforts.








## 17.12 ADDITIONAL COMMENTS

Sept. 9, 2010, the City of San Bruno endured one of the worst pipeline disasters in U.S. history when a Pacific Gas & Electric (PG&E) 30-inch diameter, steel natural gas pipeline, exploded beneath a San Bruno community. The pipeline rupture unleashed millions of cubic feet of flammable natural gas over the Crestmoor neighborhood. The gas ignited flames that soared over 100 feet into the air. Eight people were killed, 66 people were injured, 38 homes were destroyed and scores more were damaged. San Bruno has fought to hold PG&E accountable. The City pushed for PG&E to bear significant financial penalty. The City also called for the California Public Utilities Commission to direct PG&E to adopt and fund a series of remedial measures to ensure systemic regulatory change in the future, including the installation of lifesaving fully Automatic Shutoff Valves, a new model for pipeline oversight, one in which cities develop relationships with regulators and public utility operators, where cities join together in discussion and problem solving to address the critical challenges that face communities and the nation related to aging infrastructure, the need to balance the competing policy considerations of ratemaking and safety, and the critical need to hold utility companies fully accountable for the highest possible standard of system maintenance and operation. Safety must be the highest and first priority outcome. The City has worked tirelessly since the explosion to hold both PG&E and the California Public Utilities Commission accountable and for safety reform with one single overriding objective in mind – to assure that what happened in San Bruno, never happens again anywhere.



# San Bruno

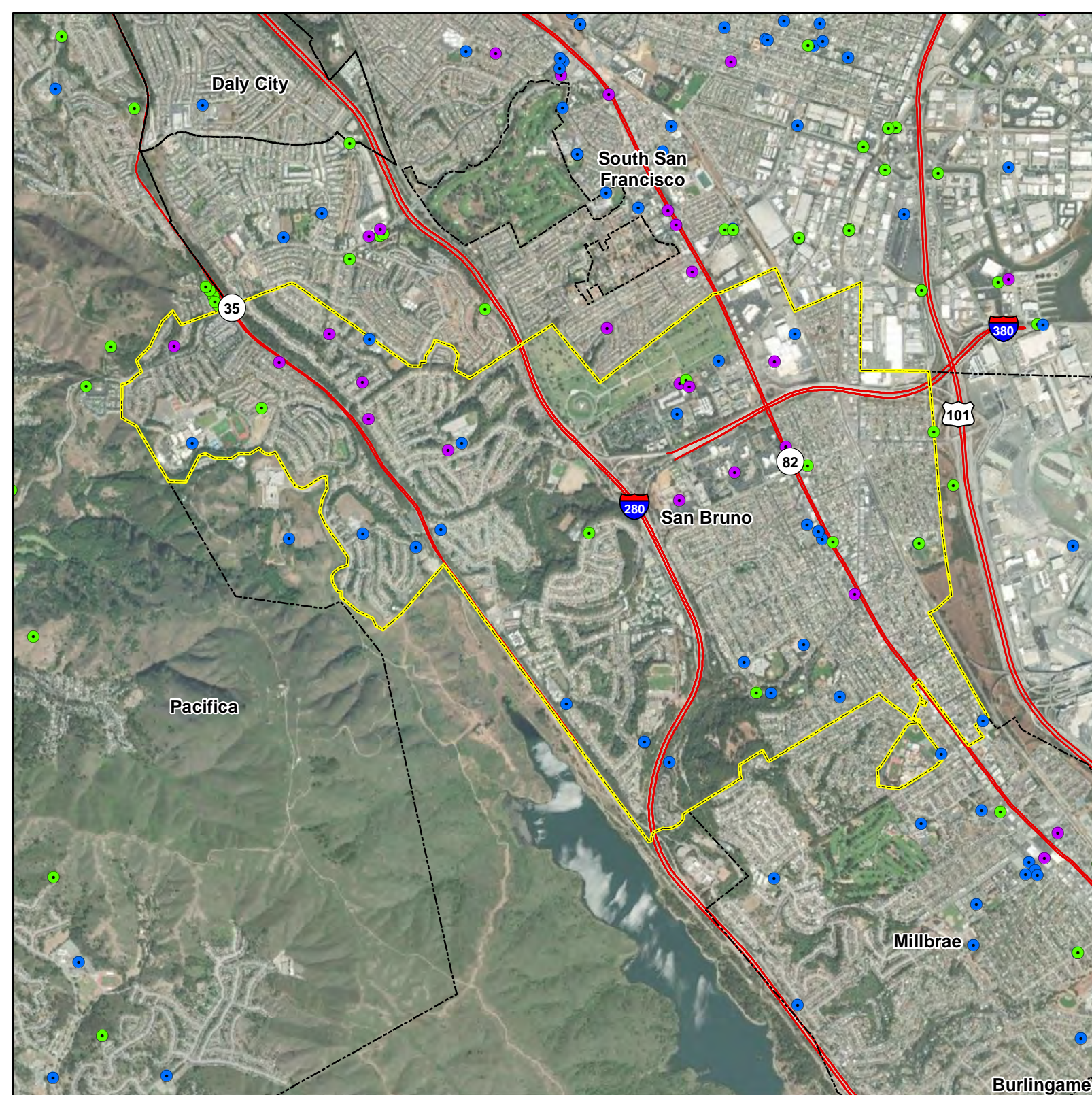
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



0 0.225 0.45 0.9  
Miles





# San Bruno

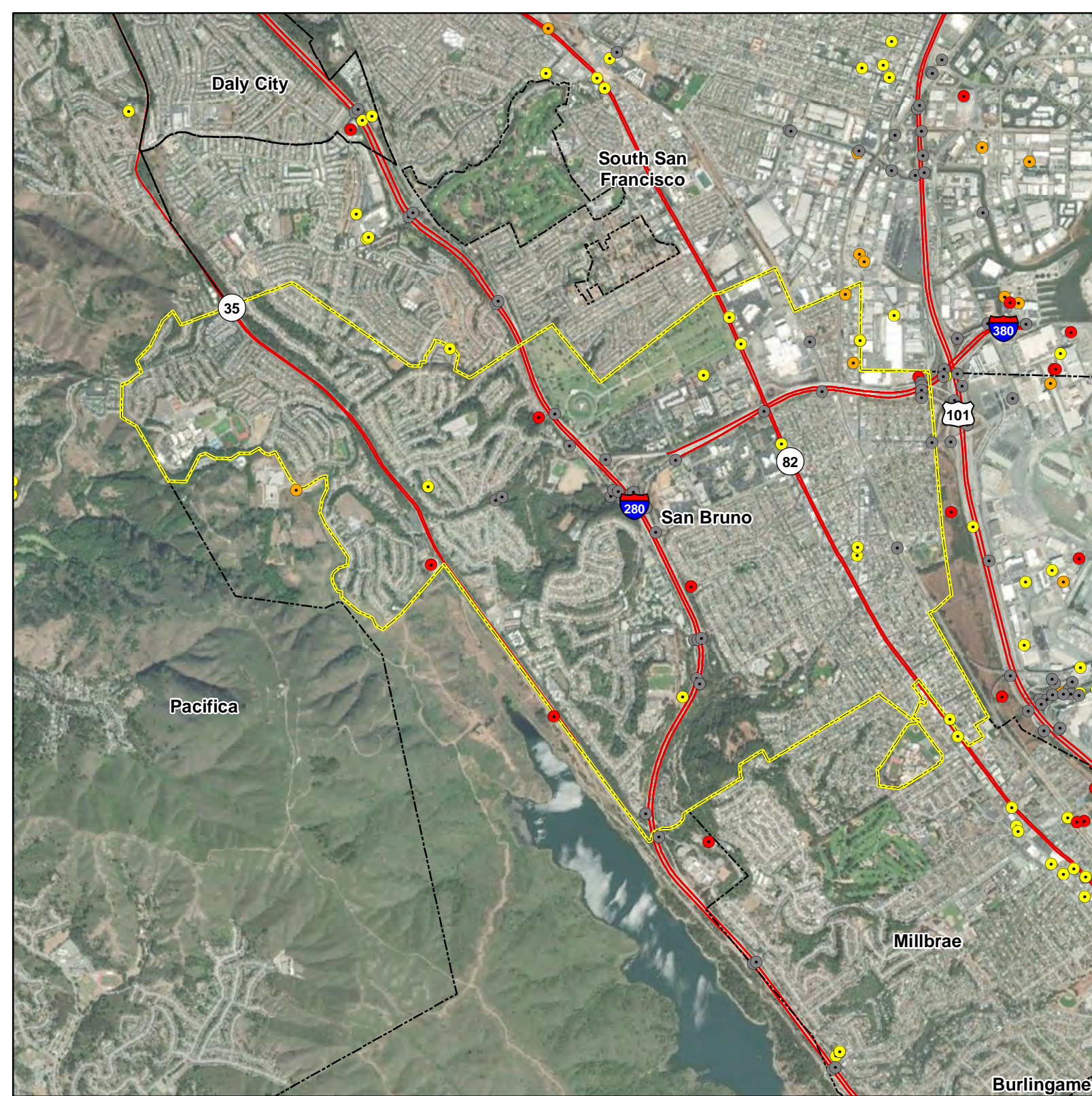
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.225 0.45 0.9 Miles





# San Bruno

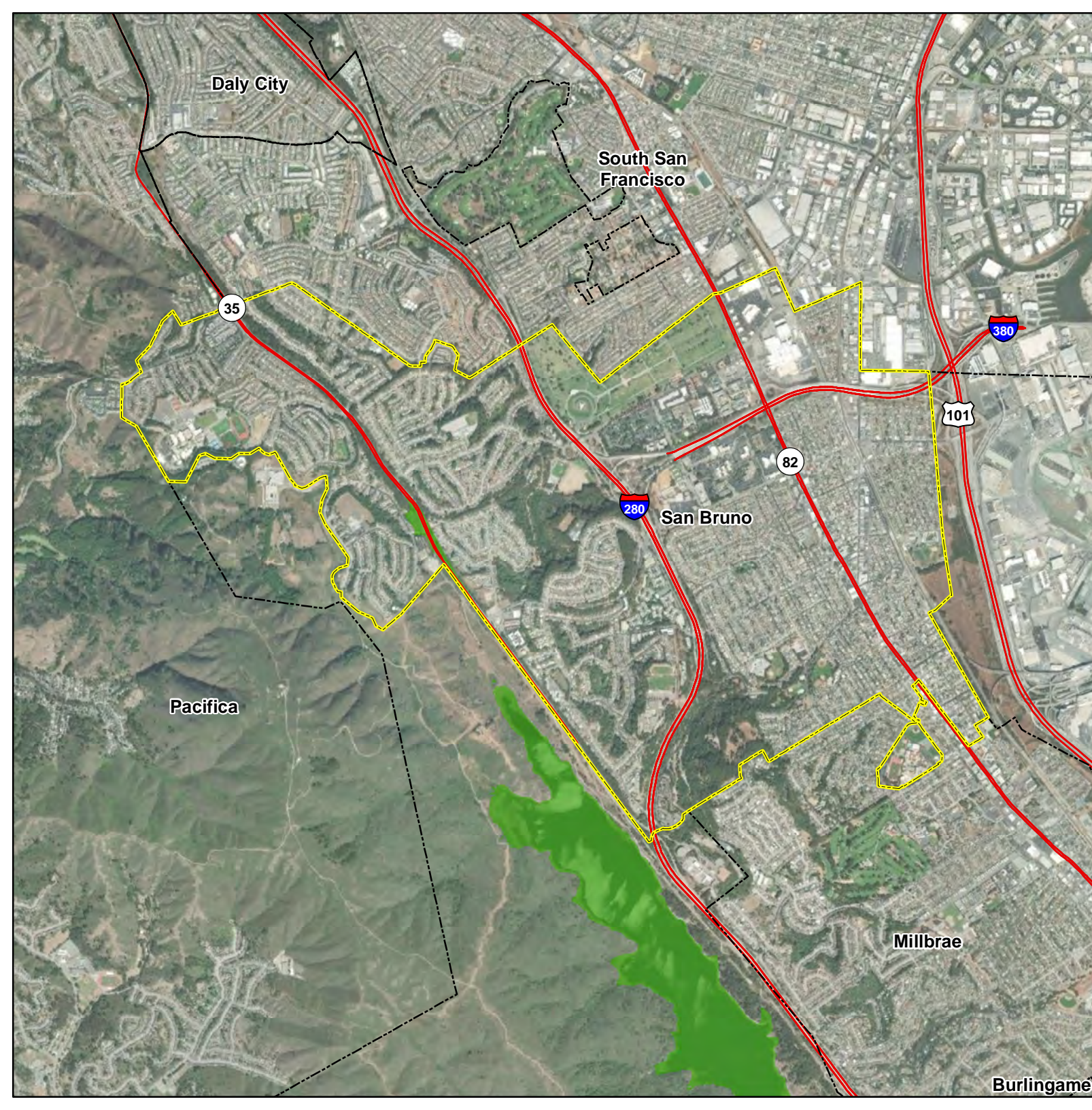
## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










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Miles





# San Bruno

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.225 0.45 0.9  
Miles

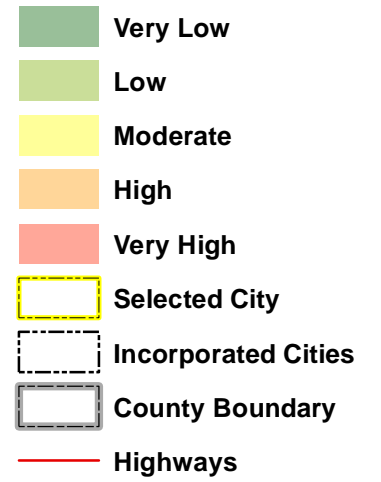


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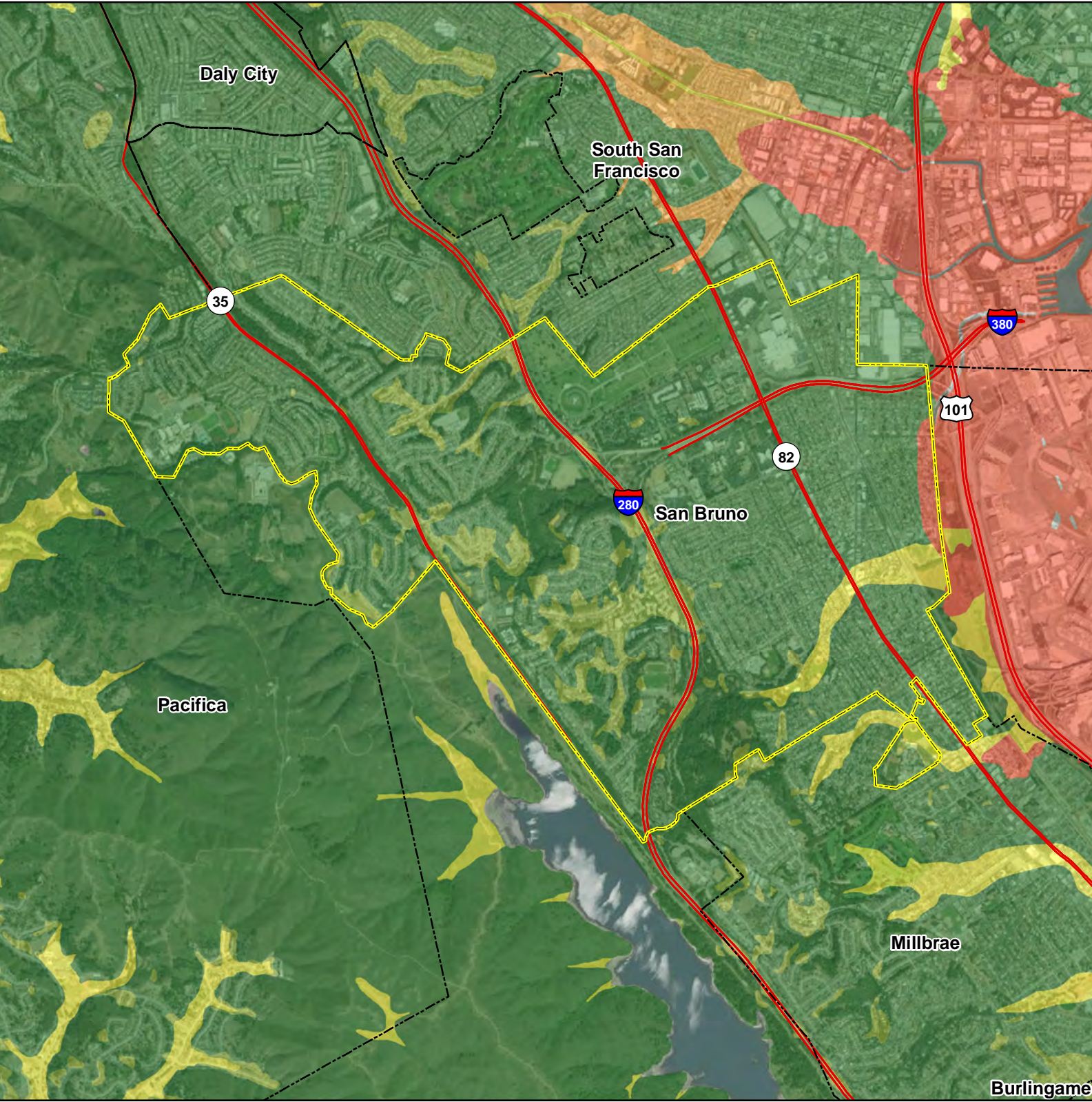
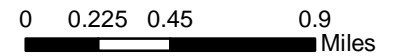


# San Bruno

## Liquefaction Susceptibility



Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)





# San Bruno

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

 V (Moderate/Very Light)

 VI (Strong/Light)

 Selected City

 Incorporated Cities


 County Boundary

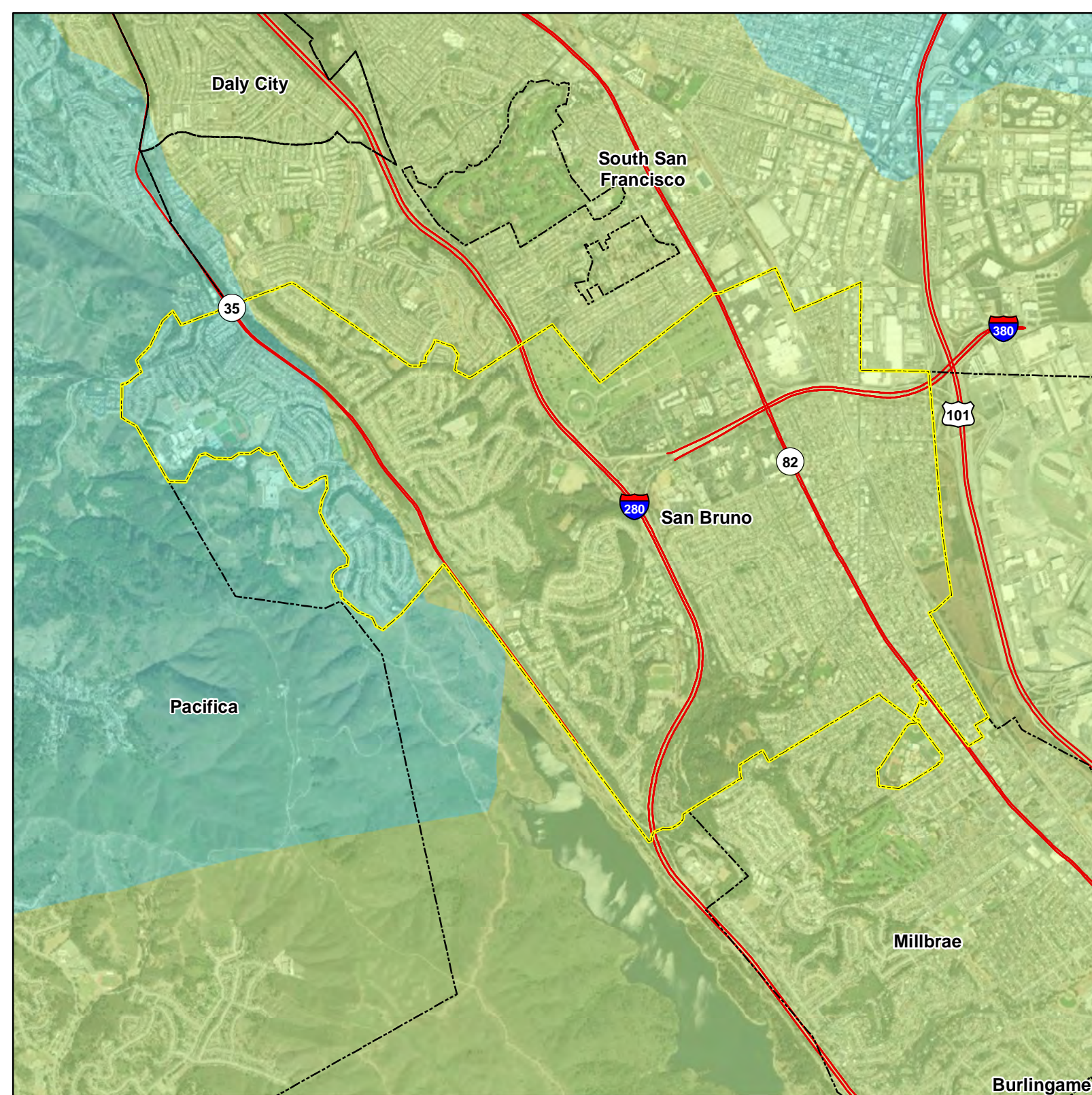
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
 Miles



Burlingame



# San Bruno

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)

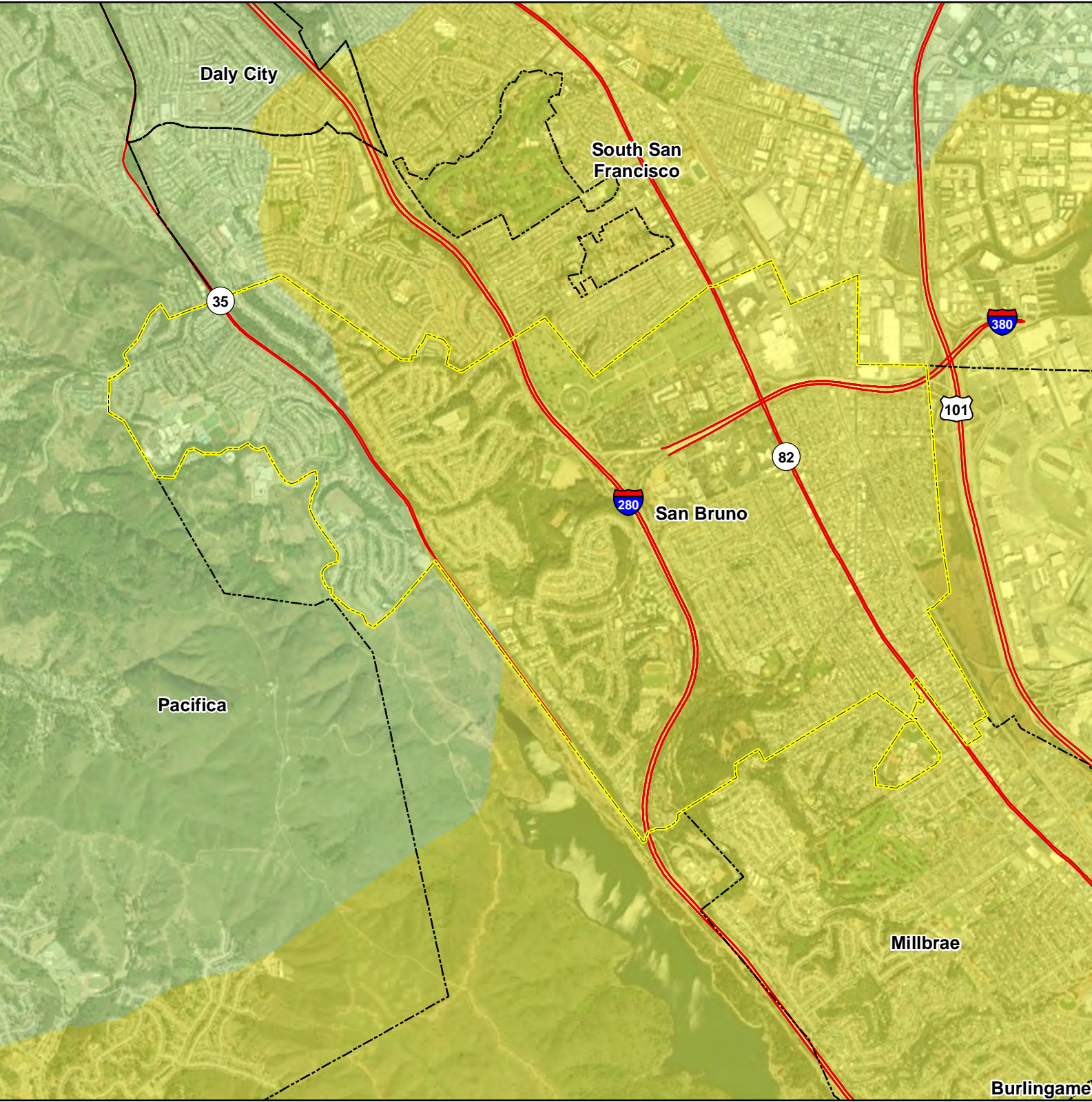
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
Miles





# San Bruno

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities


 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
 Miles

Burlingame

Millbrae

San Bruno

South San  
Francisco

Daly City

Pacifica

35

82

101

380

280



# San Bruno

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

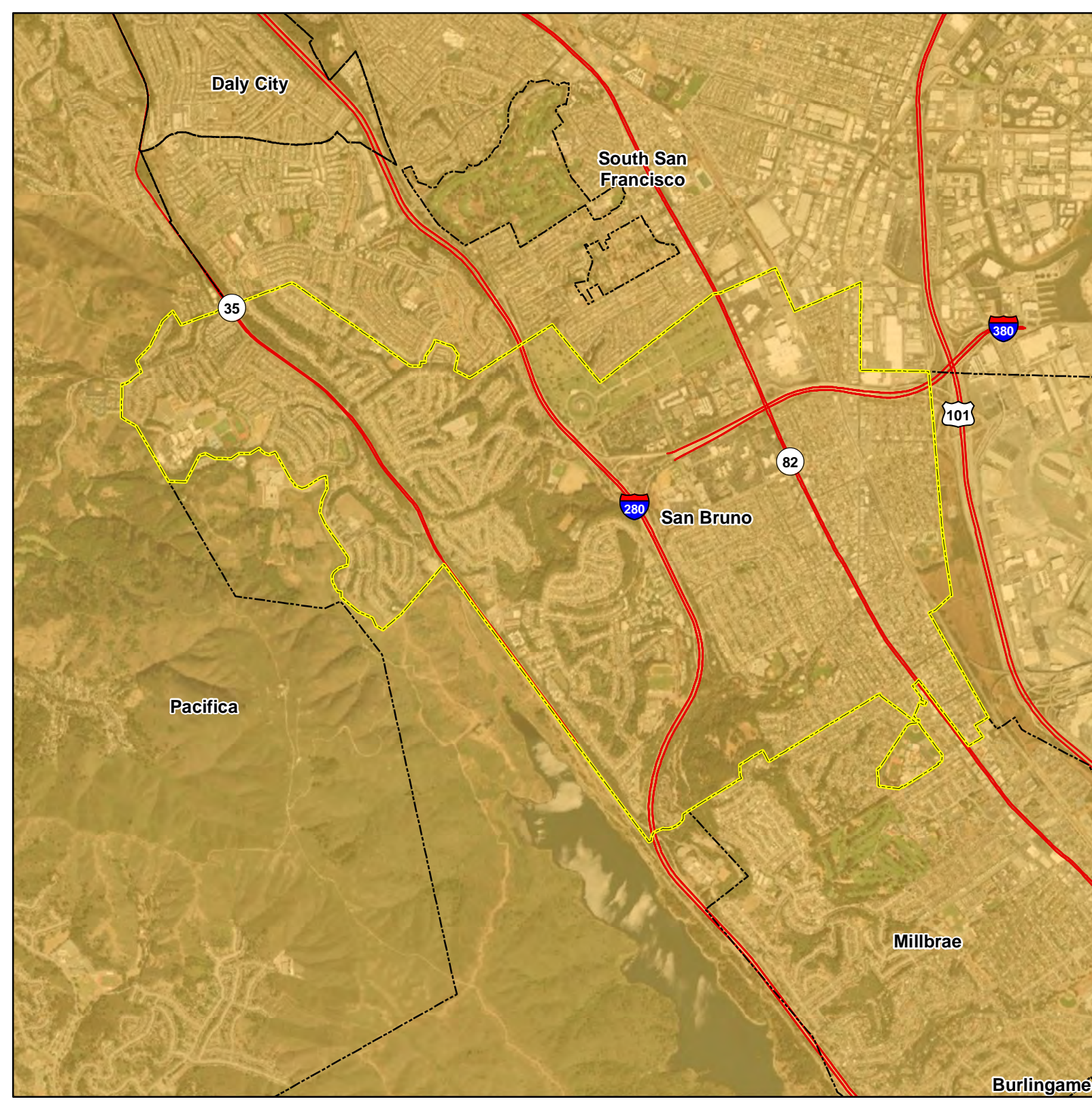
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
Miles



Burlingame



# San Bruno

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

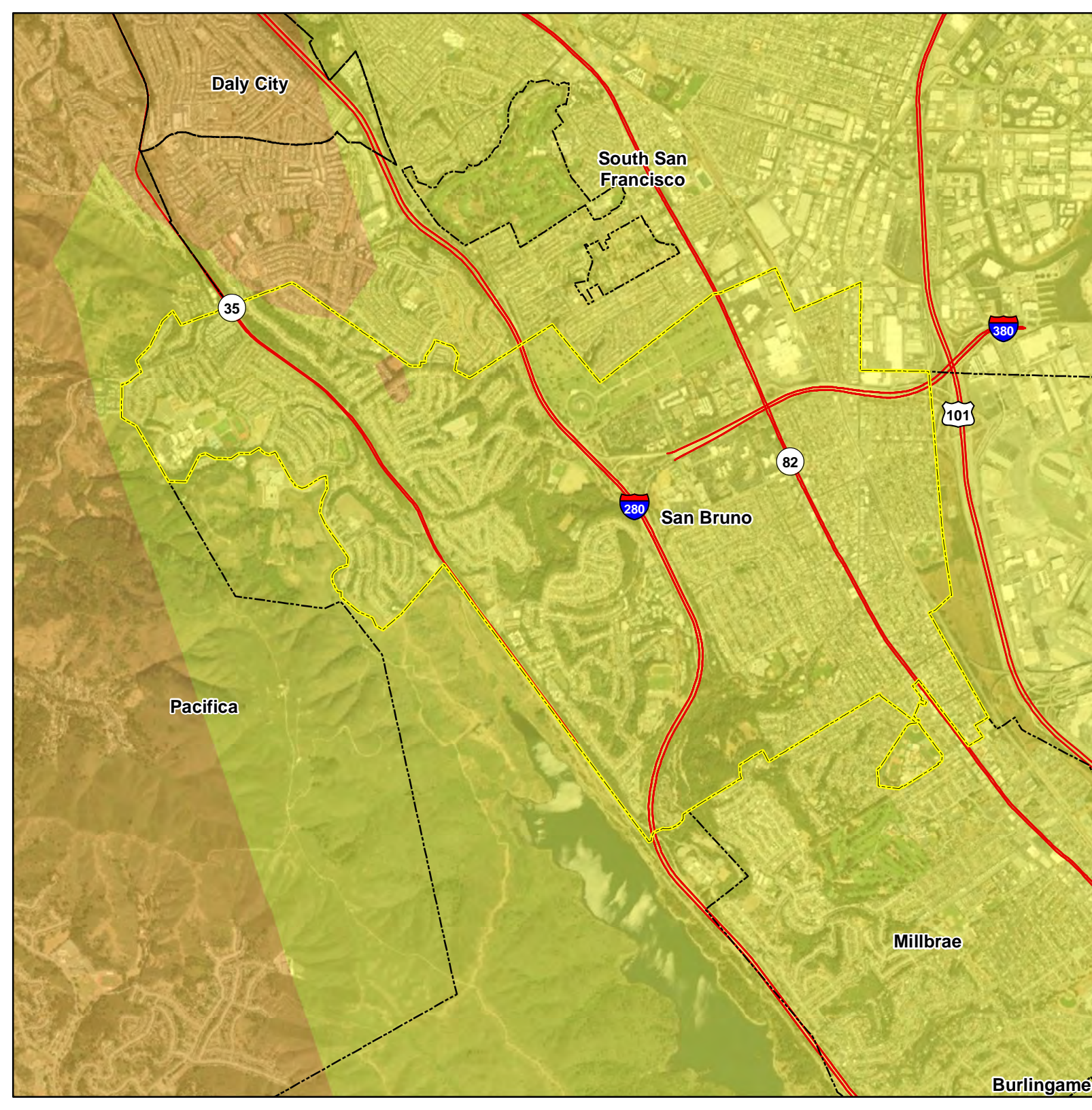
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.225 0.45 0.9  
Miles









Burlingame



# San Bruno

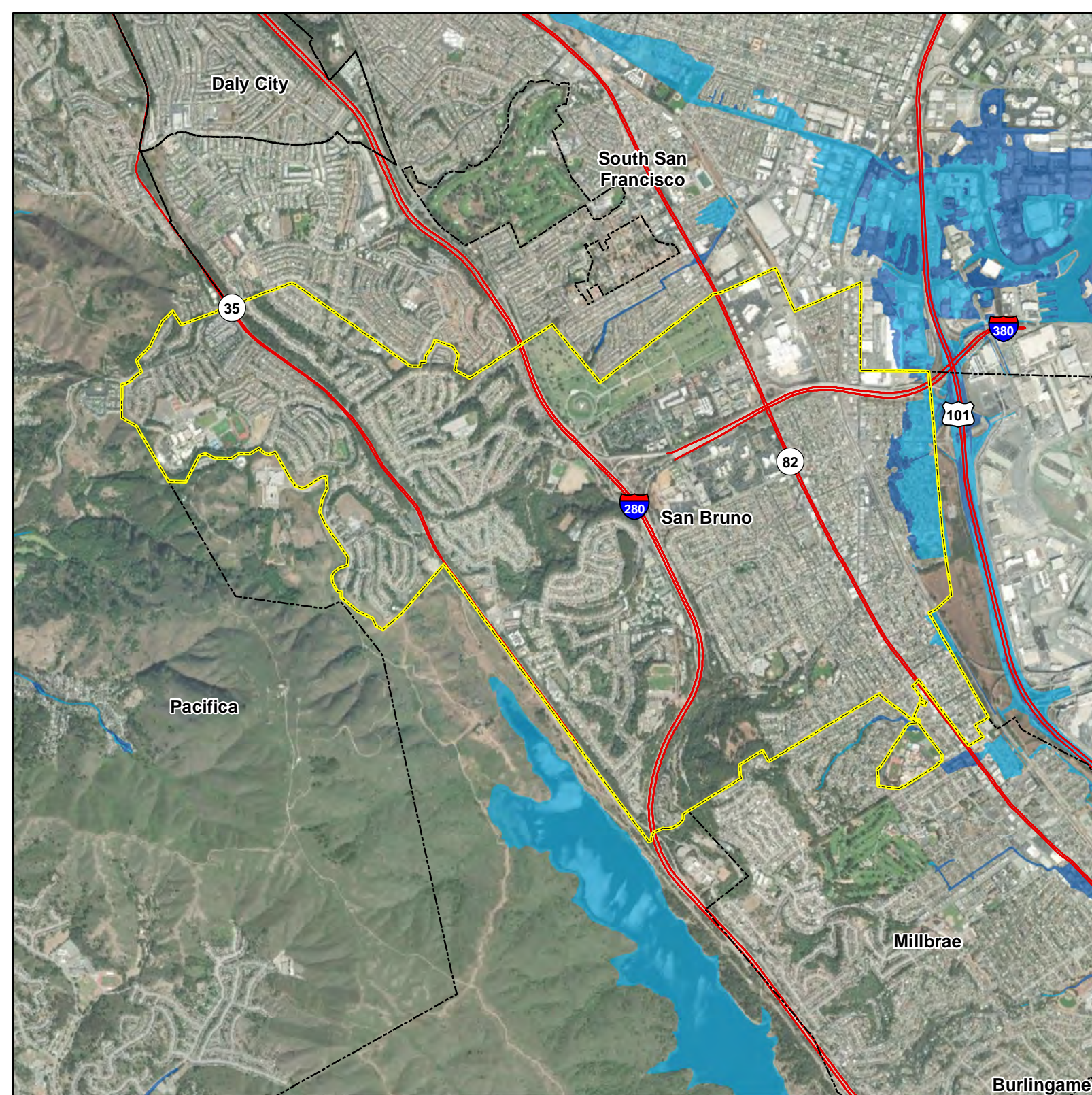
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA



0 0.225 0.45 0.9 Miles





# San Bruno

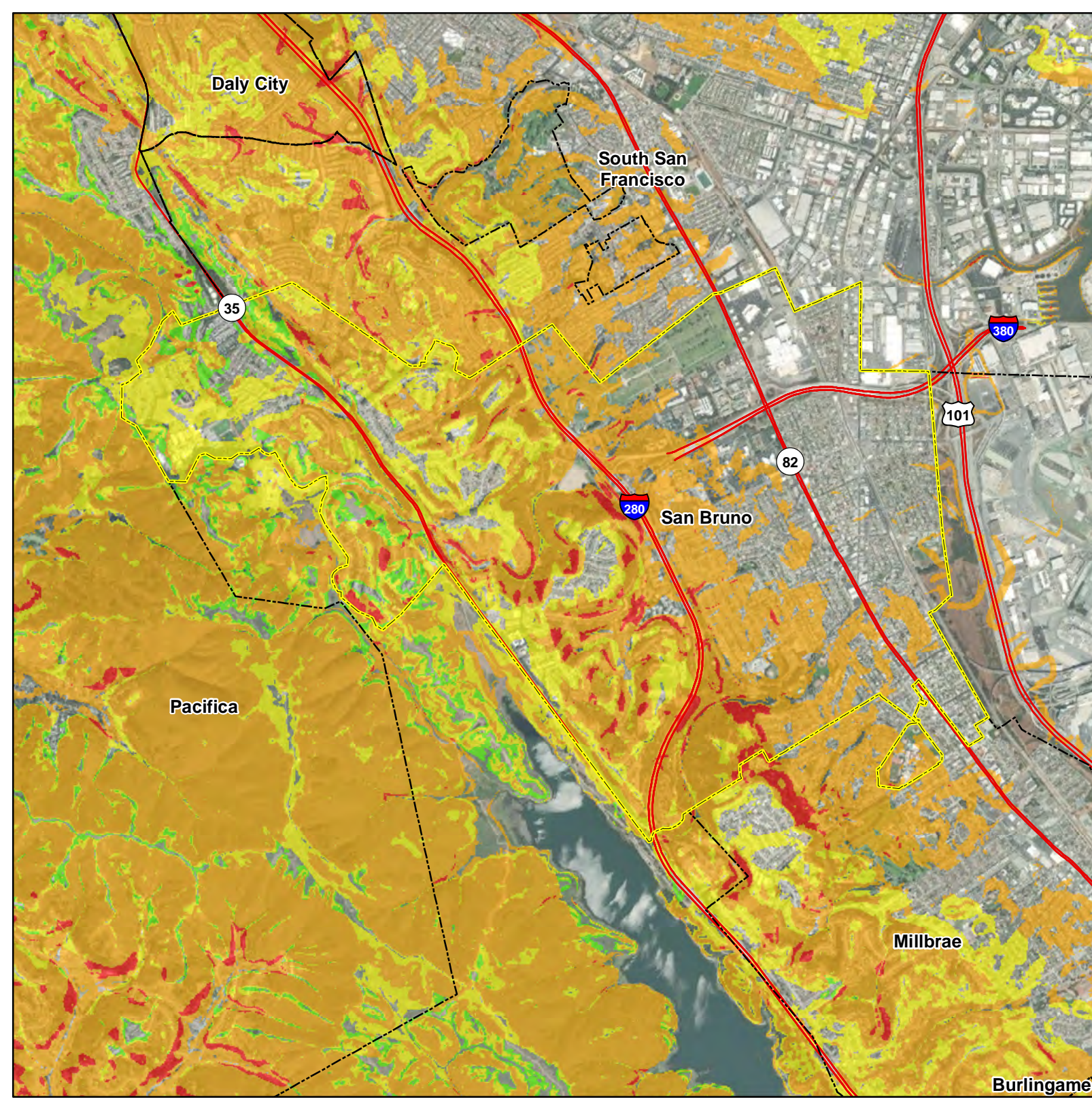
## Susceptibility to Deep-Seated Landslides

- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS



0 0.225 0.45 0.9 Miles



Daly City

South San Francisco

35

380

101

82

280

San Bruno

Pacifica






Millbrae

Burlingame



# San Bruno

## Sea Level Rise

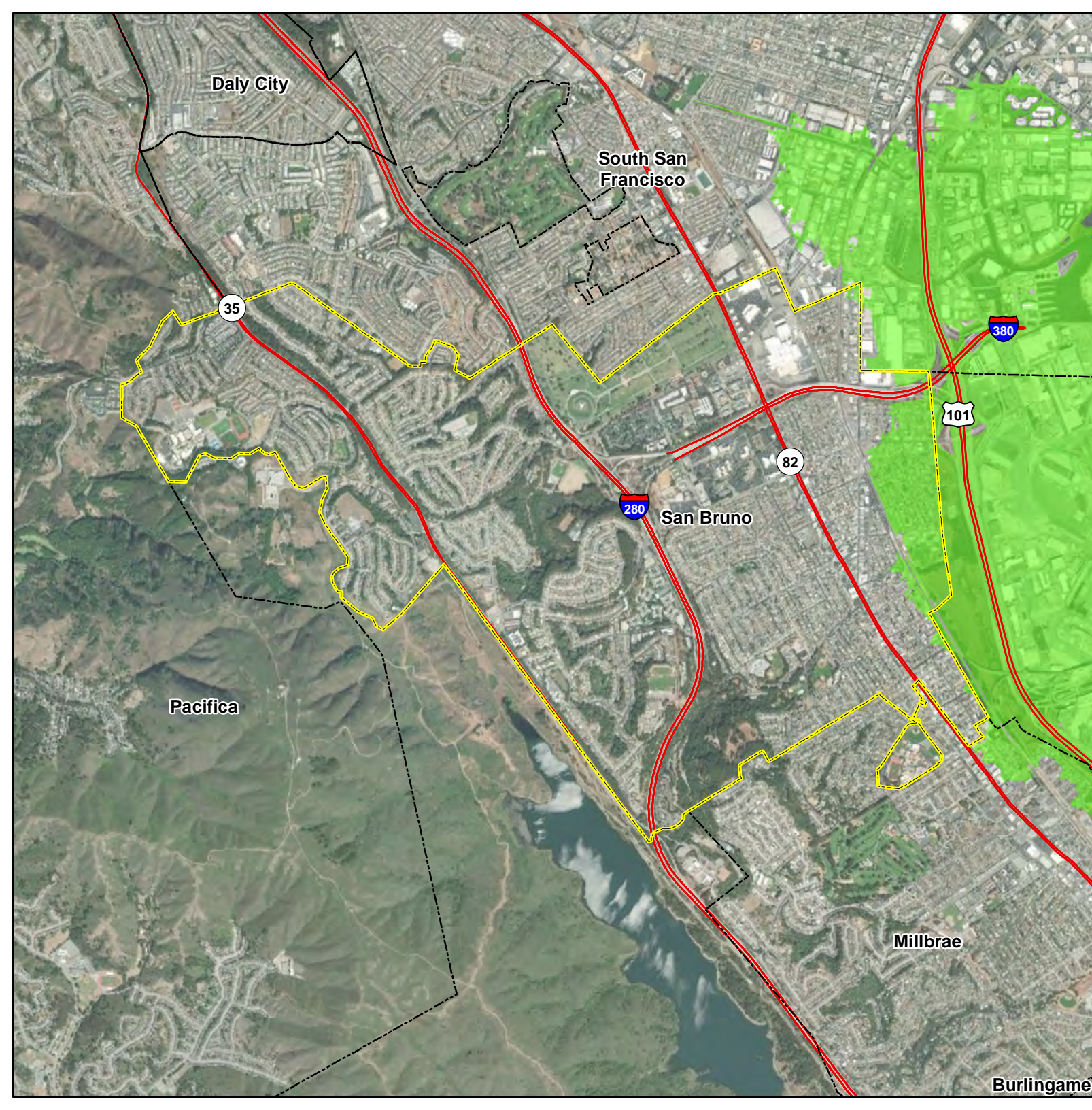
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF



0 0.225 0.45 0.9 Miles








Burlingame



# San Bruno

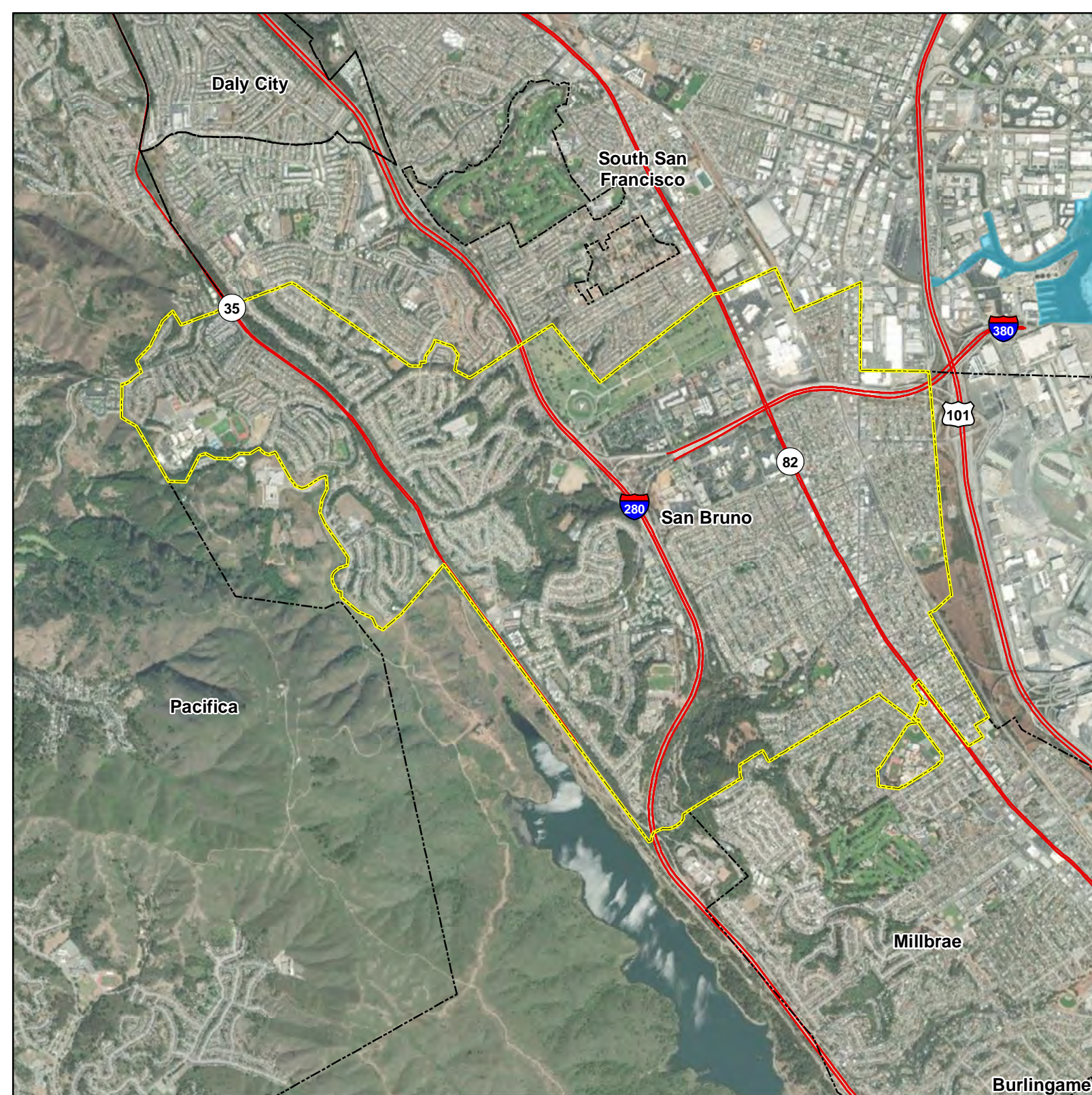
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.225 0.45 0.9  
Miles





# 18. CITY OF SAN CARLOS

## 18.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Chuck Lax, Battalion Fire Chief  
755 Marshall Street  
Redwood City, CA 94063  
(650) 780-7454  
clax@redwoodcity.org

### Alternate Point of Contact

Adam Lokar, Management Analyst  
600 Elm Street  
San Carlos, CA 94070  
(650) 802-4220  
ALokar@cityofsancarlos.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 18-1.

**Table 18-1. Local Mitigation Planning Team Members**

Name	Title
Nicole MacDonald	Senior Management Analyst
Chuck Lax	Training Fire Chief
Adam Lokar	Management Analyst
Grace Le	City Engineer
Lou Duran	Public Works Superintendent
Lisa Porras	Advanced Planning Manager
Andrea Mardesich	Principal Planner
Chris Valley	Building Official

## 18.2 JURISDICTION PROFILE

### 18.2.1 Location and Features

The City of San Carlos is located in the State of California on the San Francisco Peninsula approximately half-way between San Francisco and San Jose. The City is located in San Mateo County and is surrounded by Belmont to the north, Redwood City to the east and southeast, and unincorporated areas of the county to the south and west. The City consists of approximately 5.5 square miles and hosts a section of U.S. Route 101 along its eastern border. Additionally, California's historic thoroughfare, the El Camino Real (as California State Route 82), passes through San Carlos. San Carlos is considered a densely populated city, with an estimated 5,129 persons per square mile compared to the California state average of 239 persons per square mile.

The San Carlos Airport is a San Mateo County facility located along the northeast section within city limits approximately 20 miles south of downtown San Francisco. It is home to approximately 500 aircraft and over 25

aviation related businesses. The San Carlos Airport provides multiple emergency response and safety-related services for the City and County, including Air-Ambulance, Medevac flights, and law enforcement patrols.

San Carlos is home to two museums. The Museum of San Carlos History – located adjacent to Fire Station #13 on Laurel Street – focuses on the rich history of the city. Permanent exhibits focus on the city from the 1800s to 1900s through the display of historical photos and artifacts. Visiting exhibits vary throughout the year. The Hiller Aviation Museum is located on the grounds of the San Carlos Airport. This interactive museum features hands-on experiences with flight simulators and airplane sections and focuses on the history of aviation and advancements within the field. Additionally, visitors may listen to live communications between air traffic controllers and pilots flying into San Carlos Airport.

San Carlos enjoys a Mediterranean climate characterized by warm, dry summers and mild winters. Historically, July is the warmest month in the city, with average high temperatures reaching the low to mid 80s. December and January are typically the coolest months, with average lows reaching the low 40s. July 1972 and January 1949 experienced record high and low temperatures of 110 degrees Fahrenheit and 16 degrees Fahrenheit, respectively. Average precipitation is approximately 20 inches per year, with the wettest month being February (4.1”) and the driest being July (0”).

## **18.2.2 History**

The area presently known as the City of San Carlos was originally inhabited by the Ohlone Tribe of Native Americans. By 1542, European settlers began exploring, and in 1775, Lt. Juan Manuel de Ayala anchored his ship, the San Carlos, in the San Francisco Bay to develop a map of the area. Between the 1770s and 1854, the Spanish Government granted the lands consisting of present-day San Carlos to Spanish nationals. In 1854, the first American purchased and occupied land in the area. The laying of the San Francisco to San Jose railroad around the late 1800s ushered in great changes in the San Carlos area, as settlers mobilized to develop a town. The airport was established in 1919 and the first fire department was formed in 1927. In June 1925, the residents of San Carlos voted to incorporate the city. By 1927, San Carlos had its first elected mayor, James Hugh Martin.

## **18.2.3 Governing Body Format**

The type of government employed by the City of San Carlos is a Council-Manager format. This format is characterized by a legislative and executive branch. The legislative branch consists of a five-member City Council. The City Council generally functions to provide legislative direction and set City policy. The executive branch consists of a Council-appointed City Manager. This City Manager is responsible for the operational activities of all City Departments; implementing the City’s general policy guidelines; submitting for adoption a balanced budget; recommending strategies and solutions to City Council; following legislative activities; and keeping Council apprised of potential impacts to the City.

The City Council assumes responsibility for the adoption of this plan, while the City Manager oversees its implementation.



## 18.3 CURRENT TRENDS

### 18.3.1 Population

According to the California Department of Finance, the population of San Carlos as of January 2020 was 30,145. Since 2016, the population has grown at an average annual rate of 0.94 percent.

### 18.3.2 Development

Development between 2017 and 2021 saw increased activity. In terms of residential projects, San Carlos has seen a sharp increase in the number of Accessory Dwelling Units and there are currently approximately 20 multi-family and mixed-use projects in review, approved or under construction. A new 24-unit project at 817 Walnut Street includes 23 Below Market Rate Units with a “very-low” level of affordability. Notable commercial projects include a 500,000 square-foot office and biotech building, a car dealership and two new hotels. The City of San Carlos expects increased development between 2021 and 2026, especially in terms of commercial and industrial development in the east side of the city, which could total over 2 million square feet.

Table 18-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 18-2. Recent and Expected Future Development Trends**

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	Yes  Two residential parcels (each with a single-family home)					
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses.</i>  <i>If yes, who currently has permitting authority over these areas?</i>	Yes  No confirmed pre-zoning or annexations; however, we would anticipate 1 or 2 per year. The parcels are single-family residential, located within Devonshire Canyon.  County of San Mateo					
Are any areas targeted for development or major redevelopment in the next five years?  <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes - the City is expecting significant development in the commercial and industrial areas (east of El Camino Real and west of US Highway 101)  A portion of the area referenced above is located in a Moderate to Very-High Liquefaction Susceptibility area as well as located within the sea level rise hazard zone					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2016	2017	2018	2019	2020
	Single-Family	16	27	27	22	36
	Multi-Family	2	1	1	1	2
	Other (commercial, mixed use, etc.)	5	3	3	2	0
	<b>Total</b>	<b>23</b>	<b>31</b>	<b>32</b>	<b>25</b>	<b>38</b>

Criterion	Response
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<p>Since the City does not specifically track new-construction permits issued in each hazard zone, we have provided estimated ratios of new-construction permits issued in each hazard area in relation to overall new-construction permits issued:</p> <ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 15%</li> <li>• Landslide: 0% (in landslide area not stabilized)</li> <li>• High Liquefaction Areas: 15%</li> <li>• Tsunami Inundation Area: n/a</li> <li>• Wildfire Risk Areas: 30%</li> </ul>
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	<p>The City of San Carlos' General Plan: Envision 2030 was adopted in October 2009 and has a long term planning horizon to the year 2030. The Environmental Impact Report ("EIR") for the General Plan describes San Carlos' 1.3 square mile area as predominantly residential, with nearly 70% of its land devoted to residential development. Of its 2,469 acres, only 6% (157 acres) was identified as vacant. The buildout projections are estimated to include 1,436 residential units and 724,024 square feet of commercial land use, 572,008 square feet of office space, and 2,141,276 square feet of industrial land use. In the summer of 2020, San Carlos began working on a focused update to the General Plan, which includes updates to its Land Use, Housing, and Safety Elements in response to the 6<sup>th</sup> Regional Housing Needs Allocation for the 2015-2031 Housing Element cycle. This focused update will need to address approximately 2,735 new residential units. An EIR will be prepared for this focused update in 2022. The focused update will cover the period 2023 – 2040; <a href="http://www.SanCarlos2040.org">www.SanCarlos2040.org</a>.</p>

## 18.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 18-3.
- Development and permitting capabilities are presented in Table 18-4.
- An assessment of fiscal capabilities is presented in Table 18-5.
- An assessment of administrative and technical capabilities is presented in Table 18-6.
- An assessment of education and outreach capabilities is presented in Table 18-7.
- Information on National Flood Insurance Program (“NFIP”) compliance is presented in Table 18-8.
- Classifications under various community mitigation programs are presented in Table 18-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 18-10.



**Table 18-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	No	Yes	No
<i>Comment: The 2019 California Building Residential, Electrical, Mechanical, Plumbing, Energy, Historical Building, Existing Building, and Green Building Standards Codes, as adopted by the California Building Standards Commission, were adopted by reference by the City of San Carlos in 2019. Building code regulations and amendments found in Chapter 15.04.</i>				
<b>Zoning Code</b>	Yes	No	Yes	Yes
<i>Comment: City of San Carlos Zoning Codes were most recently updated March 2021, Chapter 18. The City anticipates a necessary Zoning Code amendment as a result of the Housing Element update to accommodate the State-mandated Regional Housing Needs Allocation. The update is targeted for completion by the end of 2022.</i>				
<b>Subdivisions</b>	Yes	No	No	Yes
<i>Comment: City of San Carlos Subdivision Codes were most recently updated in 2004; however, much of the ordinance is from 1981, Chapter 17.</i>				
<b>Stormwater Management</b>	Yes	No	Yes	Yes
<i>Comment: City of San Carlos Stormwater Management and Discharge Control Codes were most recently updated in 2011, Subchapter 13.14.</i>				
<b>Post-Disaster Recovery</b>	Yes	No	Yes	Yes
<i>Comment: Addressed in Emergency Operations Plan ("EOP").</i>				
<b>Real Estate Disclosure</b>	No	Yes	Yes	Yes
<i>Comment: CA. State Civil Code 1102 requires full disclosure on Natural Hazard Exposure of the sale/re-sale of any and all real property.</i>				
<b>Growth Management</b>	Yes	No	Yes	Yes
<i>Comment: The General Plan (including the Housing Element) and its accompanying/implementing Zoning Ordinance sets forth the level of growth anticipated and allowed in San Carlos. The General Plan was adopted in 2009 and the Housing Element in 2015. Currently, the City is updating the General Plan's Housing, Land Use, and Safety Elements as required by the State Department of Housing and Community Development. The update will be completed by the end of 2022. For information about this update, go to <a href="http://www.sancarlos2040.org">www.sancarlos2040.org</a>.</i>				
<b>Site Plan Review</b>	Yes	No	Yes	Yes
<i>Comment: City of San Carlos established the Title and Authority of its Zoning Code under Section 18.01 of the Municipal Code.</i>				
<b>Environmental Protection</b>	Yes	No	Yes	Yes
<i>Comment: City of San Carlos Environmental Review Procedures were most recently updated in 2011, Subchapter 18.27.050.</i>				
<b>Flood Damage Prevention</b>	Yes	Yes	Yes	Yes
<i>Comment: City of San Carlos Flood Damage Prevention Ordinance was most recently updated in 2012, Subchapter 15.56.</i>				
<b>Emergency Management</b>	Yes	No	Yes	Yes
<i>Comment: City of San Carlos Emergency Organization and Preparedness codes were most recently updated in 2013, Subchapter 2.28.</i>				
<b>Climate Change</b>	No	No	Yes	Yes
<i>Comment: SB 97 directs California Environmental Quality Act (CEQA) Guidelines to address greenhouse gas emissions. Other State policies include AB 32 and SB 375 and regulations of the Climate Action Plan.</i>				
<b>Other</b>	Yes	No	No	Yes
<i>Comment: Chapter 18.14 (Stream Development and Maintenance Overlay District), 2011 Chapter 13.12 (Underground Utility Districts), 1987 Chapter 13.04 through 13.10 (Sewer Use), 2011 Chapter 15.30 (Seismic Hazard Identification Program for Unreinforced Masonry Buildings), 1989</i>				

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
<b>General Plan</b> <i>Is the plan compliant with Assembly Bill 2140? Yes</i> <i>Comment: The 2030 General Plan was adopted in October 2009, with minor General Plan Amendments since then. The Housing Element was last revised in May 2015. Currently, the City is updating its General Plan's Housing, Land Use, and Safety Elements as required by the State Department of Housing and Community Development. The update will be completed by the end of 2022. For information about this update, go to <a href="http://www.sancarlos2040.org">www.sancarlos2040.org</a></i>	Yes	No	Yes	Yes
<b>Capital Improvement Plan</b> <i>How often is the plan updated? Annually</i> <i>Comment: The most recent version is for FY 2020-2021 available on the City website.</i>	Yes	No	No	Yes
<b>Disaster Debris Management Plan</b> <i>Comment: Addressed in EOP.</i>	Yes	Yes	Yes	Yes
<b>Floodplain or Watershed Plan</b> <i>Comment: Watershed Project completed for Bay Area and hosted on the Oakland Museum website.</i>	Yes	Yes	No	Yes
<b>Stormwater Plan</b> <i>Comment: Industrial and Commercial Business Inspection Plan and Enforcement Response Plan (Municipal Regional Stormwater Permit Provisions), Prepared May 2011, Revised June 2013, and June 2017; Construction Best Management Practices (BMPs), n.d.</i>	Yes	No	No	Yes
<b>Urban Water Management Plan</b> <i>Comment: Urban Water Management Plans are done by water purveyors, such as CalWater, in conjunction with the City.</i>	Yes	Yes	Yes	Yes
<b>Habitat Conservation Plan</b> <i>Comment: The City of San Carlos does not have a Habitat Conservation Plan.</i>	No	No	No	No
<b>Economic Development Plan</b> <i>Comment: The City updates its Economic Development Plan between every 1-3 years, with the most recent version being for 2016-2019. The City is currently updating the Plan, and it is expected to be adopted by Fall 2021.</i>	Yes	No	No	Yes
<b>Shoreline Management Plan</b> <i>Comment: The City of San Carlos does not have a Shoreline Management Plan. Sea level rise is addressed in CMAP, but there is no shoreline management plan specifically.</i>	No	No	No	No
<b>Community Wildfire Protection Plan</b> <i>Comment:</i>	No	Yes	Yes	Yes
<b>Forest Management Plan</b> <i>Comment:</i>	No	No	No	No
<b>Climate Action Plan</b> <i>Comment: The City of San Carlos adopted its first Climate Action Plan in 2009 and is currently developing a new Climate Mitigation and Adaptation Plan.</i>	Yes	No	No	Yes
<b>Emergency Operations Plan</b> <i>Comment: Plan to complete an update of this plan in early 2022.</i>	Yes	No	Yes	Yes
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b> <i>Comment: Bay Area UASI</i>	No	Yes	Yes	Yes
<b>Post-Disaster Recovery Plan</b> <i>Comment: San Mateo County jurisdictions are engaged in a Disaster Debris Management Plan.</i>	No	No	Yes	Yes
<b>Continuity of Operations Plan</b> <i>Comment: City will consider preparing a plan in the future.</i>	Yes	No	Yes	Yes
<b>Public Health Plan</b> <i>Comment: San Mateo County Health Department assessments, reports, and plans.</i>	No	Yes	Yes	No



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Other	Yes	Yes	Yes	Yes
<i>Comment: The Sanitary Sewer Management Plan (SSMP) was developed by the San Carlos Department of Public Works and last updated in 2019. The SSMP includes an Overflow Emergency Response Plan element.</i>				
Other	Yes	Yes	Yes	Yes
<i>Comment: The El Niño Flood Preparedness and Response Guide for Homeowners and Residents was prepared by the City in conjunction with ABAG in 2016. The Apartment Inspection Program was implemented 1999 by ordinance. This program addresses deferred maintenance of Building and Fire code-related items within rental units and common areas of apartment complexes.</i>				

**Table 18-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes Staff, Residential Design Review Committee, Planning Commission, Zoning Administrator, City Council
Does your jurisdiction have the ability to track permits by hazard area?	No, but in development
Does your jurisdiction have a buildable lands inventory?	Yes

**Table 18-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes – Sewer, Solid Waste
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes – Police Grants, State funding for street repairs, Active Transportation grants, Federal Technical Assistance grants, Transportation for Livable Communities Grant Program, Bike Path Program, Bicycle Pedestrian Improvement
Development Impact Fees for Homebuyers or Developers	Yes
Other	No

**Table 18-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development Department—Planning Division staff, Building Division staff, Public Works staff and City Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works Department and Community Development Department—Building Division
Planners or engineers with an understanding of natural hazards	Yes	Public Works Department—Engineering Division
Staff with training in benefit/cost analysis	Yes	Public Works Department—Engineering Division
Surveyors	Yes	On-call Consultant Surveyors as needed
Personnel skilled or trained in GIS applications	Yes	On-Call Consultant Services with CalCad
Scientist familiar with natural hazards in local area	Yes	On-call Consultant Services as needed
Emergency manager	Yes (Partial)	City appointed, San Mateo County OES
Grant writers	Yes	Department-based
Other	No	

**Table 18-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes, City Manager's Department
Do you have personnel skilled or trained in website development?	Yes, IT Manager and Communications Team
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Community Relations News Releases and Floodplain Information on Building Division Webpage
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Facebook, Twitter, Nextdoor, Instagram
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	No
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes Police Education Series, Good Living Newsletter, TV Channel, Billboards, Postcards, Message Boards
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes San Mateo County Emergency Alert System, City Zero Power Communications Plan



**Table 18-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Department of Community Development (Building Division)
Who is your floodplain administrator? (department/position)	Building Official
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	October 16, 2012
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	March 2012
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	Yes Yes
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	186 66,940,700 388,756
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	58 \$155,214

a. According to FEMA statistics as of March 31, 2021

**Table 18-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608165070	2019
DUNS#	Yes	848656674	N/A
Community Rating System	Yes	9	2020
Building Code Effectiveness Grading Schedule	Yes	4	2019
Public Protection	Yes (Redwood City FD)	1	2018
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 18-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Currently developing a vulnerability assessment as part of Climate Mitigation and Adaptation Plan.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: Regional and State level agencies are relied upon for monitoring climate impacts.</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Will be informed through Climate Mitigation and Adaptation Plan.</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Currently develop greenhouse gas inventories annually.</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Climate impacts are considered during project planning and land use decisions.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: Participate in multiple regional groups focusing on climate impacts.</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Climate Change is one of San Carlos City Council's strategic goals.</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Included in 2009 CAP and CMAP.</i>	High
Identified strategies for adaptation to impacts <i>Comment: Included in CMAP.</i>	High
Champions for climate action in local government departments <i>Comment: Some support for climate action among government departments.</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment: Strong support for climate adaptation strategies and included as one of San Carlos City Council's strategic goals.</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Financial resources are currently devoted to climate adaptation planning.</i>	Medium
Local authority over sectors likely to be negative impacted <i>Comment: Some sectors likely will be negatively impacted are outside of our jurisdiction or we have limited control over.</i>	Medium
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Through recent community engagement workshops for the Climate Mitigation and Adaptation Plan, Focused General Plan Update, and the East Side Innovation District Vision Plan, residents and community members have shown their awareness of the issues, especially flooding/sea level rise and wildfire.</i>	High
Local residents support of adaptation efforts <i>Comment: Through recent community engagement workshops for the Climate Mitigation and Adaptation Plan, Focused General Plan Update, and the East Side Innovation District Vision Plan, residents and community members have voice concerns and support.</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: Adaptive capacity varies among resident populations.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment: Local economy has an adaptive capacity however some large employers may be impacted by sea level rise.</i>	Medium
Local ecosystems capacity to adapt to climate impacts <i>Comment: Local riparian habitats and wetlands are vulnerable to drought and sea level rise.</i>	Low

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.



## 18.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 18.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **City of San Carlos 2030 General Plan.** The City of San Carlos has integrated hazard mitigation into several elements of its General Plan. The Housing Element notes State regulations and the need for the City to consider environmental constraints, including biological resources, hazardous materials, and flooding, amongst others; it also includes information on where these resources and hazards are most typically located to guide development away from hazard-prone areas. The Environmental Management Element considers the importance of certain habitats to the community (i.e., wetlands, riparian habitats, woodlands, and areas with protected species, etc.), helping the City determine the best locations to maintain open spaces within the community. Lastly, the Safety Element examines geologic seismic hazards to the community and provides maps for expansive soil locations, dam inundation areas, floodplains, and fire risk. The Land Use Element, Housing Element, and Safety Elements are currently being updated and will be complete by the end of 2022; for more information [www.sancarlos2040.org](http://www.sancarlos2040.org).
- **City of San Carlos Climate Mitigation and Adaptation Plan (CMAP).** At the time of writing the City of San Carlos is in the process of updating its 2009 Climate Action Plan with a new Climate Mitigation and Adaptation Plan. Once completed, the CMAP will be a blueprint for how San Carlos will take action on climate change including actions to reduce greenhouse gas emissions and adapt to climate hazards. The CMAP will include a vulnerability assessment that determines the risks facing the city to various climate hazards and include adaptation strategies to enhance the City’s preparedness.
- **City of San Carlos Sanitary Sewer Management Plan.** In accordance with the San Francisco Regional Water Quality Control Board and the California State Water Resources Control Board (SWRCB), the SSMP integrates hazard awareness and mitigation efforts, most notably to ensure public health and to reduce stormwater. The SSMP also contains an overflow emergency response plan that provides notification, response, reporting, and impact mitigation procedures.

### 18.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **City of San Carlos Climate Mitigation and Adaptation Plan (CMAP).** The Climate Mitigation and Adaptation Plan provides the City with an opportunity to directly integrate hazard mitigation with existing goals. Since the CMAP will provide a strategic guide for reducing greenhouse gas emissions associated with local activities and adapting to climate hazards, integration of hazard mitigation is highly relevant. The City plans to continue integrating the CMAP with its Safety Element and other applicable City plans.

- **Capital Improvement Program (CIP).** The City of San Carlos maintains a comprehensive CIP, which guides capital improvement projects over a specified period (currently FY 2021-2023). Many projects included in the current CIP relate to hazard mitigation. The City should review the CIP to ensure mitigation actions for the Hazard Mitigation Plan (HMP) update are consistent with approved capital improvement projects. Additionally, the City can use the HMP update and any new mitigation initiatives as areas to explore in future CIP.
- **SSMP.** Although the City’s SSMP already considers hazard mitigation to some extent, the City can explore integrating stormwater and public health hazard mitigation initiatives with the SSMP where applicable. Additionally, while reviewing and updating the HMP, the City should consider any sewer overflow mitigation measures identified in the SSMP Overflow Emergency Response Plan.
- **Economic Development Plan.** The City Economic Development Plan contains project initiatives and goals that could be integrated with the Hazard Mitigation Plan. At least one suggested action considers the impact of flooding, although there is no project category related to hazard mitigation. The City could consider adding an element to its initiative matrix so that smart development and land use practices avoid construction in hazard-prone areas.
- **Public Outreach.** The City has multiple resources on hazard mitigation, disaster preparation, and outreach on its website. The City of San Carlos may eventually explore developing a public information program that creates a cohesive platform to deliver this information to residents; such a program may also be designed in a way to enhance the City’s CRS rating.
- **San Carlos General Plan.** The Land Use Element, Housing Element, and Safety Elements are currently being updated and will be complete by the end of 2022; for more information [www.sancarlos2040.org](http://www.sancarlos2040.org).
- **East Side Innovation District Vision Plan.** In January 2021, the City kicked off an effort to develop a Vision Plan for a portion of San Carlos’ East Side. This Vision Plan could contain guidance and principles relating to hazard mitigation concerning flooding and sea level rise. The Vision Plan is expected to be completed by the end of September 2021. For more information go to [www.sancarlosinnovation.org](http://www.sancarlosinnovation.org)

## 18.6 RISK ASSESSMENT

### 18.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 18-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.



**Table 18-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Wildfires	DR-4558	August 14 – September 26, 2020	N/A
COVID-19 Pandemic	DR-4482	January 20, 2020 – present	N/A
Severe Winter Storms, Flooding, and Mudslides	DR-4308	February 1 – 23, 2017	N/A
Severe Winter Storms, Flooding, and Mudslides	DR-4305	January 18 – 23, 2017	N/A
Flood	N/A	December 11, 2014	Flooding caused damage to multiple manufactured homes – property and personal property
Fire	FM-2856	September 10, 2010	damage reported
Severe Storm (s)	N/A	January 20, 2010	Mutual aid provided in fire response
Severe Storm (s)	N/A	October 3, 2009	Minor flooding and power outages reported. Tree debris from storm
Severe Storm(s)	DR-1646	June 5, 2006	winds
Severe Storm(s)	DR-1628	February 3, /2006	Minor flooding and power outages reported. Tree debris from storm
Severe Storm(s)	DR-1203	February 9, 1998	winds
Severe Storm(s)	DR-1155	January 4, 1997	Minor flooding and power outages reported. Tree debris from storm winds
Severe Storm(s)	N/A	March 4, 1996	Minor flooding and power outages reported. Tree debris from storm winds
Severe Storm(s)	DR-1046	March 12, 1995	Minor flooding and power outages reported. Tree debris from storm winds
Severe Storm(s)	DR-1044	January 10, 1995	Minor flooding and power outages reported. Tree debris from storm winds
Freezing	DR-894	February 11, 1991	Reports of dead trees – subsequent safety concern for falling trees and wildfire fuels.
Earthquake	DR-845	October 18, 1989	\$3 million in damages to old City courthouse
Flood	DR-758	February 21, 1986	Unknown
Coastal Storm	DR-677	2/9, 1983	Unknown
Flood	DR-651	January 7, 1982	Unknown
Drought	EM-3023	January 20, 1977	Unknown
Flood	DR-145	February 25, 1963	Unknown
Severe Storm(s)	DR-138	October 24, 1962	Unknown
Flood	DR-122	March 6, 1962	Unknown
Flood	DR-82	April 4, 1958	Unknown
Fire	DR-65	December 29, 1956	Unknown
Flood	DR-47	December 23, 1955	Unknown
Flood	DR-15	February 5, 1954	Unknown

## 18.6.2 Hazard Risk Ranking

Table 18-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 18-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea Level Rise / Climate Change	81	High
2	Flood	51	High
3	Earthquake	42	High
4	Landslide/Mass Movements	42	High
5	Wildfire	42	High
6	Severe weather	24	Medium
7	Drought	9	Low
8	Dam Failure	0	Low
9	Tsunami	0	Low

### 18.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

### 18.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 18-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 18-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
Action CSC-1 — Develop drought contingency plan. Comment: Researching feasibility and usefulness of a drought plan.		✓		
Action CSC-2 — Implement public outreach plan on importance of water conservation. Comment: Effort is ongoing.	✓			
Action CSC-3 — Convert spray irrigation to drip irrigation in public areas. Comment: Project completed in summer 2017. Ongoing maintenance continues.	✓			
Action CSC-4 — Develop recycled water option for resident’s irrigation needs. Comment: Program established in 2019 but is currently suspended due to the pandemic. Will be part of CMAP implementation.	✓			
Action CSC-5 — Develop a Continuity of Operations Plan. Comment: City is currently updating our EOP, including COOP.			✓	SCL-8



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action CSC-6</b> — Provide backup power for critical infrastructure and facilities in earthquake-prone areas. <b>Comment:</b> Project for backup power is in the City's current Capital Improvement Program.			✓	SCL-6,7
<b>Action CSC-7</b> — Warehouse critical infrastructure repair materials <b>Comment:</b> Effort is ongoing.			✓	SCL-9
<b>Action CSC-8</b> — Train emergency responders. <b>Comment:</b> Ongoing.	✓			
<b>Action CSC-9</b> — Maintain drainage system. <b>Comment:</b> Maintenance is ongoing.			✓	SCL-10
<b>Action CSC-10</b> — Provide redundancy for critical facilities and infrastructure in flood areas. <b>Comment:</b> No longer feasible.				
<b>Action CSC-11</b> — Include replacement of critical drainage system elements in Capital Improvement Program. <b>Comment:</b> Storm Master Plan projects are included in the CIP.			✓	SCL-10
<b>Action CSC-12</b> — Maintain current CRS Rating. <b>Comment:</b> Ongoing.			✓	SCL-11
<b>Action CSC-13</b> — Harden/relocate critical infrastructure in high risk landslide areas. <b>Comment:</b> Need coordination with residents and other agencies.			✓	SCL-1
<b>Action CSC-14</b> — Increase emergency communications alternatives. <b>Comment:</b> SMC Dispatch CAD improved and City EOC communications infrastructure recently upgraded.	✓			
<b>Action CSC-15</b> — Purchase NOAA weather radios. <b>Comment:</b> Not planned.		✓		
<b>Action CSC-16</b> — Equip vital facilities with emergency power sources. <b>Comment:</b> Effort is ongoing.			✓	SCL-6,7
<b>Action CSC-17</b> — Utilize/maintain San Mateo County Public Works Mutual Aid agreement for assistance. <b>Comment:</b> Utilization/maintenance ongoing.			✓	SCL-12
<b>Action CSC-18</b> — Implement best management practices on public land to reduce potential fuel loads near homes. <b>Comment:</b> Efforts ongoing with annual fuel reduction program in place.	✓			
<b>Action CSC-19</b> — Evaluate and remove non-native species of trees that pose an increased risk of an urban interface fire. <b>Comment:</b> Effort is ongoing.			✓	SCL-13
<b>Action CSC-20</b> — Increase public outreach and education on the dangers of wildland fires. <b>Comment:</b> Annual communications to residents, information on City website, mailers, community events, and workshops.	✓			
<b>Action CSC-21</b> — Establish/maintain fire response and evacuation routes. <b>Comment:</b> Ongoing, holding annual evacuation exercises.	✓			

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action CSC-22</b> — Obtain services from an outside consultant to identify FEMA or other hazard mitigation grant opportunities, apply for grants that can be used to fund the City's identified Hazard Mitigation Actions and administer any grants received and subsequent audits.</p> <p><b>Comment:</b> City is considering as part of EMS through consultant services.</p>			✓	SCL-14
<p><b>Action CSC-23</b> — Develop an inventory of soft-story buildings in San Carlos.</p> <p><b>Comment:</b> Effort is ongoing. The City will continue to monitor State activity of AB 2681,</p>		✓		SCL-16
<p><b>Action CSC-24</b> — Continue to educate the public on the dangers of pipeline failure</p> <p><b>Comment:</b> Effort is ongoing.</p>			✓	SCL-17
<p><b>Action G-1</b>—Where appropriate, support retrofit, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> Completed and ongoing as we continually support streamlined permitting for seismic retrofit permits.</p>				SCL-1
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as the Tree City and StormReady.</p> <p><b>Comment:</b> The City re-joined Tree City USA in 2019-20. We have our own in house maintenance storm preparations and participate in the Public Works Mutual Aid Agreement and will not be participating in StormReady at this time.</p>	✓			
<p><b>Action G-3</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.</p> <p><b>Comment:</b> Completed and ongoing as part of our NFIP Community Rating System participation.</p>			✓	SCL-4
<p><b>Action G-4</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> No longer feasible.</p>				
<p><b>Action G-5</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Ongoing.</p>				SCL-2
<p><b>Action G-6</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b> Completed and ongoing, as the City directs to this website for such home improvements: <a href="https://housing.smcgov.org/housing-repair-programs">https://housing.smcgov.org/housing-repair-programs</a></p>	✓			
<p><b>Action G-7</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SCL-3
<p><b>Action G-8</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing.</p>			✓	SCL-3

## 18.8 HAZARD MITIGATION ACTION PLAN

Table 18-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 18-15 identifies the priority for each action. Table 18-16 summarizes the mitigation actions by hazard of concern and mitigation type.



**Table 18-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SCL-1</b> —Where appropriate, support retrofit, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Dam Failure, Tsunami, Sea Level Rise						
Existing	4, 6, 7, 9,13	City of San Carlos	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action SCL-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Drought, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	10, 12	City of San Carlos	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action SCL-3</b> —Actively participate in the plan maintenance protocols and support the County-wide initiatives identified in Volume I of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Drought, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	10, 12	City of San Carlos	San Mateo County	Low	Staff Time, General Funds	Short-term
<b>Action SCL-4</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<i>Hazards Mitigated:</i> Flood						
New & Existing	1, 2, 10, 14	City of San Carlos	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action SCL-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change in collaboration with the City's pending Climate Mitigation and Adaptation Plan.						
<i>Hazards Mitigated:</i> Climate Change, Drought, Sea Level Rise						
New & Existing	7, 14	City of San Carlos	N/A	Medium	Staff Time, General Funds	Short-term
<b>Action SCL-6</b> — Purchase stationary generators for critical facilities and infrastructure that lack adequate backup power, including solar and battery storage systems.						
<i>Hazards Mitigated:</i> Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Dam Failure, Tsunami						
Existing	6, 7	City of San Carlos	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action SCL-7</b> — Purchase portable generators for critical facilities and infrastructure that lack adequate backup power, including solar and battery storage systems.						
<i>Hazards Mitigated:</i> Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Dam Failure, Tsunami						
Existing	6, 7	City of San Carlos	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action SCL-8</b> —Develop a Continuity of Operations Plan (COOP).						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	6, 7	City of San Carlos	N/A	Medium	General Funds	Long-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SCL-9</b> — Maintain and upgrade current storage area containing critical infrastructure repair materials.						
<i>Hazards Mitigated:</i> Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	6, 7, 8	City of San Carlos	N/A	Medium	General Funds	Ongoing
<b>Action SCL-10</b> —Maintain and improve emergency drainage systems. Include replacement of critical drainage system elements in Capital Improvement Program.						
<i>Hazards Mitigated:</i> Flood, Dam Failure, Sea Level Rise						
New & Existing	1, 6, 7, 8, 9	City of San Carlos	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Ongoing
<b>Action SCL-11</b> —Maintain and potentially improve current CRS Rating.						
<i>Hazards Mitigated:</i> Flood						
New & Existing	1, 2, 10, 14	City of San Carlos	N/A	Medium	General Funds	Ongoing
<b>Action SCL-12</b> — Utilize/maintain San Mateo County Public Works Mutual Aid agreement for assistance.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Drought, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	1, 2, 5, 7, 8, 9, 10, 12	City of San Carlos	N/A	Medium	Staff Time, General Funds	Ongoing
<b>Action SCL-13</b> — Update the City's Protected Tree Ordinance and the City's Recommended Street Tree List to prohibit the planting of high-hazard trees that pose an increased risk of fire in the WUI zones.						
<i>Hazards Mitigated:</i> Wildfire						
New & Existing	2, 5, 6, 8, 10, 14	City of San Carlos	N/A	Medium	General Funds	Short-term
<b>Action SCL-14</b> — Obtain services from an outside consultant to identify FEMA or other hazard mitigation grant opportunities, apply for grants that can be used to fund the City's identified Hazard Mitigation Actions and administer any grants received and subsequent audits.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Drought, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	2, 8	City of San Carlos	N/A	Medium	General Funds	Short-term
<b>Action SCL-15</b> — Conduct a feasibility study to inventory soft-story structures in the city.						
<i>Hazards Mitigated:</i> Earthquake						
Existing	1, 2, 10	City of San Carlos	N/A	Medium	Grant Funding, -FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action SCL-16</b> — Develop an inventory of soft-story structures buildings in San Carlos.						
<i>Hazards Mitigated:</i> Earthquake						
Existing	1, 2, 10	City of San Carlos	N/A	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), General Funds	Short-term
<b>Action SCL-17</b> — Continue to educate the public on the dangers of natural hazards, including pipeline failures, and resiliency strategies.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Drought, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	3, 5, 11	City of San Carlos	N/A	Medium	Grant Funding, -FEMA HMA (BRIC, FMA and HMGP), General Funds	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SCL-18</b> — Update the City's Emergency Operations Plan (EOP).						
<u>Hazards Mitigated:</u> Climate Change, Flood, Earthquake, Landslide/Mass Movements, Wildfire, Severe weather, Drought, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	2, 5, 10	City of San Carlos	N/A	Medium	General Funds	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 18-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	5	High	High	Yes	Yes	No	Medium	High	Medium
2	2	Medium	Low	Yes	No	Yes	High	Low	Medium
3	2	Medium	Low	Yes	No	Yes	High	Low	Medium
4	4	Medium	Low	Yes	No	Yes	High	Low	Medium
5	2	Medium	Medium	Yes	No	Yes	High	Low	Medium
6	2	High	Medium	Yes	Yes	No	Medium	High	Medium
7	2	High	Medium	Yes	Yes	No	Medium	High	Medium
8	2	Medium	Medium	Yes	No	No	Medium	Low	Medium
9	3	Medium	Medium	Yes	No	No	Medium	Low	Medium
10	5	High	Medium	Yes	Yes	No	Medium	High	Medium
11	4	Medium	Medium	Yes	Yes	No	Medium	Medium	Medium
12	8	Medium	Medium	Yes	No	No	Medium	Low	Medium
13	6	Medium	Medium	Yes	No	No	Medium	Low	High
14	2	Medium	Medium	Yes	No	No	Low	Low	Medium
15	3	Medium	Medium	Yes	Yes	No	Medium	Medium	High
16	3	Medium	Medium	Yes	Yes	No	Medium	Medium	High
17	3	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
18	3	Medium	Medium	Yes	No	Yes	High	Low	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 18-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea Level Rise / Climate Change		1	17		8, 12, 18		2, 3, 5	2, 3, 5, 8, 14, 18
Flood	4, 5, 10, 11, 12	1	17		6, 7, 8, 9, 10, 18	10		2, 3, 4, 5, 8, 11, 14, 18
Earthquake		1	17		6, 7, 8, 9, 12, 18			2, 3, 8, 14, 15, 16, 18
Landslide/Mass Movements		1	17		6, 7, 8, 9, 12, 18			2, 3, 8, 14, 18
Wildfire	13	1	17	13	6, 7, 8, 9, 12, 18		13	2, 3, 8, 14, 18
<b>Medium-Risk Hazards</b>								
Severe weather		1	17		6, 7, 8, 9, 12, 18			2, 3, 8, 14, 18
<b>Low-Risk Hazards</b>								
Drought			17		12, 18			2, 3, 14, 18
Dam Failure		1	17		6, 7, 8, 9, 12, 18	10		2, 3, 8, 14, 18
Tsunami		1	17		6, 7, 8, 9, 12, 18			2, 3, 8, 14, 18

a. See the introduction to this volume for explanation of mitigation types.

## 18.9 PUBLIC OUTREACH

Table 18-17 lists public outreach activities for this jurisdiction.

**Table 18-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
2019 Wildfire Preparedness Community Meeting #1	4/13/2019	80
2019 Wildfire Preparedness Community Meeting #2	4/16/2019	120
2020 Wildfire Preparedness Community Meeting	9/2/2020	50
San Carlos City Council Meeting	4/12/2021	unknown
2021 Wildfire Preparedness Community Meeting	8/28/2021	TBD

## 18.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City of San Carlos Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.



- **City of San Carlos Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **City of San Carlos Floodplain Ordinance 984**—The floodplain ordinance was reviewed for preparation of this plan.
- **City of San Carlos Emergency Operations Plan**— The EOP was reviewed for preparation of this plan.
- **City of San Carlos Local Hazard Mitigation Plan**— The San Carlos LHMP was reviewed for preparation of this plan.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## **18.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY**

Ongoing training in emergency management across all departments is needed to understand the vulnerabilities to all hazards and allow for a sufficient response.








## **18.12 ADDITIONAL COMMENTS**

Thank you to San Mateo County and all partner agencies for developing the Multijurisdictional Local Hazard Mitigation Plan.



# San Carlos

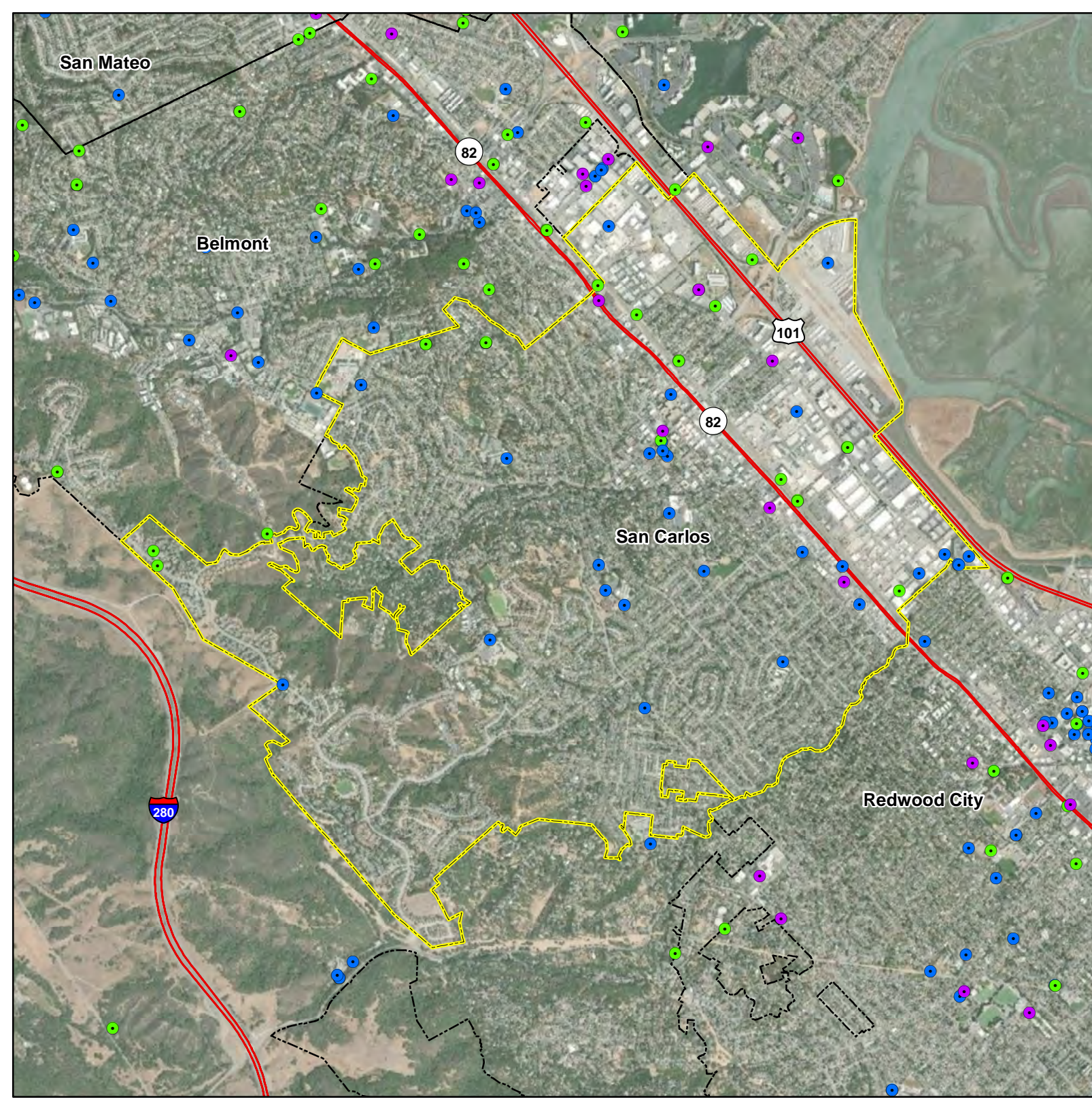
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



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Miles





San Mateo









Belmont

San Carlos

Redwood City

# San Carlos

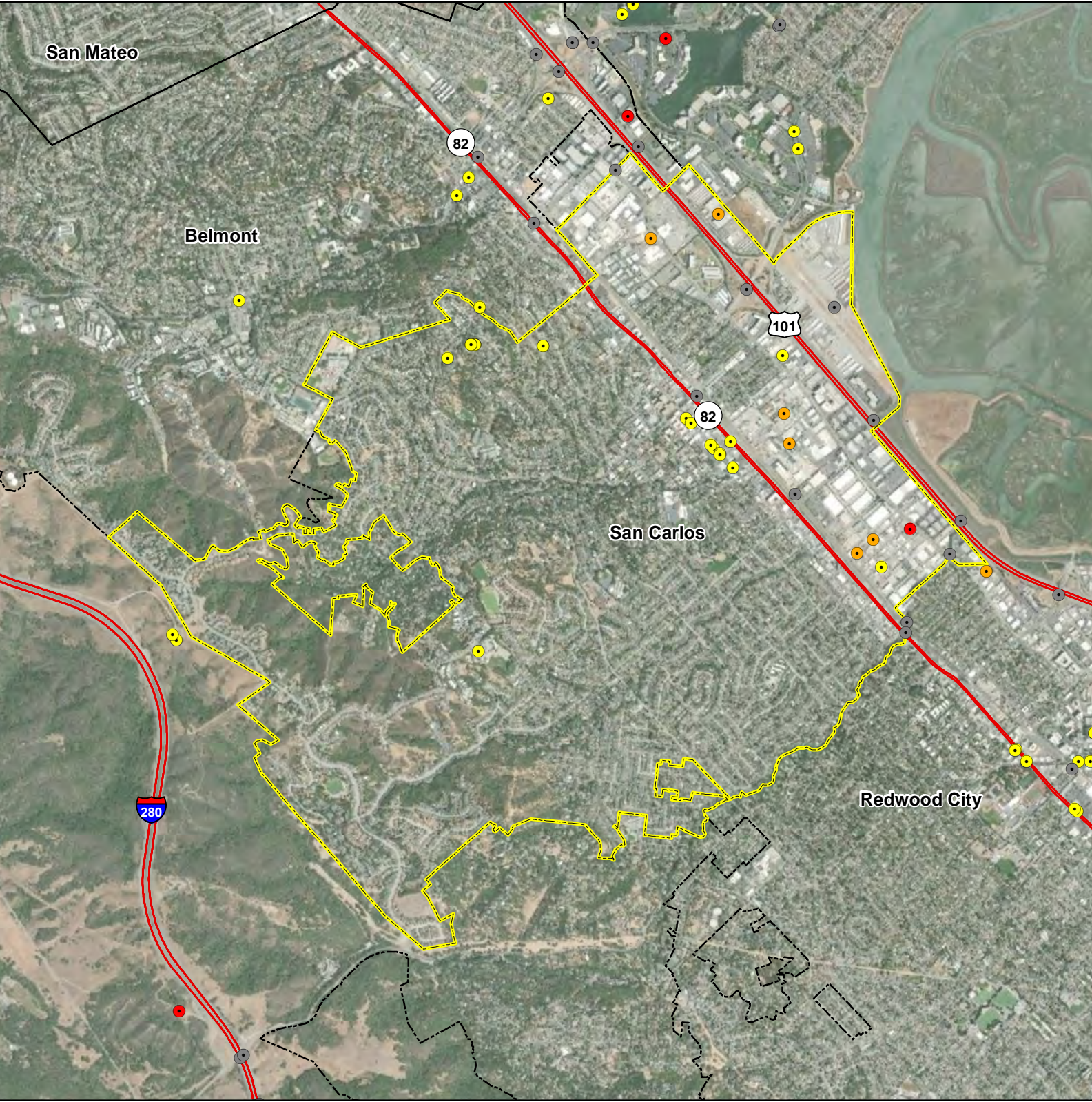
## Critical Facilities, 2 of 2

-  Communications
-  Energy
-  Hazardous Materials
-  Transportation
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



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San Mateo







Belmont

San Carlos

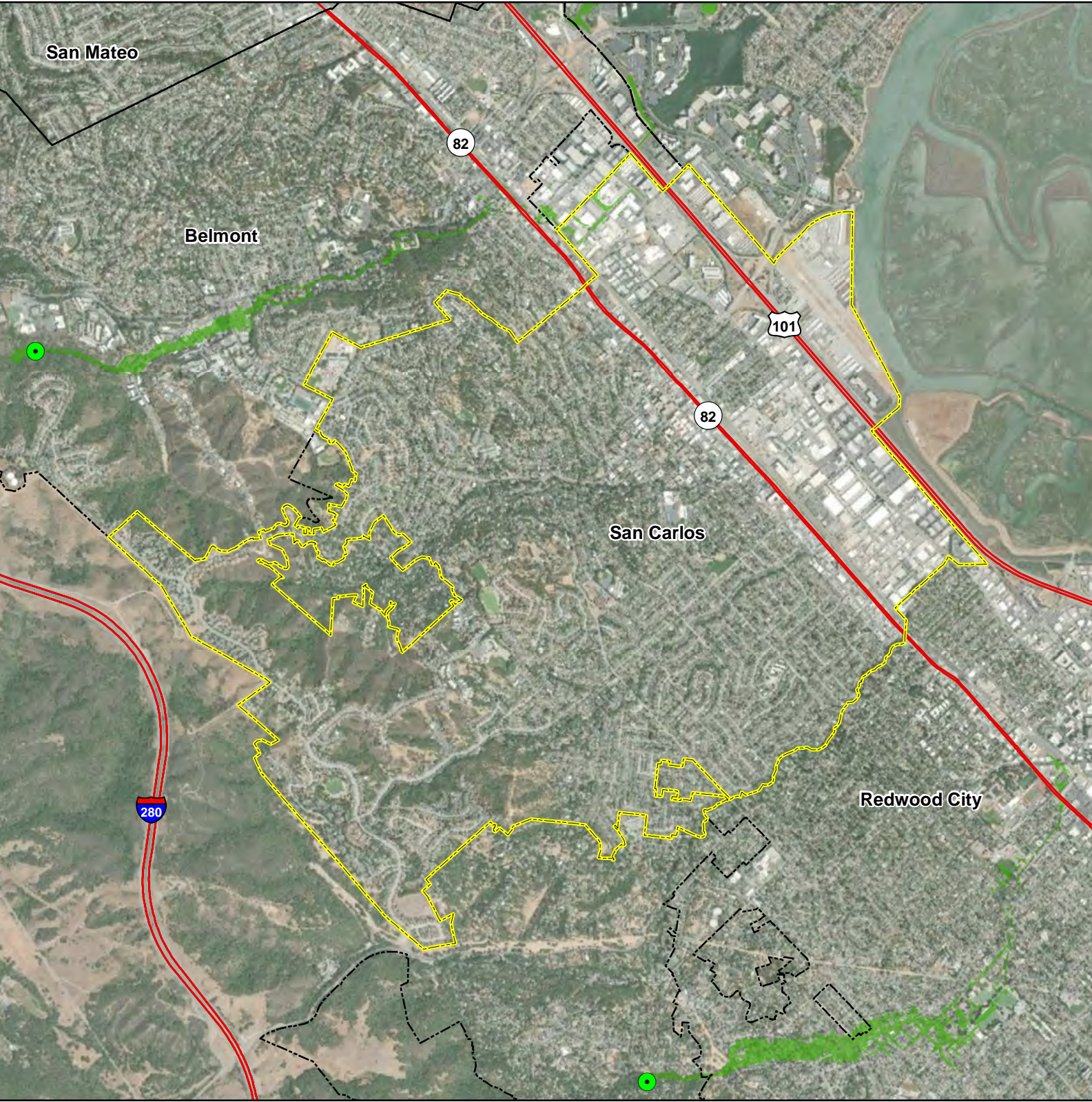
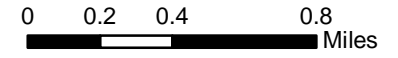
Redwood City

# San Carlos

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways








Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR





# San Carlos

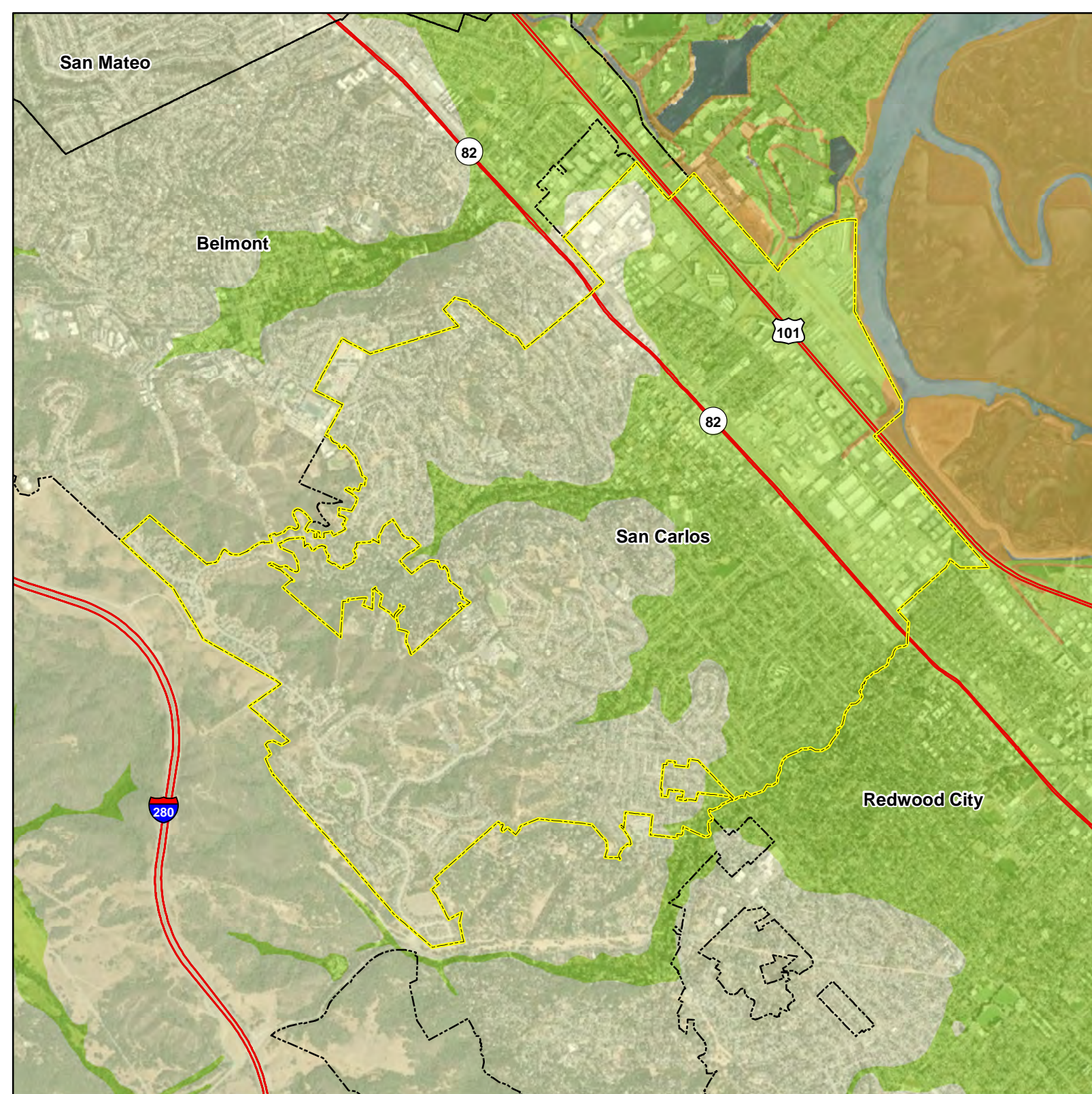
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



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San Mateo










Belmont

San Carlos

Redwood City

# San Carlos

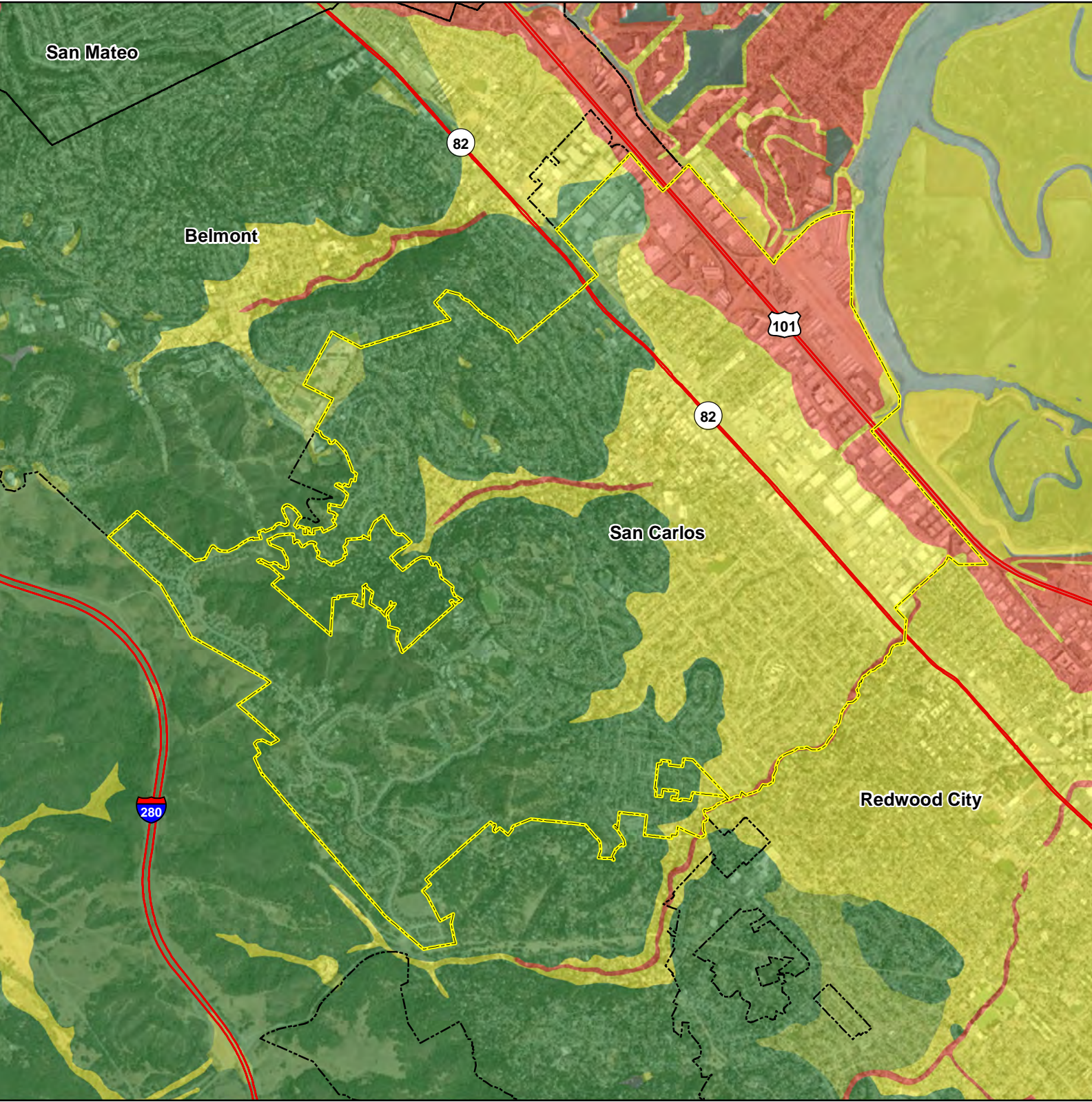
## Liquefaction Susceptibility

-  Very Low
-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., ABAG (USGS)



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Miles





# San Carlos

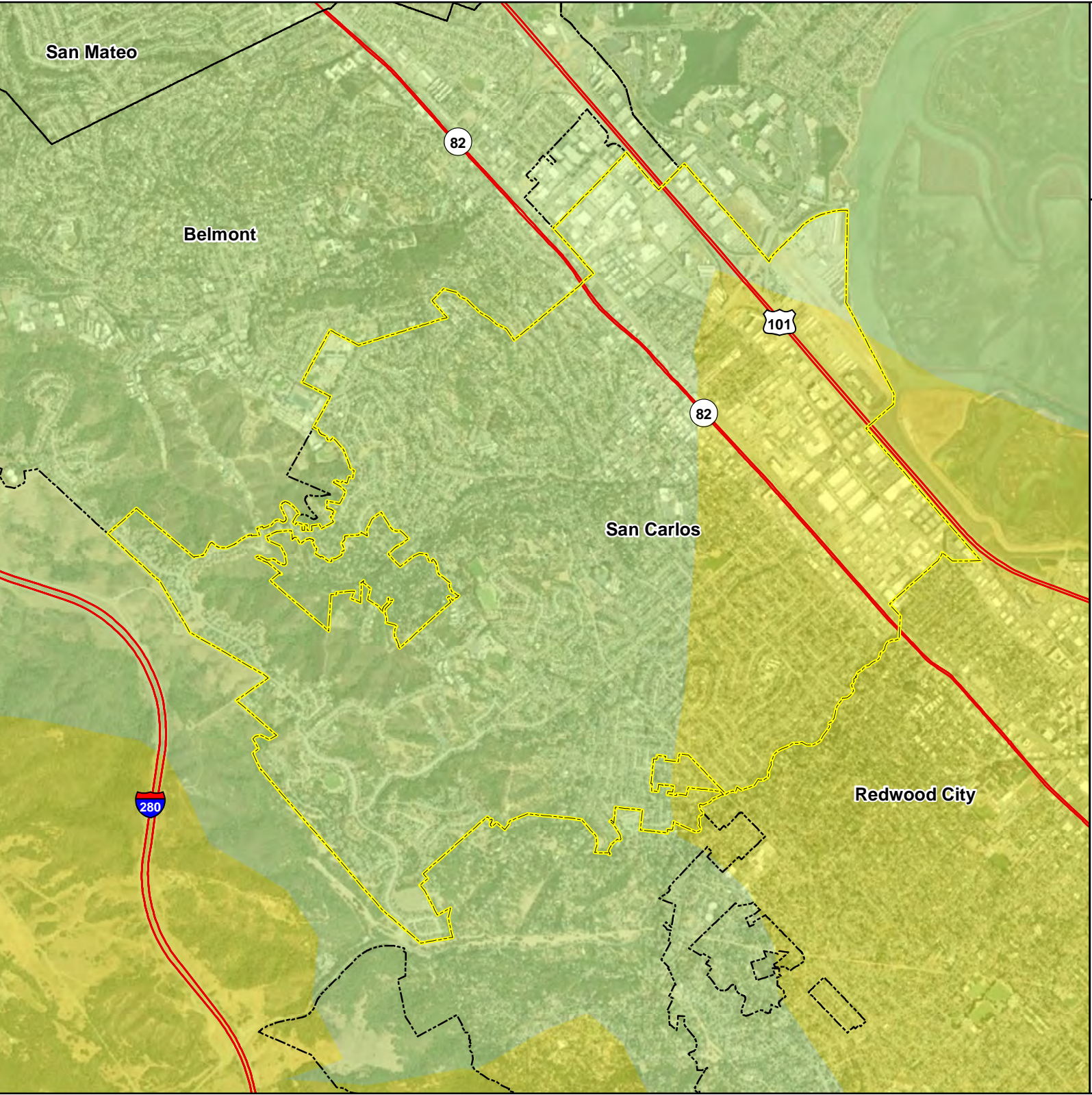
## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





San Mateo

Belmont

San Carlos

Redwood City

# San Carlos

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# San Carlos

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

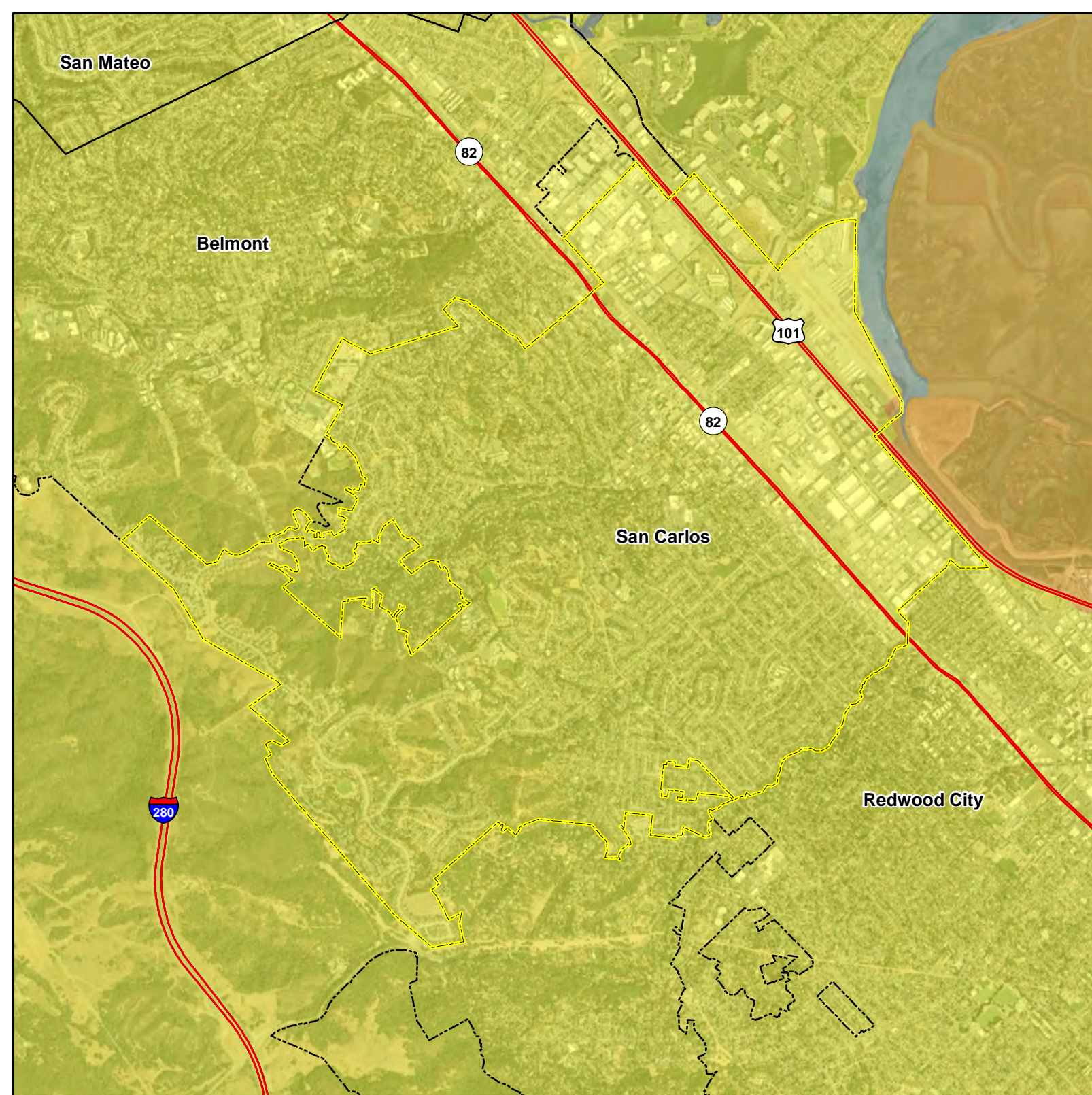
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



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 Miles





# San Carlos

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

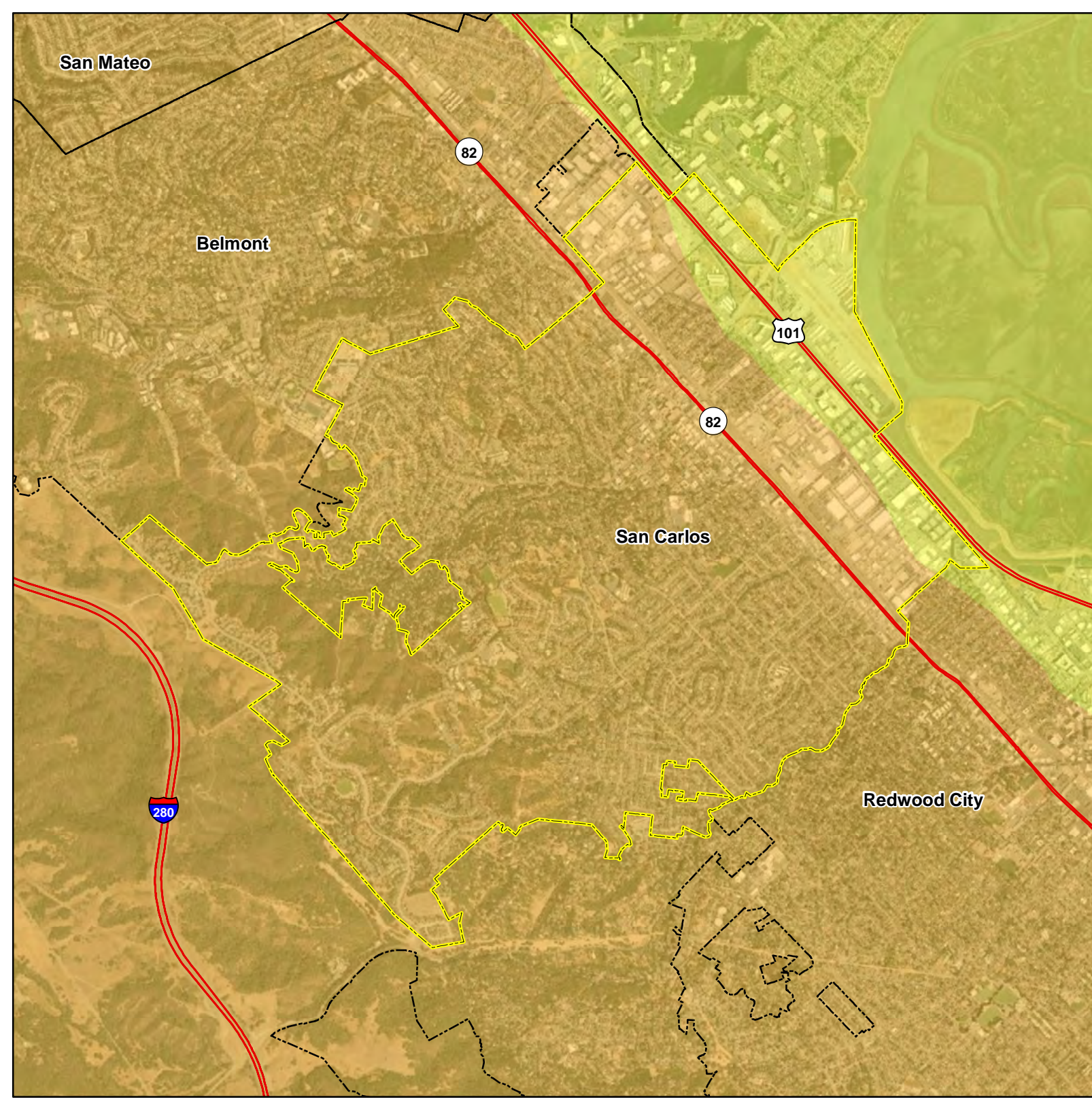
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.2 0.4 0.8  
Miles





San Mateo

Belmont

San Carlos

Redwood City

# San Carlos

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities

 County Boundary

 Highways

Intensity scale described as:  
(perceived shaking / potential damage)







Data Sources: ESRI Basemap,  
San Mateo Co., USGS





# San Carlos

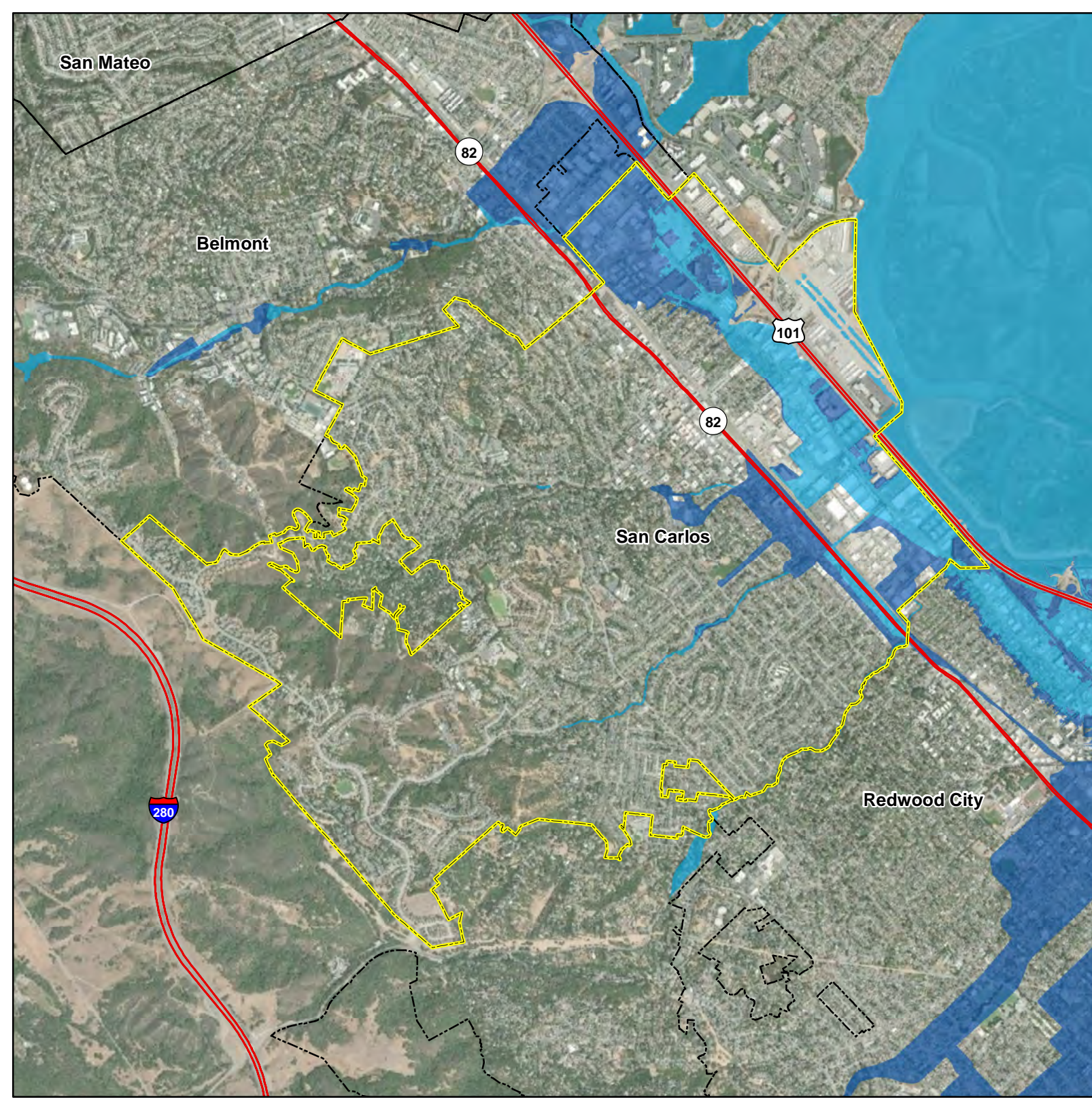
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.2 0.4 0.8 Miles





# San Carlos

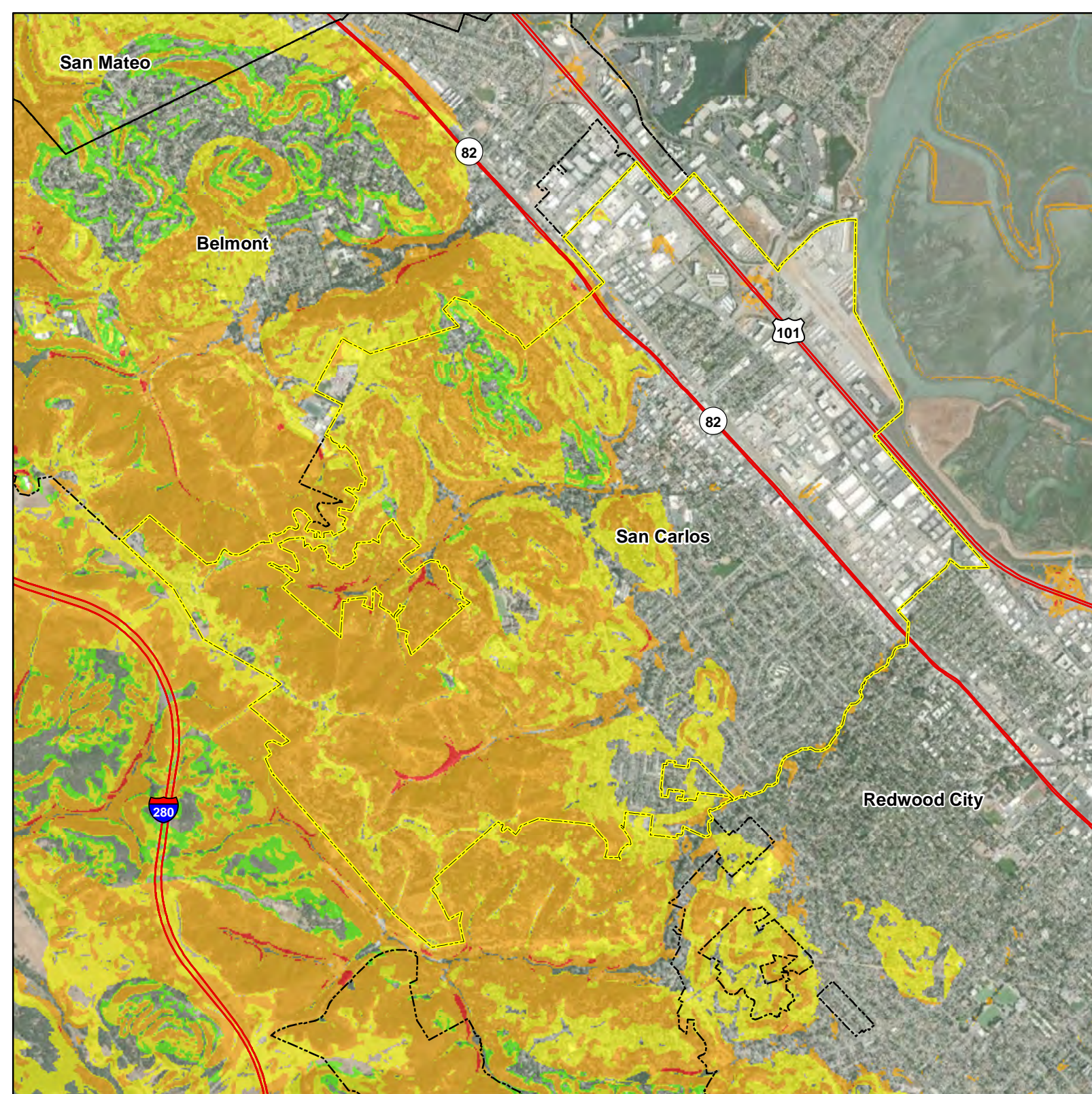
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS








0 0.2 0.4 0.8  
Miles





# San Carlos

## Sea Level Rise

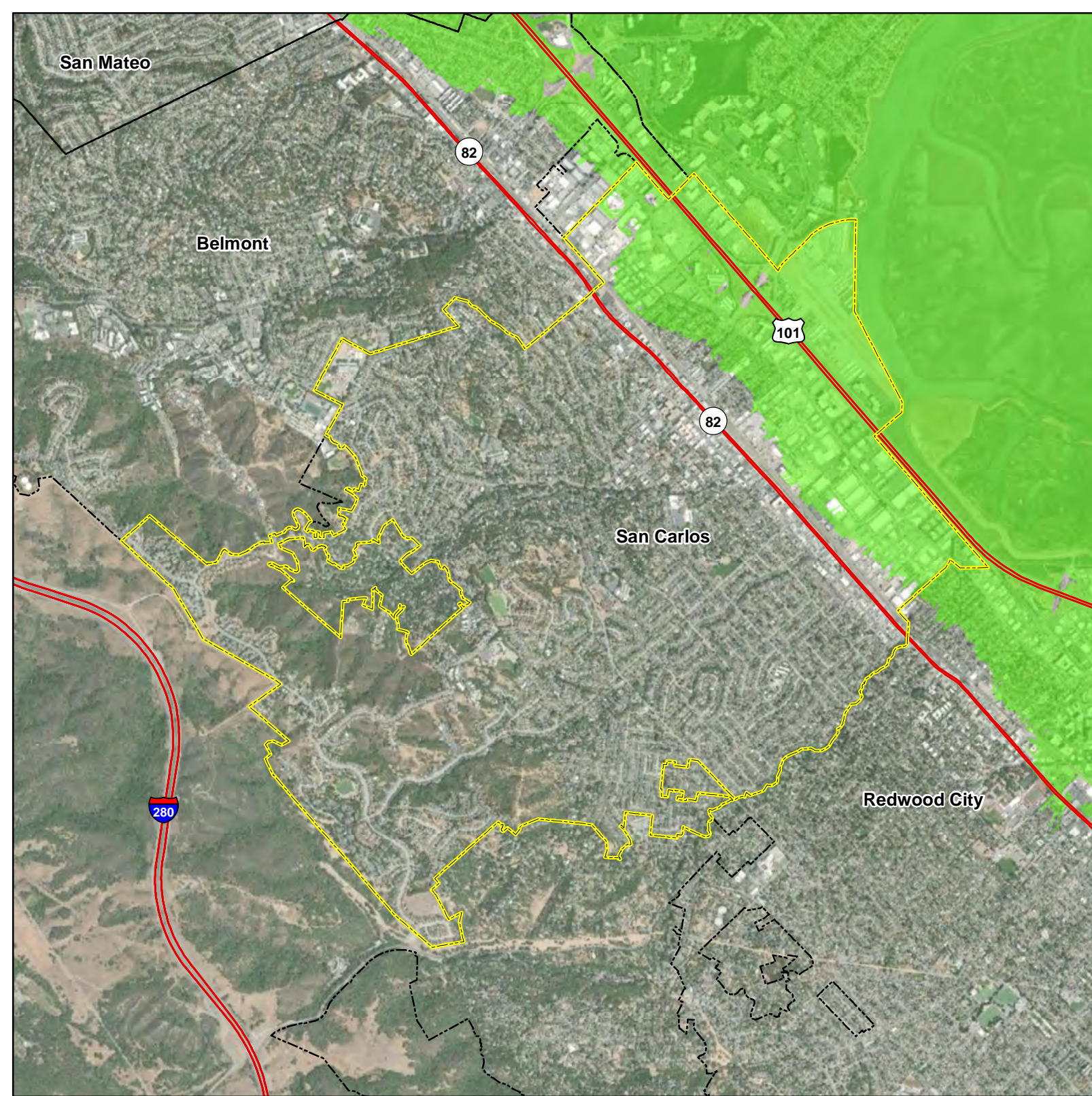
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.2 0.4 0.8 Miles





# San Carlos

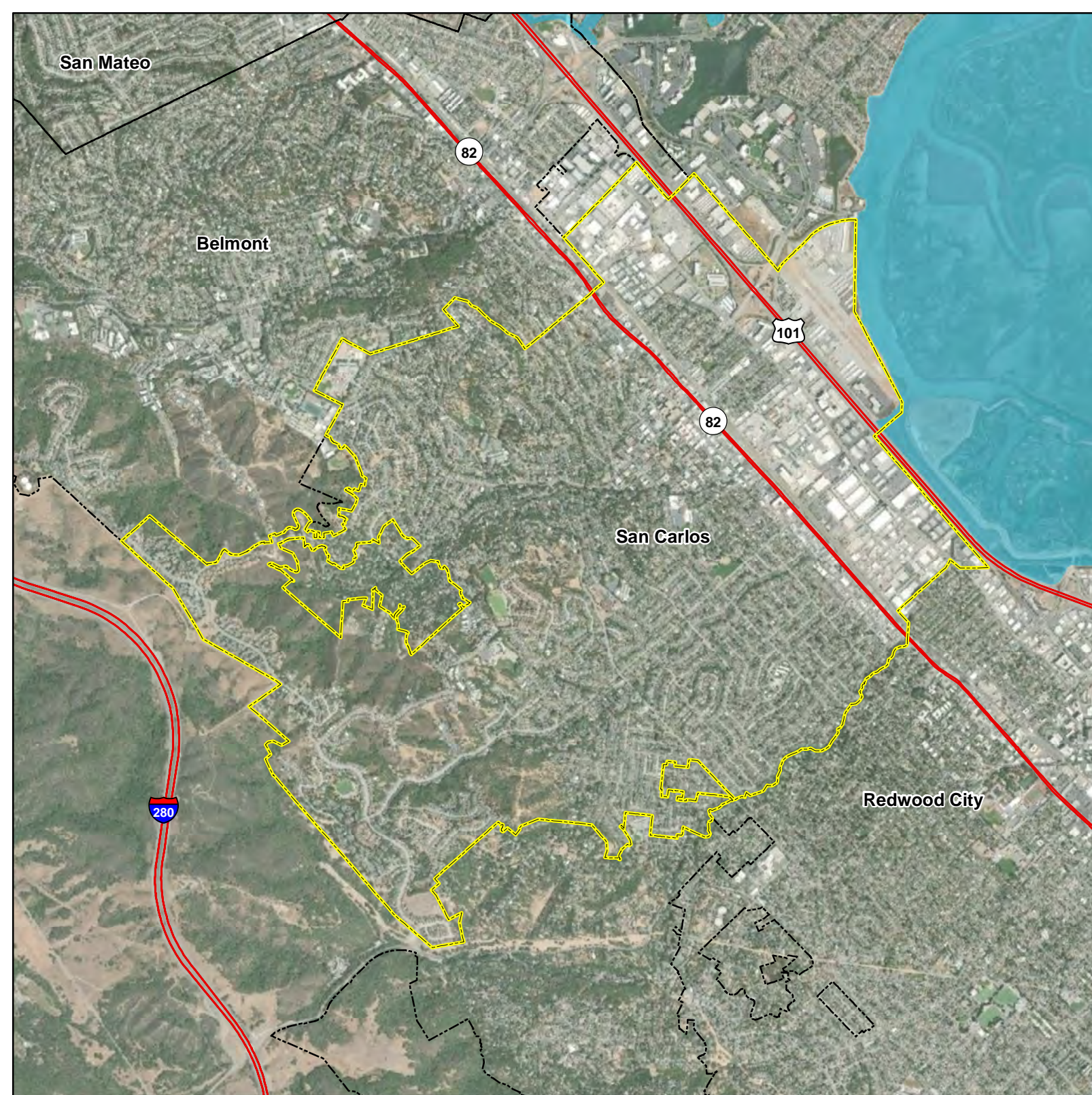
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.2 0.4 0.8  
Miles





# San Carlos

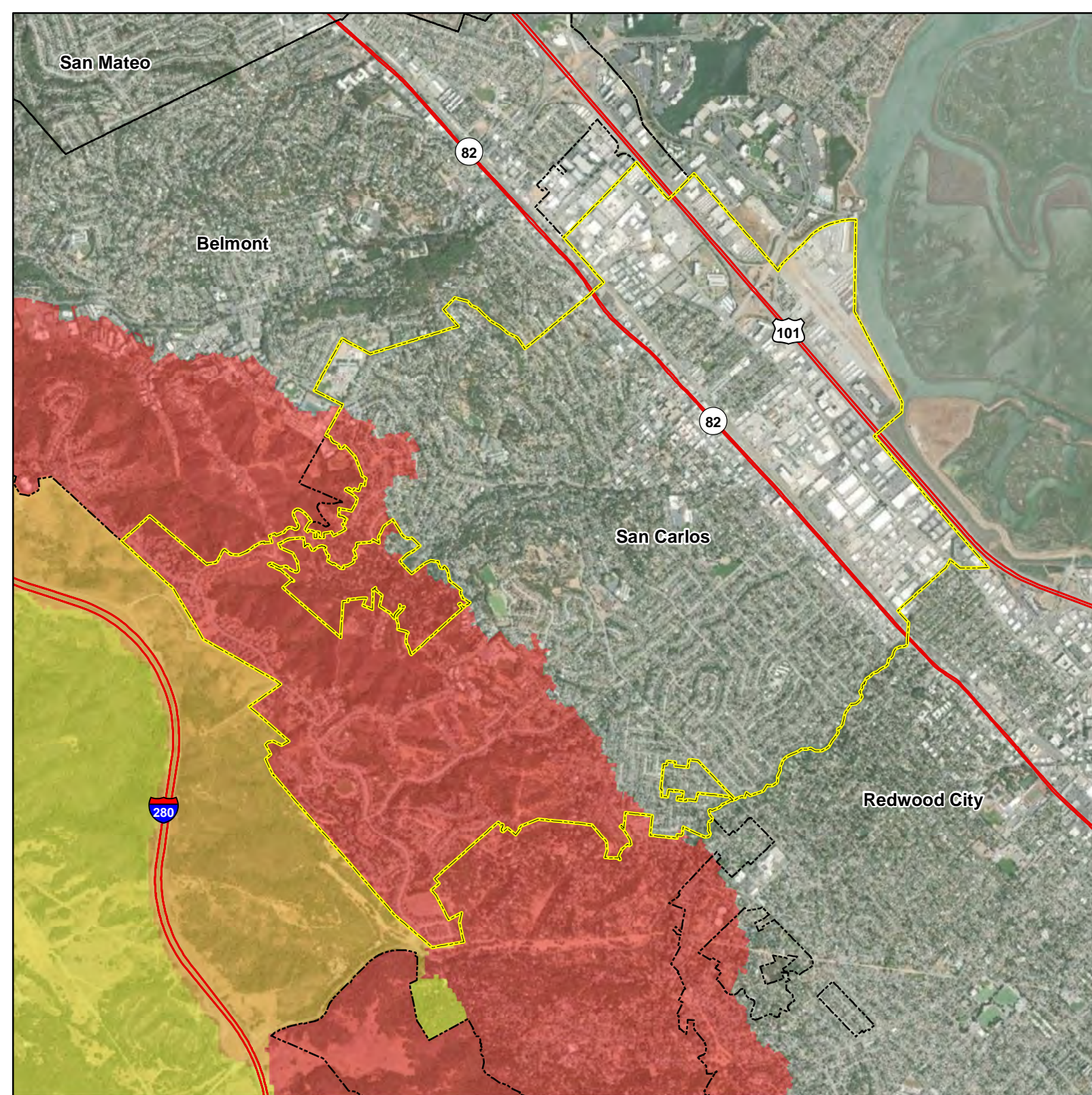
## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.2 0.4 0.8 Miles





# 19. CITY OF SAN MATEO

## 19.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Kacey Treadway, Emergency Services Specialist  
 1900 O’Farrell St, Ste. 375  
 San Mateo, CA 94403  
 650-522-7962  
 ktreadway@smcfire.org

### Alternate Point of Contact

Drew Corbett, City Manager  
 330 W 20th Avenue  
 San Mateo, CA 94403  
 650-522-7900  
 dcorbett@cityofsanmateo.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 19-1.

**Table 19-1. Local Mitigation Planning Team Members**

Name	Title
Gabrielle Whelan	Assistant City Attorney
Patrice Olds	City Clerk
Mike Titsworth	Building Official
Julia Klein	Principal Planner
Kathy Kleinbaum	Assistant City Manager
Samantha Weigel	Communications Manager
Richard Lee	Finance Director
Casey Echarte	Human Resources Director
Richie Pierce	GIS Coordinator
Rukshana Singh	Deputy City Librarian
Dave Peruzzaro	Police Captain
Matthew Earnshaw	Police Lieutenant
Anthony Riccardi	Police Sergeant
Ron Hostick	Parks and Landscape Manager
Azalea Mitch	Public Works Director
Robert Marshall	Fire Marshal
Kacey Treadway	Emergency Services Specialist
Pat Halleran	Emergency Services Specialist
Bill Euchner	Battalion Chief

## 19.2 JURISDICTION PROFILE

### 19.2.1 Location and Features

The City of San Mateo is located within San Mateo County, midway between San Francisco and San Jose on the western shoreline of the San Francisco Bay, bordered on the west by U.S. Route 280. The City is bisected by State Route (SR) 92 (the J. Arthur Younger Freeway), which runs between Half Moon Bay to the west and to Hayward and Highway 880 to the east via the San Mateo-Hayward Bridge. The City encompasses 15.7 square miles, including 3.2 square miles of bay waters.

San Mateo enjoys a marine-like climate characterized by mild and moderately wet winters and dry, cool summers. A cool sea breeze dominates the summer weather. Low overcast often occurs for a few hours in the morning. Summer nights are comfortably cool, with minimum temperatures averaging in the fifties. The average minimum and maximum temperature range is 47.1 degrees Fahrenheit to 71.1 degrees Fahrenheit.

The City of San Mateo and the State of California more broadly continues to be impacted by the effects of climate change. Most notably, we are experiencing extreme heat and wind events, along with more frequent lightning strikes that lead to real and potential wildfires with greater frequency. This has resulted in increased risk and severity of wildfire, increased non-native vegetation, and more distressed trees. Multiyear droughts have lowered the groundwater table resulting in ground subsidence which has triggered some single-family projects to reinforce their foundations.

Other concerns are extended periods of drought as well as sea-level rise. The combination of sea-level rise and lowered groundwater table has resulted in the influx of saltwater contamination of local underground aquifers and there may be limited actions the city can take to address this.

### 19.2.2 History

Development of the City of San Mateo began in earnest with establishment of a stagecoach stop along the Old County Road (El Camino Real) in the 1850's. The center of City activity shifted to the area along Third Avenue and B Street with the advent of the railroad in the 1860's.

The City was incorporated on September 4, 1894 and remained a relatively small community with a very rural character until the 1940's. World War II and the following years were a period of significant growth and development. In 1940 the population was 19,405 persons. By 1960 the population had reached 69,870 persons and the economic base was shifting to office and retail sectors. Significant concentrations of these uses were in the Downtown, Hillsdale Shopping Center and along El Camino Real and amounted to 2.8 million square feet of retail space and 1.2 million square feet of office space.

During the 1970's and 1980's, population growth slowed, while both retail space and office space increased significantly to 5.6 million square feet and 7 million square feet, respectively. Retail uses were largely concentrated at Hillsdale Shopping Center, along El Camino Real, and the Downtown. Office uses were concentrated in office parks along the SR 92 corridor and to a lesser extent in the Downtown. These changes altered both the physical shape and the image of San Mateo from a "bedroom community" to a community that is a place wherein people can both live and work establishing it as an important sub regional office and retail center.



### 19.2.3 Governing Body Format

The City of San Mateo provides a full range of municipal services including police, planning, building, sewer service, street maintenance, parks and recreation, and general administrative services. The City also operates and maintains facilities for wastewater treatment. San Mateo has a Council-Manager form of government with the City Manager appointed by and responsible to the five-member City Council. The members of the City Council serve as the policy-making body and City voters elect Council members to staggered terms of four years each.

The City Council assumes responsibility for the adoption of this plan; the City Manager will oversee its implementation.

## 19.3 CURRENT TRENDS

### 19.3.1 Population

According to the California Department of Finance, the population of the City of San Mateo as of January 2020 was 103,087. Since 2015, the population has grown at an average annual rate of 0.32 percent.

### 19.3.2 Development

San Mateo has seen robust development activity over the last five years. This includes major office, residential and mixed-use projects. The City has issued 211 permits in the last few years for various types of development (a detailed breakdown is in the table below). The City has not annexed any properties. Caltrain, which provides transit services up and down the Peninsula, including San Mateo, which has three stations, commenced work on an electrification process of its entire line, which will improve their efficiencies and increase ridership. As a result, the city has seen increased development activity, particularly along the transit corridor. Lastly, due to the Pandemic, working from home and telecommuting have been highly effective in the continued effort to restarting the economy. To this end, numerous cities, including San Mateo, have implemented online permitting and submittal process.

Identifying previous and future development trends is achieved through a comprehensive review of permitting since completion of the previous plan and in anticipation of future development. Tracking previous and future growth in potential hazard areas provides an overview of increased exposure to a hazard within a community. Table 19-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 19-2. Recent and Expected Future Development Trends**

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No

Criterion	Response					
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes					
	The City has started working on a new General Plan. This Plan will evaluate 10 study areas which can sustain redevelopment. If any of the areas are in known hazard risk zones, the Plan and accompanying EIR will identify the hazards and potential mitigation measures.					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	
	Single Family	12	48	17	11	22
	Multi-Family	25	9	6	5	1
	Other (commercial, mixed use, etc.)	9	32	2	1	11
	<b>Total</b>	<b>46</b>	<b>89</b>	<b>25</b>	<b>17</b>	<b>34</b>
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: 162</li> <li>• Landslide: 0</li> <li>• High Liquefaction Areas: 148</li> <li>• Tsunami Inundation Area: Not collected</li> <li>• Wildfire Risk Areas: 0</li> </ul>					
Describe the level of buildout in the jurisdiction, based on your jurisdiction’s buildable lands inventory. If no such inventory exists, provide a qualitative description.	The City of San Mateo is largely built out. Staff estimates that 99% of non-open space/park land is developed. While the city does not maintain an inventory of buildable lands, the few parcels that staff is aware of have topographic challenges, lot size or shape constraints rendering them difficult to develop. The majority of current redevelopment activity is located near the Caltrain and El Camino Real corridor, and this trend is likely to continue in the near future.					

## 19.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 19-3.
- Development and permitting capabilities are presented in Table 19-4.
- An assessment of fiscal capabilities is presented in Table 19-5.
- An assessment of administrative and technical capabilities is presented in Table 19-6.
- An assessment of education and outreach capabilities is presented in Table 19-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 19-8.
- Classifications under various community mitigation programs are presented in Table 19-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 19-10.



**Table 19-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
Building Code <i>Comment: Triennially adopted, in effect January 1, 2020</i>	Yes	No	Yes	Yes
Zoning Code <i>Comment: Title 27 of Muni Code</i>	Yes	No	Yes	No
Subdivisions  <i>Comment: Title 26 of Muni Code</i>	Yes	No	Yes	Yes – accessible parcels possibly
Stormwater Management <i>Comment: Chapter 7.39</i>	Yes	No	Yes	Yes
Post-Disaster Recovery <i>Comment: FEMA, Cal OES</i>	No	Yes	No	Yes
Real Estate Disclosure <i>Comment: Dept of Real Estate</i>	No	Yes	No	No
Growth Management <i>Comment: General Plan, State certifies</i>	Yes	Yes	Yes	Yes
Site Plan Review <i>Comment: Zoning Code, SMCFire</i>	Yes	Yes	Yes	Yes
Environmental Protection <i>Comment: Chapter 7.39 &amp; Zoning Code, CEQA Requirements</i>	Yes	Yes	Yes	Yes
Flood Damage Prevention <i>Comment: Chapter 7.39, 23.3 &amp; Zoning Code, CEQA Requirements &amp; FEMA</i>	Yes	Yes	Yes	Yes
Emergency Management <i>Comment: City Muni Code Ch 2. 78, additional authority: Cal OES, FEMA, SMCFire, mandated by CA Emergency Services Act</i>	Yes	Yes	Yes	Yes
Climate Change <i>Comment: Climate Action Plan, County &amp; San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD)</i>	Yes	Yes	Yes	Yes
Other – Dam Maintenance	No	Yes – State	Yes	Yes
Landfill Maintenance <i>Comment:</i>	No	Yes - State	Yes	Yes
<b>Planning Documents</b>				
General Plan <i>Is the plan compliant with Assembly Bill 2140? Yes</i> <i>Comment: General Plan 2030</i>	Yes	No	Yes	Yes
Capital Improvement Plan <i>How often is the plan updated? annually</i> <i>Comment:</i>	Yes	No	No	Yes
Disaster Debris Management Plan <i>Comment: County, Cal OES authority. City's Disaster Debris Management Plan Annex coming in 2022</i>	No	Yes	No	Yes
Floodplain or Watershed Plan <i>Comment: FEMA authority</i>	No	Yes	No	Yes
Stormwater Plan <i>Comment:</i>	Yes	No	Yes	Yes
Urban Water Management Plan <i>Comment: Cal Water is in charge of preparing this Plan</i>	No	No	No	No
Habitat Conservation Plan <i>Comment: General Plan. Other authority: CEQA</i>	Yes	Yes	Yes	Yes

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Economic Development Plan <i>Comment:</i>	No	No	No	No
Shoreline Management Plan <i>Comment:</i>	No	No	No	No
Community Wildfire Protection Plan <i>Comment: Not a plan, but a policy. Authority: CAL FIRE, SMCFD</i>	No	Yes	No	No
Forest Management Plan <i>Comment:</i>	No	No	No	No
Climate Action Plan <i>Comment: Other authority: FSLRRD &amp; County</i>	Yes	Yes	Yes	Yes
Emergency Operation Plan <i>Comment: Other authority: SMCFire, Cal OES, FEMA, County</i>	Yes	Yes	Yes	Yes
Threat & Hazard Identification & Risk Assessment (THIRA) <i>Comment: ABAG 2005</i>	No	No	No	Yes
Post-Disaster Recovery Plan <i>Comment: Set as a goal at a recent SM City Council Meeting. Other authority: County, FEMA, and Cal OES</i>	No	Yes	No	Yes
Continuity of Operations Plan <i>Comment:</i>	Yes – Jan 2019	No	No	Yes
Public Health Plan <i>Comment: Other authority: County Health</i>	No	Yes	Yes	No
East Third Landfill Post-Closure Maintenance Plan <i>Comment: Other authority: Regional Water Quality Board &amp; Cal Recycle</i>	Yes	Yes	Yes	Yes
Crisis Communication Plan <i>Comment: Other authority: SMCFire</i>	Yes	Yes	No	Yes
Integrated Wastewater Master Plan <i>Comment: Other authority: County Environmental Health</i>	Yes	Yes	Yes	Yes
Sewer System Management Plan <i>Comment:</i>	Yes	No	Yes	Yes
Laurel Creek Emergency Action Plan <i>Comment: Other authority: Cal OES and DWR</i>	Yes	Yes	Yes	Yes

**Table 19-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department?</i>	Yes CDD
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	No



**Table 19-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes - sewer
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other – Misc. Taxes	Yes – property, businesses, etc.

**Table 19-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Community Development/Public Works
Engineers or professionals trained in building or infrastructure construction practices	Yes	Community Development/Public Works
Planners or engineers with an understanding of natural hazards	Yes	Community Development/Public Works
Staff with training in benefit/cost analysis	Yes	Public Works/Contracted Out in CDD
Surveyors	Yes	Contracted Out
Personnel skilled or trained in GIS applications	Yes	Information Technology/Public Works
Scientist familiar with natural hazards in local area	Yes	Contracted Out
Emergency manager	Yes	City Manager, Fire Chief, Police Chief, SMCDF per JPA
Grant writers	Yes	Citywide
Other- Arborists	Yes	Parks and Recreation

**Table 19-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes <a href="https://www.cityofsanmateo.org/3079/Local-Hazard-Mitigation-Plan">https://www.cityofsanmateo.org/3079/Local-Hazard-Mitigation-Plan</a> . <a href="https://www.cityofsanmateo.org/CivicSend/ViewMessage/message?id=17952">https://www.cityofsanmateo.org/CivicSend/ViewMessage/message?id=17952</a>
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Post on all channels, website, Parks and Recreation guides, and newsletters about hazards and preparedness
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes Sustainability & Infrastructure Commission, Parks and Recreation Commission, and Planning Commission

Criterion	Response
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes CERT & Parks and Recreation/Library Programs
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes Nixle and SMCAAlert

**Table 19-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works
Who is your floodplain administrator? (department/position)	Public Works Director
Are any certified floodplain managers on staff in your jurisdiction?	No / Contractor
What is the date that your flood damage prevention ordinance was last amended?	2001
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meets
When was the most recent Community Assistance Visit or Community Assistance Contact?	August 29, 2018
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	None known
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	Yes General program/training for Floodplain Administrators
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	980 \$294,125,500 \$1,504,570
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	81 138,988

a. According to FEMA statistics as of March 31, 2021

**Table 19-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608168252	N/A
DUNS#	Yes	085845147	08/26/1954
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	Yes	ISO Class 2	2012
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A



**Table 19-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
<b>Jurisdiction-level understanding of potential climate change impacts</b>	High
<i>Comment:</i> Climate change affects multiple jurisdictions in SF Bay Area. The City continues to collaborate with multiple regional groups listed below and it participated in the development of the County's Sea Level Rise Vulnerability Assessment. As technical studies and new information become available, it will be shared and factored into the General Plan 2040 alternatives development which includes community outreach and engagement.	
<b>Jurisdiction-level monitoring of climate change impacts</b>	High
<i>Comment:</i> The City has and continues to collaborate with the multiple regional groups (County of San Mateo, San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD), and the Bay Area Clean Water Agency) including sharing of any applicable monitoring information.	
<b>Technical resources to assess proposed strategies for feasibility and externalities</b>	High
<i>Comment:</i> The City participates in multiple regional groups to pool resources for technical consultant services to study and assess proposed strategies for feasibility.	
<b>Jurisdiction-level capacity for development of greenhouse gas emissions inventory</b>	High
<i>Comment:</i> The City prepares a greenhouse gas emissions inventory every 5 years in coordination with the County of San Mateo Office of Sustainability.	
<b>Capital planning and land use decisions informed by potential climate impacts</b>	Medium
<i>Comment:</i> The City continues to collaborate with multiple regional groups. As new information becomes available, it will be shared and factored into the General Plan Update project's considerations for future land uses and the City's capital planning. This includes considering incorporating the recommendations from the State of California Sea Level Rise Guidance, 2018 Update in capital planning.	
<b>Participation in regional groups addressing climate risks</b>	High
<i>Comment:</i> The City participates in multiple regional groups including the San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD), Bay Area Climate Adaptation Network, and the San Mateo County RICAPS (Regionally Integrated Climate Action Planning) group.	
<b>Implementation Capacity</b>	
<b>Clear authority/mandate to consider climate change impacts during public decision-making processes</b>	High
<i>Comment:</i> The General Plan Update project is anticipated to provide the policy framework to establish clear authority/mandate to consider climate change impacts during public decision-making processes.	
<b>Identified strategies for greenhouse gas mitigation efforts</b>	High
<i>Comment:</i> The City adopted an updated Climate Action Plan in 2020 that identified strategies for greenhouse gas emission mitigation through 2030.	
<b>Identified strategies for adaptation to impacts</b>	Medium
<i>Comment:</i> The City continues to collaborate with multiple regional groups listed above. As new information becomes available, identified strategies for adaptation to impacts should be shared with the Local Hazard Mitigation Plan team for evaluation and potential incorporation into plans such as the LHMP and General Plan.	
<b>Champions for climate action in local government departments</b>	High
<i>Comment:</i> The City funds several staff positions to address climate action including a Sustainability Analyst and the Public Works Department to implement climate action programs and projects.	
<b>Political support for implementing climate change adaptation strategies</b>	High
<i>Comment:</i> The City Council has included implementation of the Climate Action Plan as well as climate adaptation strategies including flood protections and upgrades to the Wastewater Treatment Plant as priority efforts in their annual Strategic Plan	
<b>Financial resources devoted to climate change adaptation</b>	Low
<i>Comment:</i> Limited financial resources are available at this time.	
<b>Local authority over sectors likely to be negative impacted</b>	Medium
<i>Comment:</i> Individual privately held properties that are likely to be negatively impacted due to their location may include a range of sectors from residential, commercial, and utilities. The City may exert limited authority over privately held property through its development review process.	

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents’ knowledge of and understanding of climate risk <i>Comment: Past efforts include the City of San Mateo engaging in comprehensive educational efforts to educate residents on the risks of climate change. As the draft Local Hazard Mitigation Plan will include identification of climate risk factors such as urban fire zone, etc., the plan will be shared with the community to build knowledge and understanding of climate risk. The City will hold a public meeting on the draft plan and consider community input prior to adoption.</i>	High
Local residents’ support of adaptation efforts <i>Comment: The community and city leadership has supported multiple initiatives related to sustainability and climate change including the formation of the Sustainability and Infrastructure Commission and also voiced support for climate resiliency in the new Vision Statement for General Plan Update project.</i>	Medium
Local residents’ capacity to adapt to climate impacts <i>Comment: As the 2020 Census shows, certain neighborhoods may have more limited financial resources or capacity to adapt to climate impacts. These include North Central, North Shoreview, and other areas east of HWY 101.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment: Same as comment above.</i>	Medium
Local ecosystems capacity to adapt to climate impacts <i>Comment: No information available.</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
 Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 19.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 19.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **General Plan**—The General Plan 2030 Safety Element references the Multi-Hazard Functional Plan and the Local Hazard Mitigation Plan as the two plans that define the City’s planned response to emergency situations such as fire, earthquake, flood, hazardous materials spill, civic disturbance, or war. The General Plan also includes goals, policies and actions supporting the maintenance and update of city’s emergency readiness, response plans and programs.
- **Capital Improvement Program Planning**—The City Council annually approves a detailed Capital Improvement Plan for a five-year period and identifies and begins to fund upcoming infrastructure projects on a five-year horizon. The City Council annually appropriates funding for the current year phases of Capital Improvement Projects. Infrastructure projects identified in this document have been or will be included in the five-year Capital Improvement Project Plan for the years in which they are planned for implementation.



- **Bi-Annual Budget**—The City Council bi-annually adopts a Fiscal Year Budget which authorizes the funding for all operations, services, and projects for the fiscal year planning. Priority projects identified in the Local Hazard Mitigation Plan that require an expenditure output will be included in the Bi-Annual Budget in the years in which they are planned for implementation. The Bi- Annual Budget includes the appropriation of funding for the Capital Improvement Program discussed above.
- **San Mateo Municipal Code**—The City Municipal Code includes several ordinances that would directly impact mitigation measures identified in the Local Hazard Mitigation Plan, for instance updates to the Code may be required in order to implement the post-disaster response measures and/or building code recommendations. Chapter 23.33 includes the City’s Flood Plain Management Regulations related to the City’s participation in the National Flood Insurance Program.
- **CERT**—The Community Emergency Response Teams train regularly to be prepared for emergency response and recovery. Having these teams in place with training in triage, medical response and search and rescue will enhance responsiveness after a disaster and mitigate the impact that effects would have had on individuals and property if left unattended.
- **Climate Action Plan**—The Climate Action Plan was adopted by the City Council in April 2020 and contains mitigation measures that will be prioritized to improve the environmental sustainability of San Mateo and the Bay Area region. Specific to the Local Hazard Mitigation Plan, the Climate Action Plan measures are intended to reduce the production of greenhouse gasses and mitigate the potential impact of sea level rise.
- **Stormwater Master Plan**—This plan was adopted by City Council in 2004 and contains improvements to the City’s stormwater system for proper conveyance and flood control.
- **Sanitary Sewer Management Plan**—Adopted in 2021 by City Council, this plan outlines and documents the activities needed to manage the City’s wastewater collection system effectively. Effective management of a collection system includes minimizing the number and impact of sanitary sewer overflows, providing adequate sewer capacity to convey peak flows, and maintaining and improving the condition of the collection system infrastructure to provide reliable service into the future. The report was prepared by in compliance with requirements of the San Francisco Bay Regional Water Quality Control Board and State Water Resources Control Board pursuant to Section 13267 of the California Water Code. The report is intended to meet the requirements of the Statewide General Waste Discharge Requirements, amended by Order No. 2013-0058, Amended Monitoring and Reporting Program.
- **Integrated Wastewater Management Plan**—This plan provides the framework for the City’s Clean Water Program, a \$1 billion, 10-year capital infrastructure improvement program to repair, replace, and upgrade aging sewage conveyance and wastewater treatment infrastructure. The goals of the Clean Water Program are to replace aging infrastructure, build wet weather capacity to eliminate sanitary sewer overflows, and meet current and future regulatory requirements.
- **Laurel Creek Dam Emergency Action Plan**—The Department of Water Resources, Division of Safety of Dams has rated the Laurel Creek Dam hazard classification as “High.” As a result, the City has developed this Laurel Creek Dam Emergency Action Plan (EAP) in accordance with the requirements listed in California Water Code Sections 6160 and 6161 and Government Code Section 8589.5, following FEMA’s Federal Guidelines for Dam Safety: Emergency Action Planning for Dams (FEMA 64/July 2013). The purpose of the Laurel Creek Dam EAP is to reduce the risk of loss of human life or injury and to minimize property damage in the event of a dam safety emergency or flooding caused by large releases from the Laurel Creek Dam. This EAP defines responsibilities and provides procedures to identify unusual and unlikely conditions that may endanger Laurel Creek Dam in time to take mitigating action and to notify the appropriate emergency management authorities of possible, impending, or actual failure of the Dam.

- **East Third Avenue Landfill Post-Closure Maintenance Plan**—The Landfill is subject to post-closure maintenance requirements outlined in Title 27 of the California Code of Regulations (27 CCR). These 27 CCR requirements are administered by the San Mateo County Environmental Health Services Division (local enforcement agency, or LEA) and the San Francisco Regional Water Quality Control Board. Post-closure requirements include final cover and drainage system inspections, maintenance, and repair; landfill gas (LFG) monitoring, groundwater monitoring, leachate monitoring, and reporting to agencies.
- **Marina Lagoon Work Plan**—The plan serves as an operations manual for City management personnel as well as to inform the Regional Water Quality Control Board of the City’s procedures to protect San Francisco Bay water quality and the objectives of the San Francisco Bay Basin Plan. The Plan addresses water quality in Marina Lagoon as a result of water exchange, stormwater runoff, debris, and aquatic pests and pest control methods. The Plan provides guidance and information on the protection of all beneficial uses of the lagoon, including habitat for fish and waterfowl, water contact recreation, aesthetics, and flood control

## 19.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Climate Adaption Planning**—The City of San Mateo is committed to supporting climate resiliency and incorporating efforts to build this capacity within its plans and education efforts in the community. In addition to this, the City continues to collaborate with multiple regional groups. As new information becomes available, identified strategies for adaptation to impacts should be shared with the Local Hazard Mitigation Plan team for evaluation and potential incorporation into plans such as the LHMP and General Plan.

## 19.6 RISK ASSESSMENT

### 19.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 19-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

### 19.6.2 Hazard Risk Ranking

Table 19-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.



**Table 19-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment (Description)
Power Outages/ Disruption	N/A	Fall 2019 Summer 2020 Fall 2020	Pacific Gas & Electric's Public Safety Power Shutoff (PSPS) program and Rolling Blackouts done in response to Climate Change and Severe Weather Conditions to help prevent wildfires and prevent strain on the power grid (Secondary Hazard to Climate Change, Extreme Weather, Windstorms, Severe Storms and Wildfire Hazards) Damage Assessment: Unknown
Extreme Weather	N/A	Winter 2018 Fall 2019 Winter 2019 Summer 2020	Extreme temperatures including summer heat and winter cold linked to Climate Change. Foster City has activated cooling centers and shelters for citizens in response. Damage Assessment: Unknown
Flood	N/A	04/07/2018	Due to heavy rain, US 101 at 3rd Ave on ramp experienced severe flooding in 1 lane. Damage Assessment: Unknown
Hail	N/A	01/23/2017	In January 2017, due to a hailstorm of .25 magnitude with pea sized reports hail 10 properties and 10 crops were damaged. Damage Assessment: Unknown
Severe Storms	DR-4308	02/1-23/2017	Damage Assessment: Unknown
Severe Storms	DR-4305	01/18-23/2017	Damage Assessment: Unknown
Drought	N/A	2014-2017 July 8, 2021	In January 2014, the Governor proclaimed a State of Emergency and directed State officials to take all necessary actions to prepare for drought conditions. As of July 8, 2021, San Mateo County has been included in the Governor's emergency declaration. Damage Assessment: Unknown
Winter Storm	N/A	2014	Winter Storm damage resulted in San Mateo County's Proclamation of State of Emergency on December 19, 2014, and the Governor's Proclamation of a State of Emergency on December 22, 2014. San Mateo personnel worked overtime and provided sandbags to City residents. Damage Assessment: Unknown
Loma Prieta Earthquake	DR-845	October 17, 1989	No damage to City owned facilities. Damage Assessment: Unknown

**Table 19-12. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Flood	117	High
2	Sea Level Rise/Climate Change	99	High
3	Dam Failure	84	High
4	Earthquake	84	High
5	Landslide/Mass Movements	72	High
6	Wildfire	45	High
7	Severe Weather	24	Medium
8	Drought	9	Low
9	Tsunami	3	Low

### 19.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

#### Other Noted Vulnerabilities

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Sewer System Overflows
- Urban Drainage
- Emergency Back-Up Power

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

### 19.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 19-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
LHMP-A-1 <b>Update the Continuity of Government Plan.</b> Update the Continuity of Government Plan. Update and implement a continuity of government plan to respond to hazards and disaster events. (High Priority) <b>Comment:</b> The City of San Mateo's COOP/COG Plan was completed on January 18, 2019.	✓			
LHMP-A-2 <b>Non-structural mitigation for building contents.</b> The City will conduct an assessment of non-structural seismic hazards of its facilities. <b>Comment:</b> Not completed because of resources limitations. Item to be carried over. (PW)			✓	SMT-1
LHMP-B-1 <b>Develop a business outreach plan.</b> Provide information on what actions business owners can take to improve the likelihood that businesses re-open or remain open following a disaster. (High Priority) <b>Comment:</b> This item has been incorporated into plans and it is an ongoing process. Because of this, we have marked it as complete and do not feel it is needed to carry over to future plans.	✓			



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>LHMP-B-2 CERT Classes.</b> Continue to provide emergency preparedness classes and Community Emergency Response Team (CERT) training.</p> <p><b>Comment:</b> CERT classes for both public and employees have been conducted in the past 5 years. Because it is an ongoing process, we wish to carry it over to the next year's plan.</p>			✓	SMT-2
<p><b>LHMP-B-3 Enhance Public Alerting.</b> Develop a communication strategy to encourage San Mateo residents to join San Mateo County's alerting system, SMC Alert. (High Priority)</p> <p><b>Comment:</b> The City of San Mateo's Crisis Communication Plan was completed in 2018 and there is continuous work on this item in coordination with Police to promote. Because of its ongoing nature, it should be carried over to the next plan.</p>			✓	SMT-2
<p><b>LHMP-B-4 Impose mitigation measures on developers.</b> Increase efforts to reduce landslides and erosion in existing and future development through continuing education of design professionals on mitigation strategies.</p> <p><b>Comment:</b> This is a process that has been incorporated with our projects with entitlements approval process. We have modified the language as it is an ongoing item that we wish to carry forward into the next plan. If we feel it is redundant, we may wish to eliminate in future revisions of the plan. It is redundant and should be eliminated.</p>			✓	SMT-3
<p><b>LHMP-C-1 Continue to evaluate vulnerability to Sea Level Rise.</b> Evaluate San Mateo County's vulnerability assessments of critical infrastructure exposed to sea level rise (currently in progress) to identify strategies that can improve resilience to this hazard. (High Priority)</p> <p><b>Comment:</b> Critical infrastructure vulnerable to sea level rise was identified in the County's assessment. Development of strategies to improve resilience will be ongoing. Item to be carried over (PW).</p>			✓	SMT-4
<p><b>LHMP-D-1 Mutual Aid.</b> Participate in general mutual-aid agreement and agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters.</p> <p><b>Comment:</b> Several mutual-aid agreements have been established that San Mateo participates in. Because this is an ongoing item, it should be carried over to the next plan.</p>			✓	SMT-5
<p><b>LHMP-D-2 Replacement of Fire Station 25.</b> Based on existing plans, begin replacement of Fire Station 25. (High Priority)</p> <p><b>Comment:</b> Completed – May 18<sup>th</sup>, 2021, was the grand opening ceremony.</p>	✓			
<p><b>LHMP-D-3 Seismic Evaluation and Tree Assessment of Fire Station 27.</b> Conduct an assessment of Fire Station 27 and its use related to an earthquake to identify strategies that can improve the facility's resilience to earthquakes and wildfires, including determining the feasibility of replacing the building. (High Priority)</p> <p><b>Comment:</b> This item should be carried over to the next plan and it was not completed because of budget restrictions.</p>			✓	SMT-1
<p><b>LHMP-D-4 Seismic Evaluation of WWTP.</b> Evaluate susceptibility to earthquake liquefaction damage to WWTP and affected collection system pump stations. (High Priority)</p> <p><b>Comment:</b> Evaluation of earthquake liquefaction risk at the WWTP was completed in 2019.</p>	✓			
<p><b>LHMP-D-5 Upgrade Wastewater Treatment Process Diversion and Collection System.</b> Upgrade the wastewater treatment process diversion and collection system pump station bypass pumping. (High Priority)</p> <p><b>Comment:</b> The Clean Water Program has been started and will be completed in 2025. Item to be carried over. (PW)</p>			✓	SMT-6
<p><b>LHMP-D-6 FEMA's National Flood Insurance Program.</b> Continue to participate in FEMA's National Flood Insurance Program for affected properties.</p> <p><b>Comment:</b> This item has an ongoing nature and should be incorporated into the next plan.</p>			✓	SMT-7

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>LHMP-D-7 Incorporate FEMA guidelines into planning process.</b> Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing flood hazards.</p> <p><b>Comment:</b> This item has an ongoing nature and should be incorporated into the next plan.</p>			✓	SMT-8
<p><b>LHMP-D-8 Vulnerability assessments.</b> Vulnerability assessments of City facilities and infrastructure.</p> <p><b>Comment:</b> Not completed due to resource limitations. Item to be carried over. (PW)</p>			✓	SMT-1
<p><b>LHMP-D-9 Bermuda Bridge Replacement.</b> Make Bermuda Drive Bridge seismically safe.</p> <p><b>Comment:</b> The design and environmental permitting phase of the bridge replacement is underway. Item to be carried over. (PW)</p>			✓	SMT-1
<p><b>LHMP-D-10 Ryder Park Levee Repair.</b> Repair a section of levee in Ryder Park where scour has occurred.</p> <p><b>Comment:</b> This item was completed. (PW)</p>	✓			
<p><b>LHMP-D-11 Storm System Dredging.</b> Remove mud and debris in San Mateo Creek between San Francisco Bay and South Humboldt Street to restore channel conveyance capacity.</p> <p><b>Comment:</b> This item was not completed due to extensive environmental permit requirements and resource limitations and should be carried over to the next plan. (PW)</p>			✓	SMT-9
<p><b>LHMP-D-12 North Bayfront Levee Improvements.</b> Provide tidal flood protection to approximately 1,200 properties in San Mateo's North Shoreview and North Central neighborhoods.</p> <p><b>Comment:</b> The improvements are underway. Item to be carried over. (PW)</p>			✓	SMT-7
<p><b>LHMP-D-13 Poplar Avenue and Coyote Point Pump Stations Rehabilitation.</b> Provide residual flood protection for approximately 800 properties in the North Shoreview Neighborhood.</p> <p><b>Comment:</b> The improvements are underway. Item to be carried over. (PW)</p>			✓	SMT-7
<p><b>LHMP-E-1 Reduce flood risk.</b> The City will continue to evaluate any proposed development within special flood hazard areas for conformance with the FEMA'S flood plain regulations. (High Priority)</p> <p><b>Comment:</b> This item should carry over to the next plan because it is ongoing. We updated the language to better reflect what we envision for the next 5-year plan.</p>			✓	SMT-7
<p><b>LHMP-E-2 Use of latest edition of the California Building Standards Code with local amendments.</b> The City has adopted and enforces the latest edition of the California Building Standards Code with additional local requirements as necessary tailored to San Mateo.</p> <p><b>Comment:</b> The Building Standards Code is done every three years and is an ongoing effort that should be carried over.</p>			✓	SMT-10
<p><b>LHMP-E-3 Annual Inspections for Fire/Life Safety.</b> Conduct annual fire/life safety inspections of all multi-family buildings and privately-owned high-rise structures.</p> <p><b>Comment:</b> This is an ongoing item that should be carried over.</p>			✓	SMT-11
<p><b>LHMP-F-1 Engage large corporate employers.</b> Determine whether the City needs to assist larger employer corporate campuses in developing an action plan to achieve the goal of remaining open so San Mateo employers can continue to go to work following a disaster event. (Normal Priority)</p> <p><b>Comment:</b> This language has been updated and should carry over to the next plan because it is an ongoing effort.</p>			✓	SMT-12



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
LHMP-F-2 <b>Partnership with local businesses.</b> Sponsor the formation and training of Community Emergency Response Teams (CERT) through partnerships with local businesses.			✓	SMT-12
<b>Comment:</b> This is an ongoing effort and should carry over to the next plan. In the past five years, we engaged in this effort with the San Mateo Adult School.				

## 19.8 HAZARD MITIGATION ACTION PLAN

Table 19-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 19-15 identifies the priority for each action. Table 19-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 19-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SMT 1 - Assess and Protect Critical Facilities and Infrastructure -</b> Assess facilities and critical infrastructure to mitigate for hazards, including, but not limited to earthquake and wildfire. Identify strategies for improving resilience, including determining the feasibility of upgrades or replacement. This includes identified projects such as:						
<ul style="list-style-type: none"> <li>LHMP-A-2 Non-structural mitigation for building contents. The City will conduct an assessment of non-structural seismic hazards of its facilities.</li> <li>LHMP-D-3 &amp; D-8 Vulnerability assessments of city facilities.</li> <li>LHMP-D-9 Bermuda Bridge Replacement. Make Bermuda Drive Bridge seismically safe.</li> <li>New Project - Bridge Inspections - Facilitate 2-year (above water) and 5-year (underwater) inspections by the California Department of Transportation (Caltrans) of City owned bridges.</li> </ul>						
<b>Hazards Mitigated:</b> Sea Level Rise/Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami						
New & Existing	1, 5, 6, 8, 13, 14	City of San Mateo	N/A	High	Staff Time, General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<b>Action SMT 2 - Encourage and develop community preparedness.</b> This includes identified projects such as:						
<ul style="list-style-type: none"> <li>LMHP-B-2 Provide emergency preparedness classes and Community Emergency Response Team (CERT) training.</li> <li>LMHP-B-3 Encourage residents to join alerting systems, such as SMCAAlert and Nixle, through public engagement.</li> </ul>						
<b>Hazards Mitigated:</b> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami						
New & Existing	5, 7, 8, 11	City of San Mateo	SMCFire	Low	Staff Time, General Fund, LISTOS	Ongoing
<b>Action SMT 3 - Impose mitigation measures on developers -</b> Increase efforts to reduce landslides and erosion in existing and future development through continuing education of design professionals on mitigation strategies. (LHMP-B-4).						
<b>Hazards Mitigated:</b> Sea Level Rise/Climate Change, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami						
New & Existing	1, 2, 5, 6, 14	City of San Mateo	N/A	Medium	Staff Time, General Fund	Long-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action SMT 4</b> - Keep current with San Mateo County's sea level rise vulnerability assessments for critical infrastructure that can be applied to San Mateo City infrastructure and facilities. Incorporate recommendations into city plans as appropriate. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>LHMP-C-1 Evaluate San Mateo County's vulnerability assessments of critical infrastructure exposed to sea level and groundwater rise to identify strategies that can improve resilience (i.e., levee evaluation system).</li> <li>LHMP-D-12 Provide tidal flood protection to approximately 1,200 properties in San Mateo's North Shoreview and North Central neighborhoods.</li> </ul> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Severe Weather, Flood, Tsunami</p>						
New & Existing	1, 5, 7, 14	City of San Mateo	FSLRRD	High	Staff Time, General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<p><b>Action SMT 5</b> - Mutual Aid – Participate in general mutual-aid agreement and agreements with adjoining jurisdictions for cooperative response to fires, floods, earthquakes, and other disasters (LHMP-D-1).</p> <p><u>Hazards Mitigated:</u> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami</p>						
New & Existing	1, 10	City of San Mateo	City of San Mateo, SMCFire	Medium	Staff Time, General Fund	Ongoing
<p><b>Action SMT 6</b> - Upgrade the Sewer Collection System and Wastewater Treatment Plant Upgrade the sewer collection system and wastewater treatment plant for continued water quality protection, wet weather management, and emergency preparedness. This includes identified projects such as:</p> <ul style="list-style-type: none"> <li>LHMP-D-5 Clean Water program – complete the implementation of upgrades to the sewer collection system and wastewater treatment plant.</li> <li>New Project: Sewer Collection Pump Station Replacement Program – perform condition assessments and upgrades of the City's pump stations to ensure the reliability of this critical infrastructure.</li> <li>New Project: Annual Sewer Rehabilitation Program – perform condition assessments for the repair and replacement of the City's sewer collection system to ensure the reliability of this critical infrastructure.</li> <li>New Project: Enhanced Infrastructure Renewal and Capacity Assurance Plan – identify sewer and storm water infrastructure improvements to improve water quality conditions of the Marina Lagoon and ensure its storm management capacity.</li> <li>New Project: Wastewater Treatment Plant Energy Recovery – evaluate options for reducing grid electrical consumption using digester gas to improve power supply reliability, reduce greenhouse gases, and ensure continuity of operation.</li> </ul> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Earthquake, Severe Weather, Flood, Tsunami, Levee Failure, Sea Level Rise</p>						
New & Existing	1, 6, 7, 13, 14	City of San Mateo	FSLRRD	Medium	Staff Time, General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<p><b>Action SMT 7</b> - FEMA Floodplain Management - Continue to implement floodplain management measures to reduce flood risk. This includes projects such as:</p> <ul style="list-style-type: none"> <li>LHMP-D-6 FEMA's National Flood Insurance Program - Continued implementation of floodplain management programs that, at a minimum, meet the NFIP requirements. This includes enforcing the flood damage prevention ordinance, participation in floodplain identification, and mapping update, and providing public assistance / information on floodplain requirements and impacts</li> <li>LHMP-D-12 North Bayfront Levee Improvements. Provide tidal flood protection to approximately 1,200 properties in San Mateo's North Shoreview and North Central neighborhoods</li> <li>LHMP-D-13 Poplar Avenue and Coyote Point Pump Stations Rehabilitation. Provide residual flood protection for approximately 800 properties in the North Shoreview Neighborhood.</li> <li>LHMP-E-1 Reduce flood risk</li> <li>New Project: Update Citywide Flood Mitigation Plan. Update to the City's 2002 flood mitigation plan to include more current information and analysis related to sea level rise and other similar risks.</li> </ul> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Severe Weather, Flood, Tsunami,</p>						
New & Existing	1, 8, 9, 13	City of San Mateo	FSLRRD	Medium	Staff Time, General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SMT 8</b> - Incorporate FEMA guidelines into planning process. Incorporate FEMA guidelines and suggested activities into local government plans and procedures for managing hazards. Included in this process is updating plans such as the Emergency Operations Plan and EOC Action Plans. (LHMP-D-7).						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami,						
New & Existing	1, 8, 10, 12	City of San Mateo	SMCFire	Medium	Staff Time, General Fund, Grant Funding-EMPG and HSGP	Short-term
<b>Action SMT 9</b> -Assessment and Mitigation of Urban Drainage Flooding - This includes projects such as:						
<ul style="list-style-type: none"> <li>• LHMP-D-11 Storm System Dredging. Remove mud and debris in San Mateo Creek between San Francisco Bay and South Humboldt Street to restore channel conveyance capacity.</li> <li>• New Project: Green Infrastructure Plan Project Implementation. Green infrastructure addresses water and air quality; reduces local flooding; increases water supply; and provides traffic calming, safer pedestrian and bicycle facilities, and climate resiliency.</li> <li>• New Project: Storm System Condition Assessments. Perform a condition assessment of stormwater conveyance infrastructure to evaluate whether structural improvements are necessary.</li> <li>• New Project: Citywide Creek Maintenance Permitting. Identify routine maintenance activities for creeks, channels, and the lagoon, within the City of San Mateo; and obtain the necessary environmental permits from various regulatory agencies to legally perform the work.</li> <li>• New Project: Storm System Funding. Funding analysis and efforts to secure funding for master planning, condition assessments, and improvements of storm drain infrastructure; operations and maintenance of creeks and storm drain infrastructure; dredging of Marina Lagoon and various creeks; which are necessary to maintain capacity to prevent flooding, improve water quality, and improve emergency response.</li> <li>• New Project: Implementation of Storm Drain Capacity Projects to Address Urban Drainage Flooding. Implement CIPs and maintenance programs to mitigate sub-FEMA local flooding and improve emergency response.</li> </ul>						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Severe Weather, Flood,						
New & Existing	1, 6, 13	City of San Mateo		Medium	Staff Time, General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action SMT 10</b> - Use of latest edition of the California Building Standards Code with local amendments. Adopt and enforce the latest edition of the California Building Standards Code with additional local requirements as necessary tailored to San Mateo (LHMP-E-2).						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami						
New & Existing	1, 6, 7, 8,13	City of San Mateo	SMCFire	Low	Staff Time, General Fund, Grant Funding-BRIC(C&CB)	Ongoing
<b>Action SMT 11</b> - Through the City's Joint Powers Authority Fire/Rescue provider, the San Mateo Consolidated Fire Department, adopt the most current uniform codes and local regulations, conduct annual inspections of businesses and multi-family dwellings to ensure compliance with fire/life safety and hazardous materials requirements, with inspections of residential care facilities done as requested by of the Department of Social Services (LHMP-E-3).						
<u>Hazards Mitigated:</u> Earthquake, Wildfire						
New & Existing	1, 3, 5, 6, 7, 8, 9	City of San Mateo	SMCFire	Low	Staff Time, JPA Budget	Ongoing
<b>Action SMT 12</b> – Engage the San Mateo business community and large corporate employers to build resiliency. (LHMP-F-2 and LHMP-F-1)						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami						
New & Existing	1, 2, 8, 9, 14	City of San Mateo	SMCFire	Low	Staff Time, General Fund, LISTOS	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SMT 13</b> - Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including San Mateo's General Plan.						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami						
New & Existing	1, 3, 5, 6, 7, 8, 9, 10, 11	City of San Mateo	SMCFire	Low	Staff Time, General Fund	Ongoing
<b>Action SMT 14</b> - Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami,						
New & Existing	1, 5, 6, 7, 8, 10, 11	City of San Mateo	SMCFire	Low	Staff Time, General Fund	Ongoing
<b>Action SMT 15</b> - Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
<ul style="list-style-type: none"> <li>• Conduct Climate Action Plan (CAP) Assessment to reevaluate previous Climate Action Plan (CAP) to build off of and initiate update of CAP to reflect new State legislation, changing priorities, and environmental sustainability and greenhouse gas (GHG) reduction policies and goals</li> <li>• Adopt modifications to existing plans and procedures to meet climate change issues and impacts.</li> </ul>						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change						
New & Existing	1, 3, 5, 6, 7, 8, 9,14	City of San Mateo	N/A	Low	Staff Time, General Fund	Short-term
<b>Action SMT 16</b> - Evacuation Planning - Adopt current best practices for evacuation procedures and public education.						
<u>Hazards Mitigated:</u> Earthquake, Wildfire						
New	1, 3, 5, 6, 7, 8, 11	City of San Mateo	SMCFire	Medium	Staff Time, General Fund	Short-Term/Ongoing
<b>Action SMT 17</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami						
New & Existing	1, 7, 13, 14	City of San Mateo	N/A	Medium	Staff Time, General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<b>Action SMT 18</b> - Maintain the City's Emergency Operations Center in a full functional state of readiness and designate a back-up Emergency Operations Center with redundant communications systems. This includes identified projects such as:						
<ul style="list-style-type: none"> <li>• Update and maintain the Emergency Operations Center</li> <li>• Update and maintain the back-up Emergency Operations Center</li> <li>• Develop and implement MAC policy and procedures with other SMCFire JPA cities</li> </ul>						
<u>Hazards Mitigated:</u> Climate Change, Dam Failure, Earthquake, Severe Weather, Flood, Drought, Tsunami, Landslide/Mass Movements, Wildfire						
New & Existing	1, 5, 6, 7, 8,10	City of San Mateo	SMCFire	Medium	Staff Time, General Fund, Grant Funding-EMPG and HSGP	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SMT 19 - City Energy, Power, and Communication Systems Reliability</b>						
Ensure adequate emergency power and fuel at critical City facilities, including communications equipment, for continuity of government and services. This includes projects such as						
<ul style="list-style-type: none"> <li>• New Project: Emergency Backup Power for Critical Infrastructure. Develop plan for implementing emergency backup at City infrastructure (e.g., pump stations, facilities, communications equipment) to address loss of power during emergencies or planned outages.</li> <li>• New Project: Central Emergency Vehicle Preemption Implementation: This is a centralized emergency vehicle preemption system at traffic signals to improve overall emergency response times. New, cloud-based systems automatically clear traffic at traffic signals as the vehicle approaches and are intended to provide emergency responders with a less congested path of travel</li> <li>• New Project: Evaluate Emergency Fleet Operations. Evaluate emergency fuel and electrical power requirements for fleet and equipment to ensure continuity of operations.</li> </ul>						
<i>Hazards Mitigated:</i> Climate Change, Dam Failure, Drought, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Wildfire, Tsunami						
New & Existing	1, 5, 6, 8, 13, 14	City of San Mateo	N/A	High	Staff Time, General Fund, Grant Funding-FEMA HMA (BRIC, FMA and HMGF)	Long-Term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 19-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority
1	6	High	High	Yes	Yes	Yes	Medium	Medium	High
2	4	High	Low	Yes	Yes	Yes	Medium	Medium	High
3	5	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
4	4	Medium	High	No	Yes	No	Low	Medium	High
5	2	Medium	Medium	Yes	No	Yes	Medium	Low	High
6	5	High	Medium	Yes	Yes	Yes	High	Medium	High
7	4	High	Medium	Yes	Yes	Yes	Medium	Medium	High
8	4	High	Medium	Yes	Yes	Yes	High	Medium	High
9	3	High	Medium	Yes	Yes	Yes	High	Medium	High
10	5	High	Low	Yes	Yes	Yes	Medium	Medium	High
11	7	High	Low	Yes	No	Yes	Medium	Low	High
12	5	Medium	Low	Yes	Yes	Yes	Medium	Medium	High
13	9	High	Low	Yes	No	Yes	Medium	Low	High
14	7	Medium	Low	Yes	No	Yes	Medium	Low	Low
15	8	Medium	Low	Yes	No	Yes	Medium	Low	Low
16	7	High	Medium	Yes	No	Yes	High	Low	High
17	4	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
18	6	Medium	Medium	Yes	Yes	Yes	Medium	Medium	High
19	6	High	High	Yes	Yes	Yes	Medium	Medium	Low

a. See the introduction to this volume for explanation of priorities.

**Table 19-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea Level Rise/Climate Change	3, 6, 7, 8, 10, 15	6, 9, 11, 12, 17	2, 4, 12, 13, 15	4, 6, 8, 9, 15	5,18	6	3, 6, 9, 11, 12	2, 4, 6, 13, 14, 18
Dam Failure	6, 7, 8	6, 10, 17	2, 4, 12, 13	4, 6, 8	5,18	6	6	2, 4, 6, 13, 14, 18
Earthquake	3, 6, 8, 10	6, 10, 12, 17	2, 12, 13, 16	6, 8, 12	5, 16, 18	6	3, 6, 12	1, 2, 6, 13, 14, 18, 19
Landslide/Mass Movements	3, 8, 10	6, 17	2, 12, 13	8	5,18		3,6	2, 6, 13, 14, 18
Flood	3, 6, 7, 8, 10	6, 9, 10, 11, 12, 17	2, 4, 12, 13	4, 6, 8, 9, 12	5,18	6	3, 6, 9, 11, 12	2, 4, 6, 13, 14, 18
Wildfire	3, 8, 10, 11	6,17	2, 12, 13	8	5, 16, 18		3, 6, 11, 12	2, 6, 13, 14, 18
<b>Medium-Risk Hazards</b>								
Severe Weather	3, 6, 7, 8, 10	6, 9, 10, 11, 12, 17	2, 4, 12, 13	4, 6, 8, 9, 12	5,18	6	3, 6, 9, 11, 12	1, 2, 4, 6, 13, 14, 18, 19
<b>Low-Risk Hazards</b>								
Drought	8	6	2, 12, 13	8	5,18		6	2, 6, 13, 14, 18
Tsunami	3, 6, 7, 8, 10	6, 17	2, 4, 12, 13	4, 6, 8	5,18	6	3,6	2, 4, 6, 14, 18

a. See the introduction to this volume for explanation of mitigation types.

## 19.9 PUBLIC OUTREACH

Table 19-17 lists public outreach activities for this jurisdiction. Figure 19-1 shows example public outreach announcements.

**Table 19-17. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Distribution of Survey #1 Via City Newsletter and Social Media Platforms	March 26, 2021	161
Distribution of CERT Survey Via Neon	June 11, 2021	62





<p>eNEWS: COVID Vaccine Updates, Sustainability &amp; San Mateo - March 26, 2021</p> <h2 style="background-color: #003366; color: white; padding: 5px;">Hazards &amp; Preparedness</h2>  <h3>Help Protect Against Hazards - Take this Quick Survey!</h3> <p>The City and County of San Mateo have begun to update the <a href="#">Multijurisdictional Local Hazard Mitigation Plan</a> to address threats such as climate change, drought, earthquakes, flooding, heat, landslides and pandemics. People who live in San Mateo County are invited to contribute and participate of the 2021 Plan Update, by identifying hazards of concern and mitigation solutions to make San Mateo County more resilient. Please take a few minutes to <a href="#">complete this Hazards Survey!</a> It's available in Arabic, Chinese, English, Spanish, Tagalog and Tongan.</p> <p>Tell us about your experience with the following hazards in San Mateo County: climate change, dam failure, drought, earthquakes, extreme heat, flood, landslide, pandemics, sea level rise, tsunamis, wildfires and human-caused hazards like communication failures, cyber threats, hazardous materials and terrorism. You can help us be more prepared!</p>	<p>CERT Announcement - Feedback Needed for Hazard Mitigation Survey</p>  <p style="text-align: center;">Your Valuable Insights are Needed!</p> <p>The County, led by the Office of Emergency Services, is in the process of developing an updated Multijurisdictional Local Hazard Mitigation Plan (LHMP) and the public's input is needed!</p> <p>Tell us via a short survey what actions the County of San Mateo and its partner agencies can take to help community members prepare for natural hazard events such as earthquake, fire, flooding, extreme heat, and landslide:</p> <p style="text-align: center;"><a href="https://www.surveymonkey.com/r/NWT388K">https://www.surveymonkey.com/r/NWT388K</a></p> <p>More information here: <a href="https://cmo.smcgov.org/multijurisdictional-local-hazard-mi">https://cmo.smcgov.org/multijurisdictional-local-hazard-mi</a></p>
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Figure 19-1. Public Outreach Announcements

## 19.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City of San Mateo Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration. Flood damage prevention ordinance is included in Muni Code.
- **Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **City Budget** – The budget was reviewed for funding of action items and assisted with prioritization setting.
- **City Mutual Aid Agreements** – City Mutual Aid Agreements were used to assess capacity.
- **City's Emergency Operations Plan** – The City's EOP was used when doing the assessment of action items.
- **Previous City's LHMP** – The prior LHMP was reviewed when creating this document.
- **City's General Plan** – The City's General Plan was reviewed during this process for prioritization and mitigation action item building.
- **City's Climate Action Plan** – The City's CAP was used in the mitigation action building phase as well as to assess the City's climate action assessment (see Table 19-10).

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **Various San Mateo County Plans and Resources** – Resources provided from the County, including previous plans, data sources, etc. were used in analyzing and preparing this document.
- **California DWR Dam Inundation Map** – This resource was used to demonstrate to planning partners how dam inundation for the respective City appears.

## **19.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY**

An analysis of risks including but not limited to flood and dam inundation need to be adjusted for local infrastructure (pumping abilities) for a more accurate risk assessment. It would be beneficial to outline what the City’s role and responsibility is with dams, their inundation, and associated risks.



# San Mateo

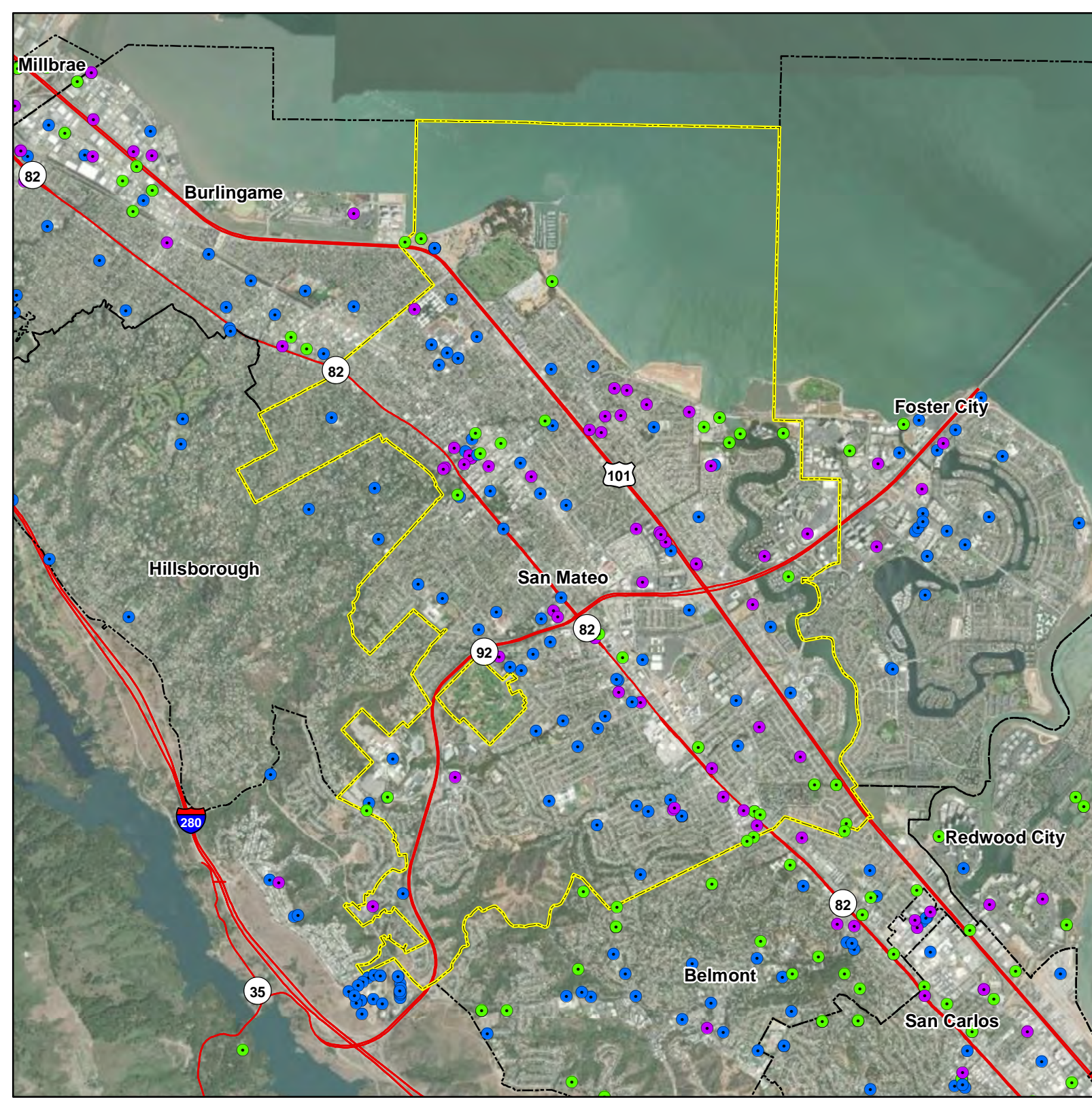
## Critical Facilities, 1 of 2

- Food, Water, Shelter
- Health and Medical
- Safety and Security
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD



0 0.35 0.7 1.4 Miles





# San Mateo

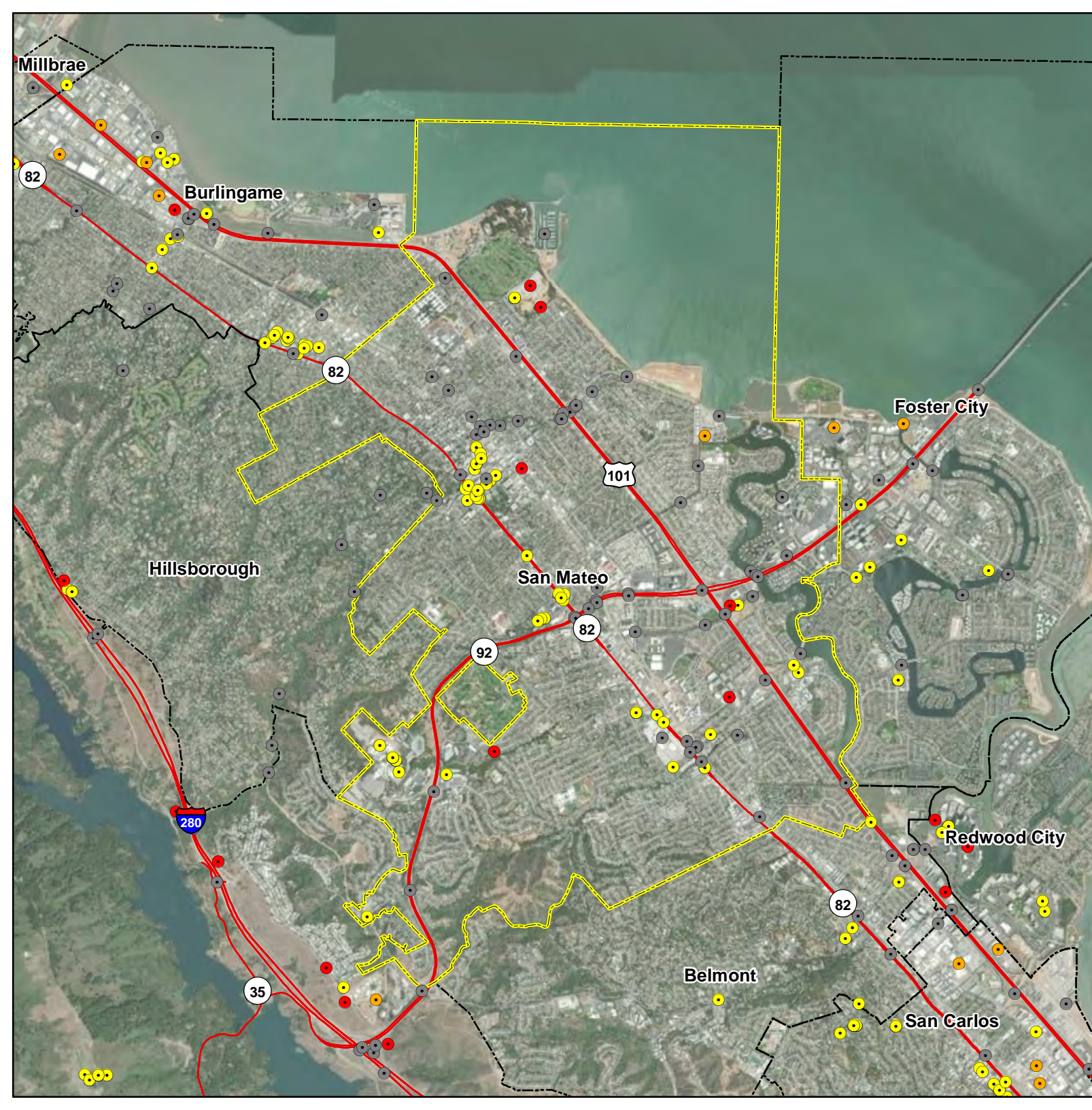
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.35 0.7 1.4 Miles





# San Mateo

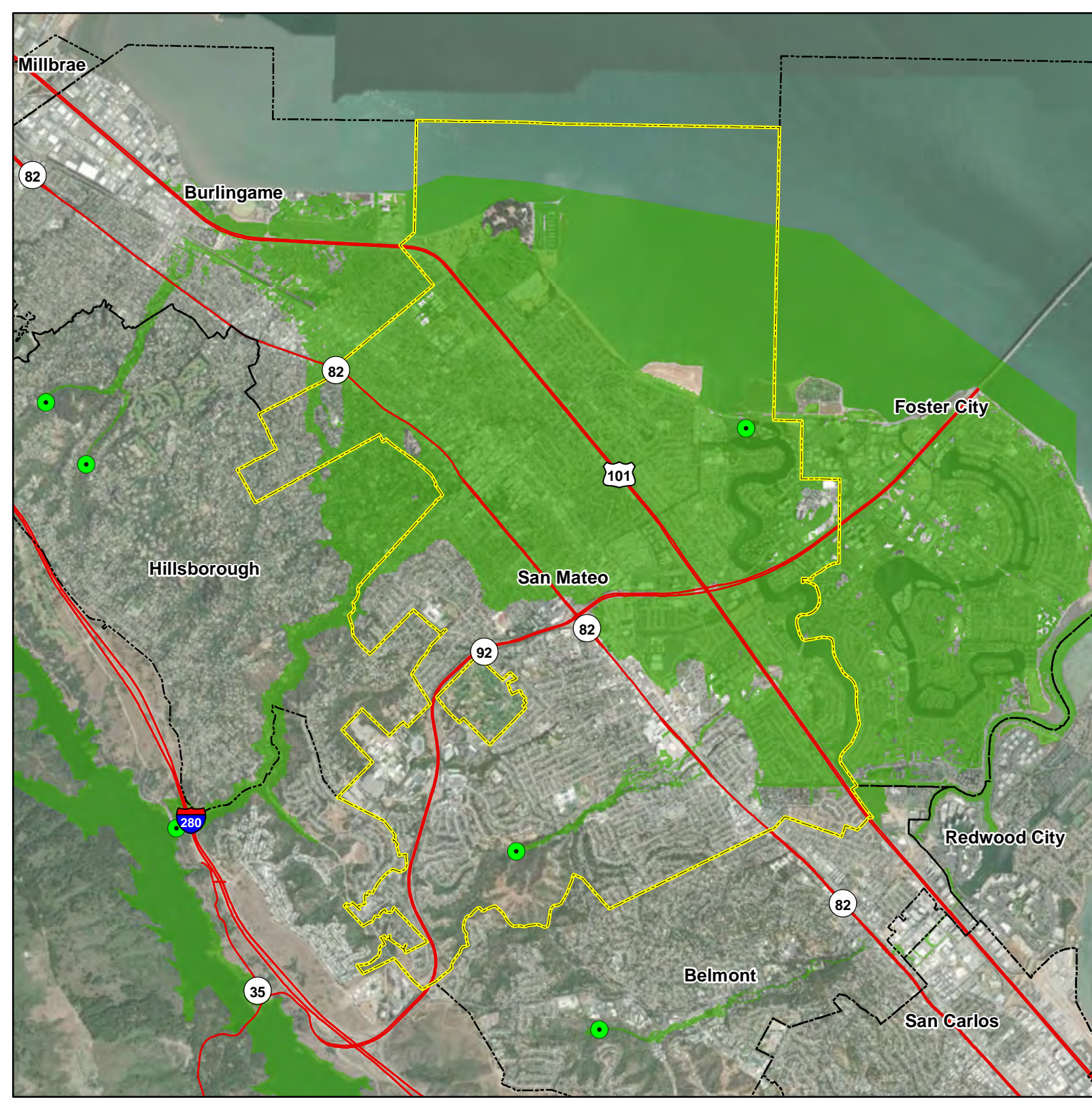
## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










0 0.35 0.7 1.4  
Miles





# San Mateo

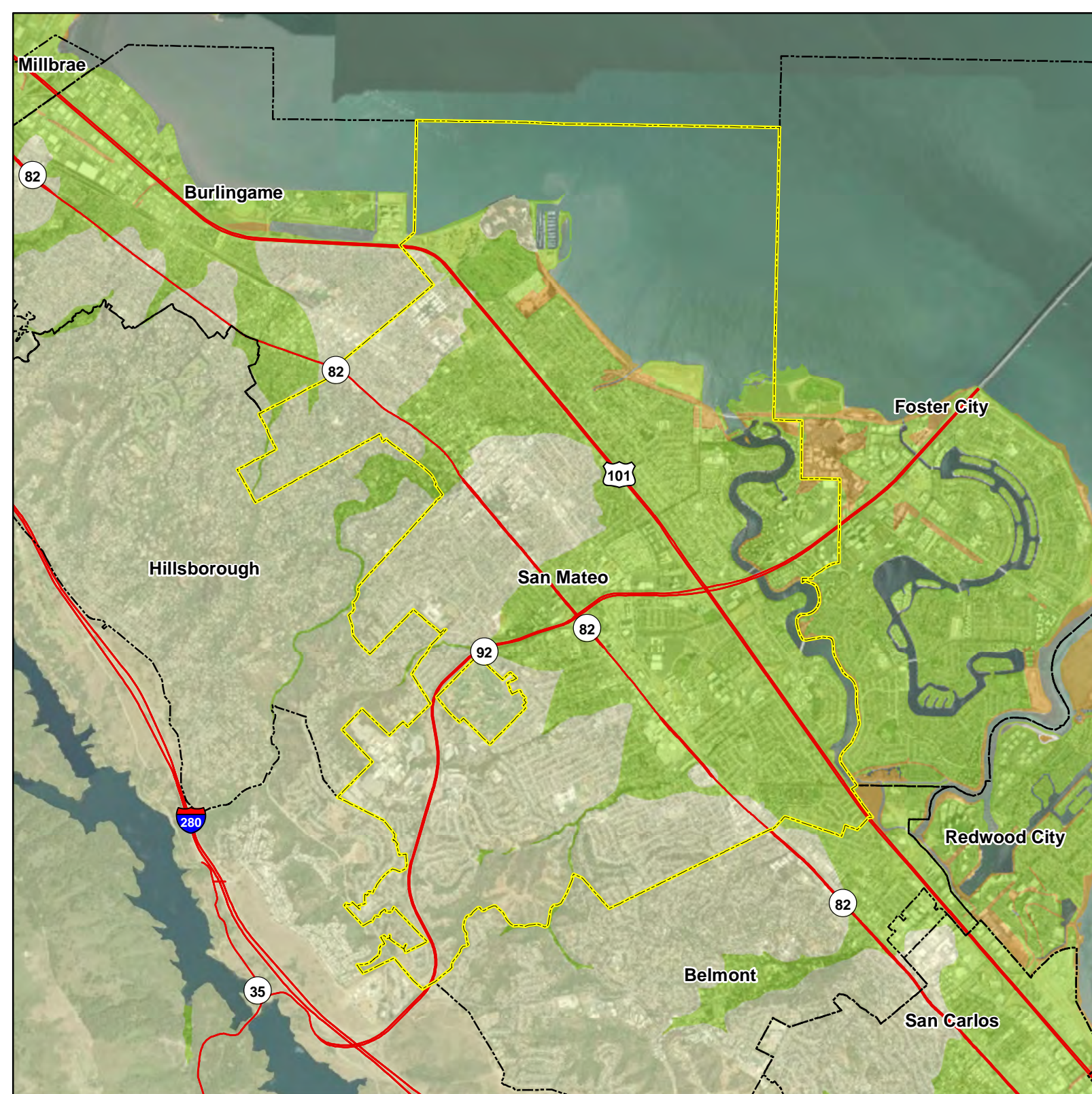
## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.35 0.7 1.4  
Miles





# San Mateo

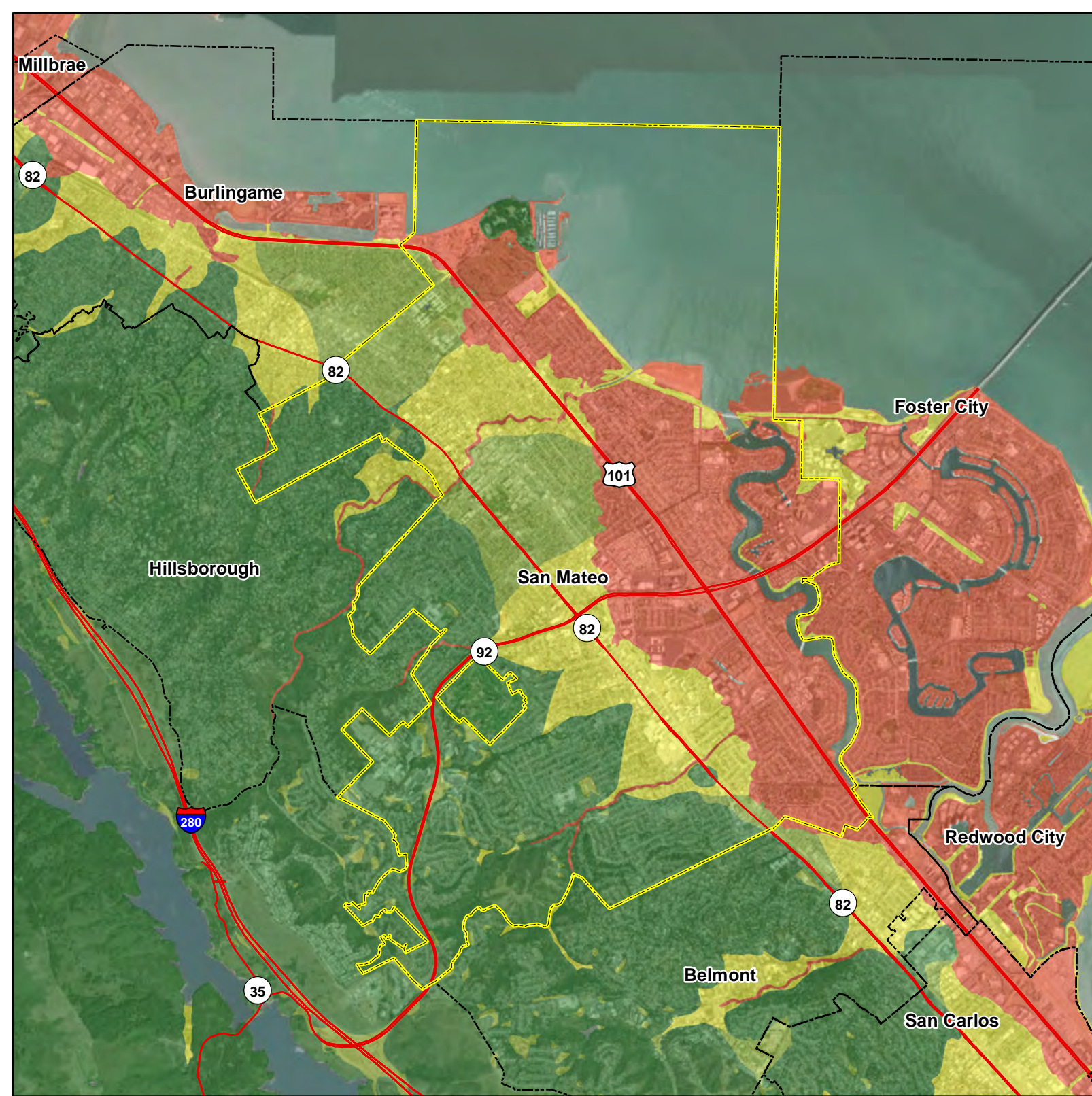
## Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., ABAG (USGS)



0 0.35 0.7 1.4 Miles





# San Mateo

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)

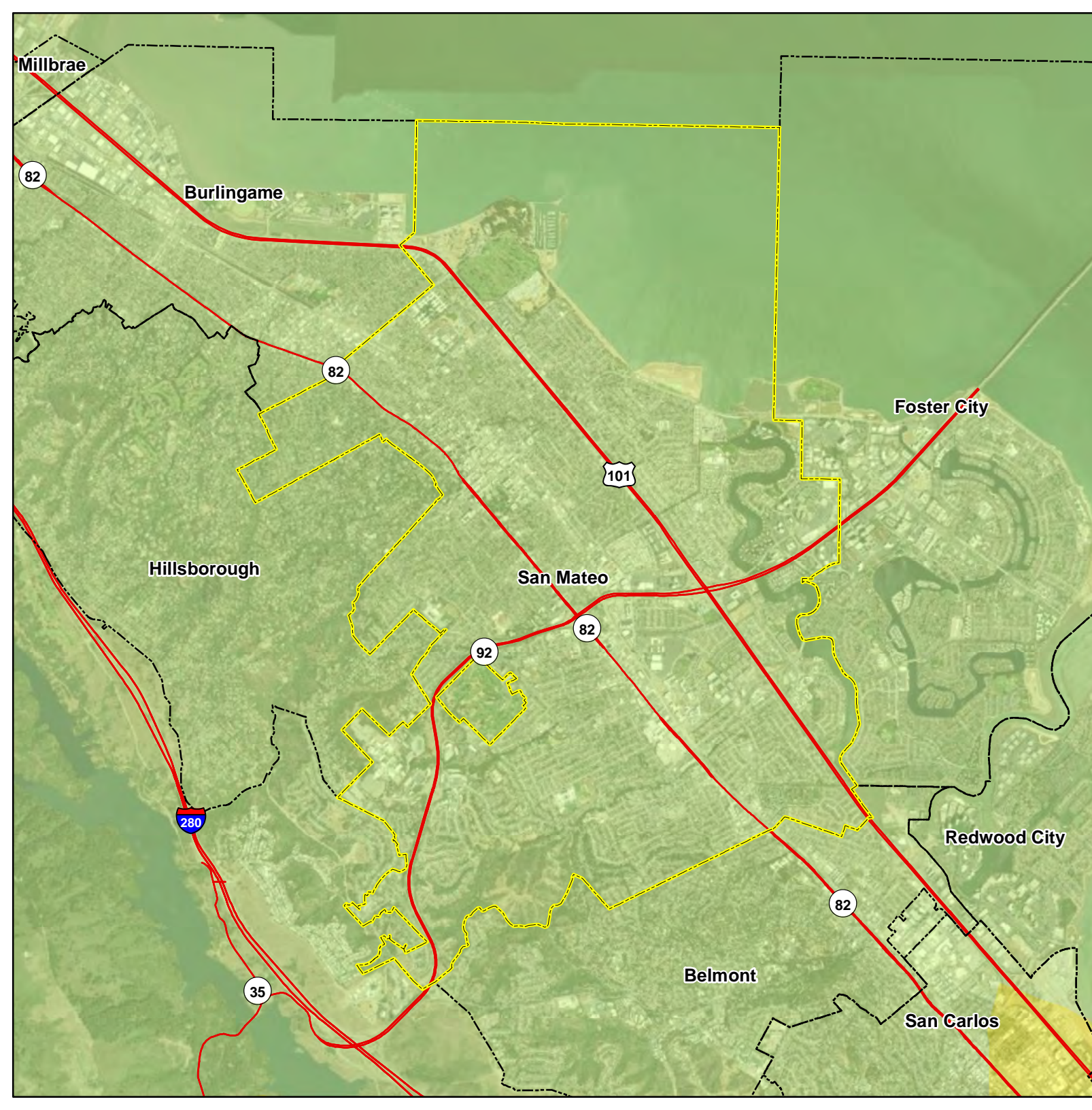
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.35 0.7 1.4  
Miles





# San Mateo

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

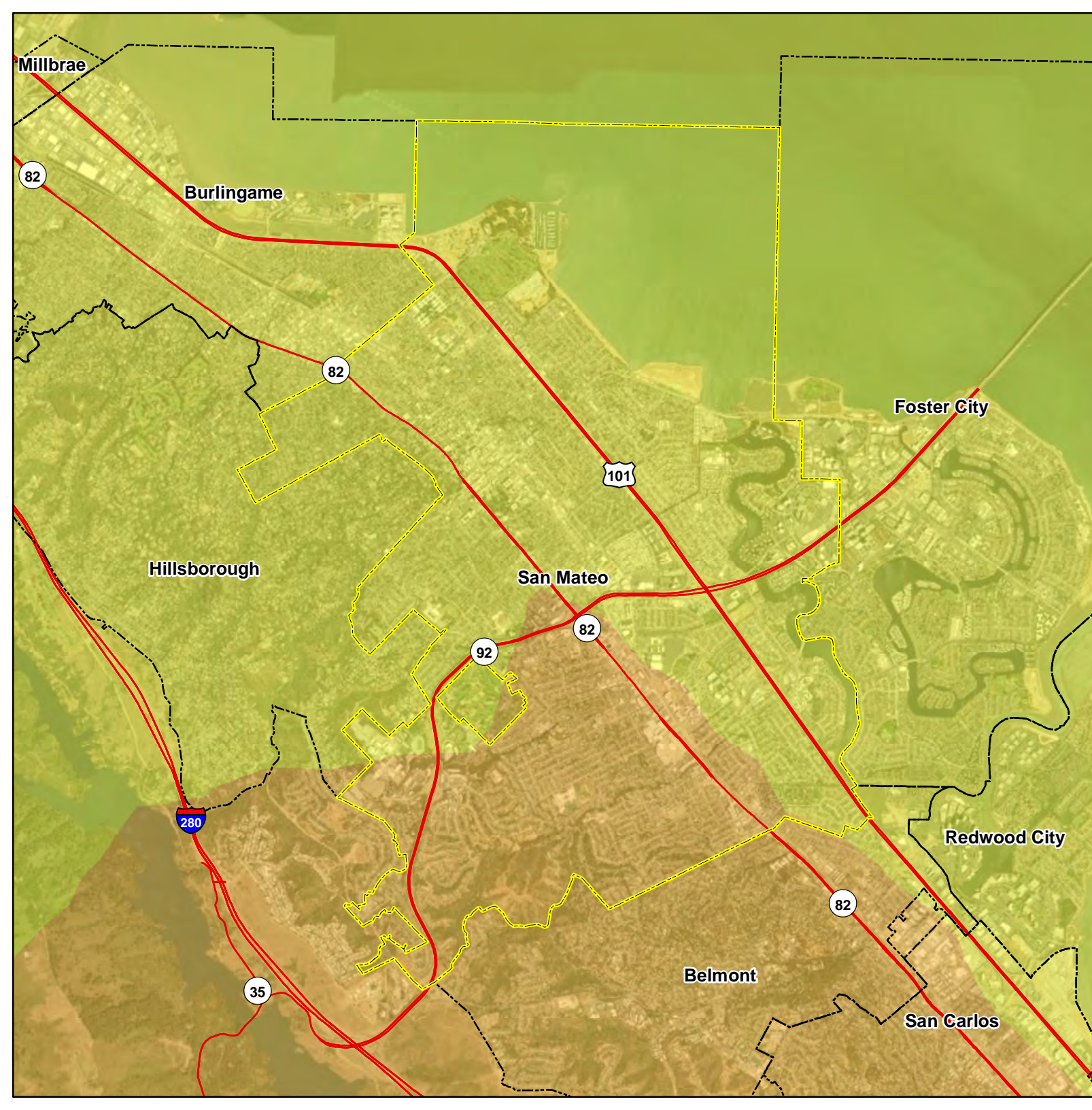
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.35 0.7 1.4  
Miles





# San Mateo

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

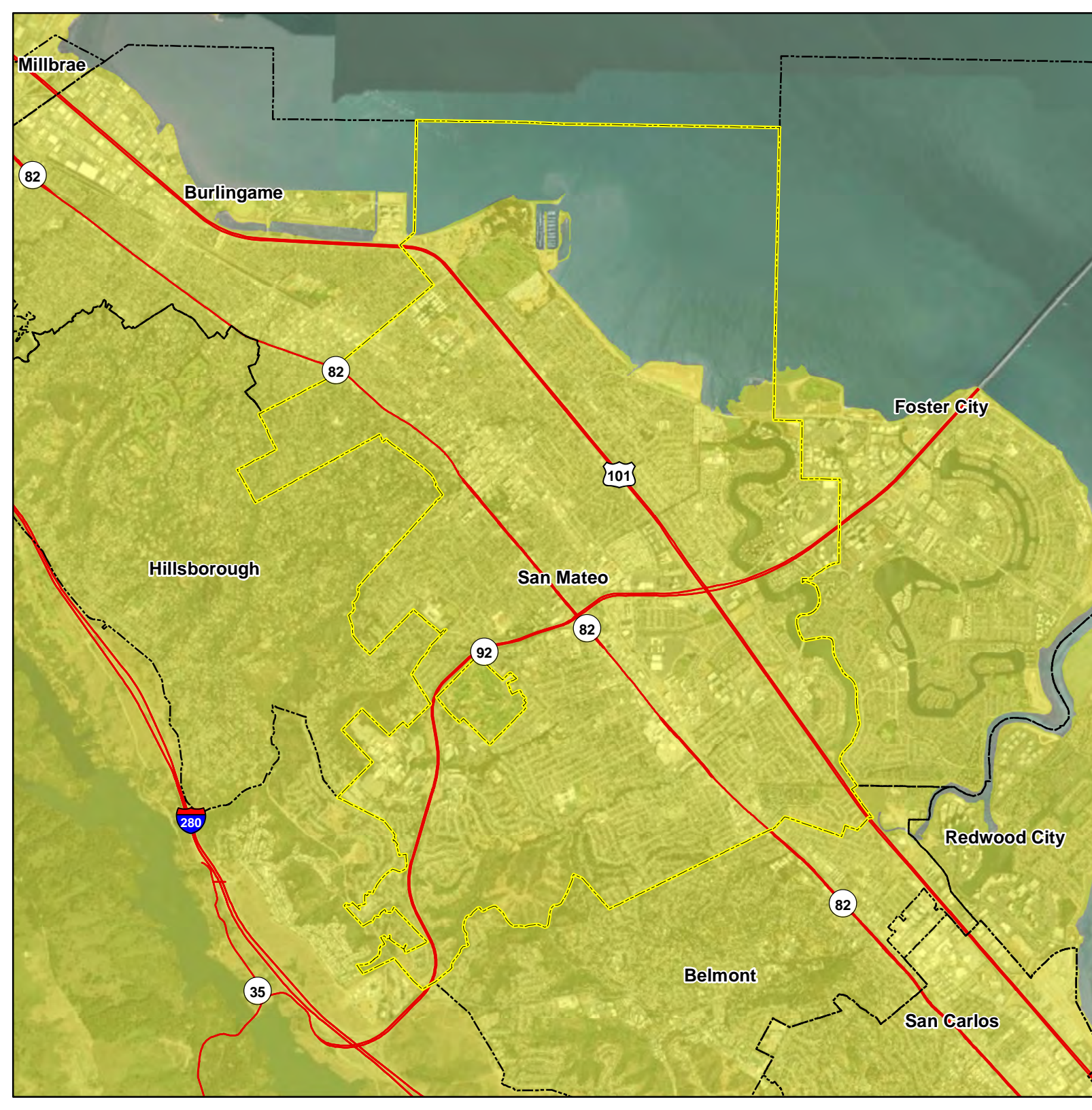
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.35 0.7 1.4  
Miles





# San Mateo

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

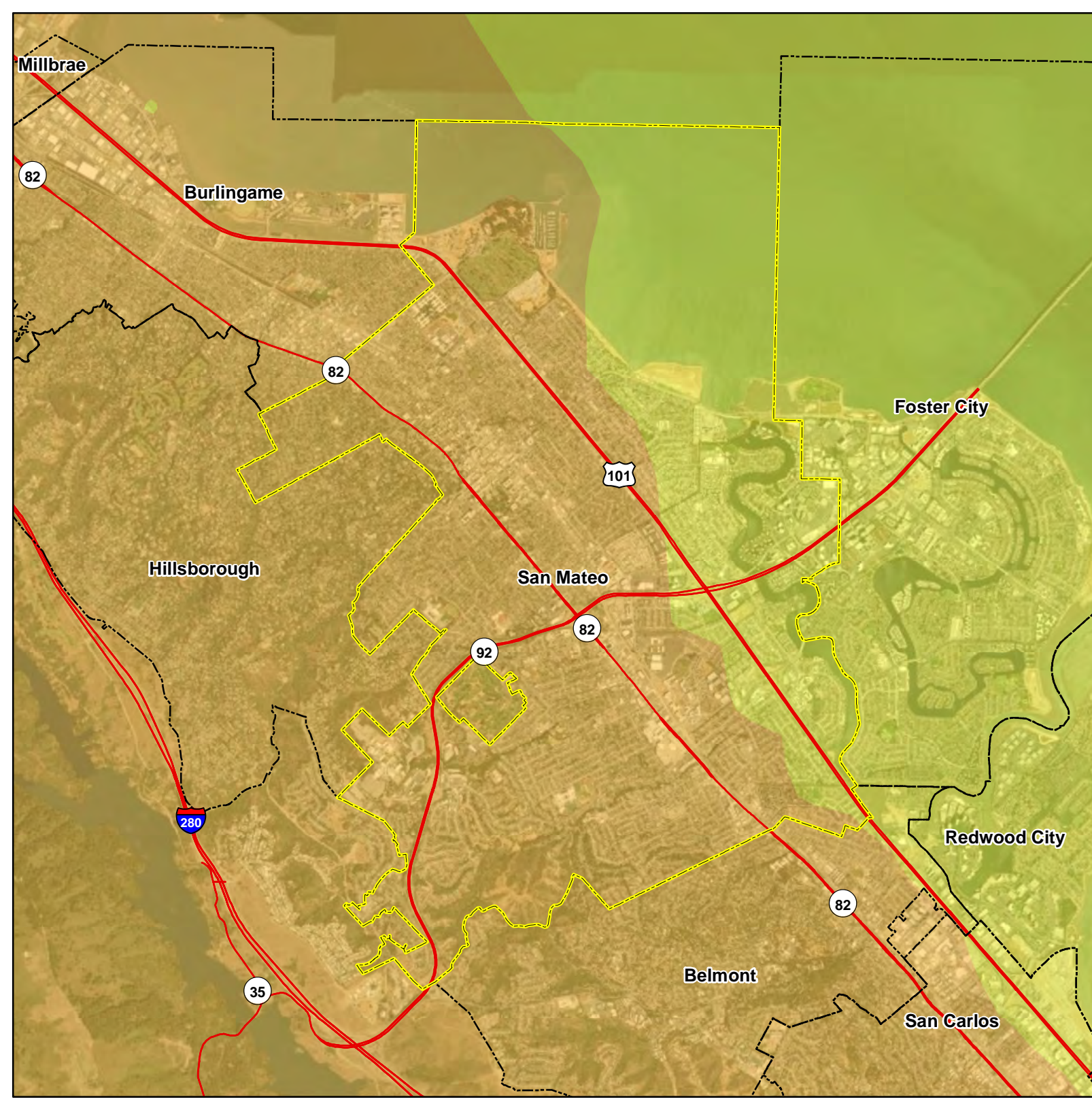
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.35 0.7 1.4  
Miles





# San Mateo

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)

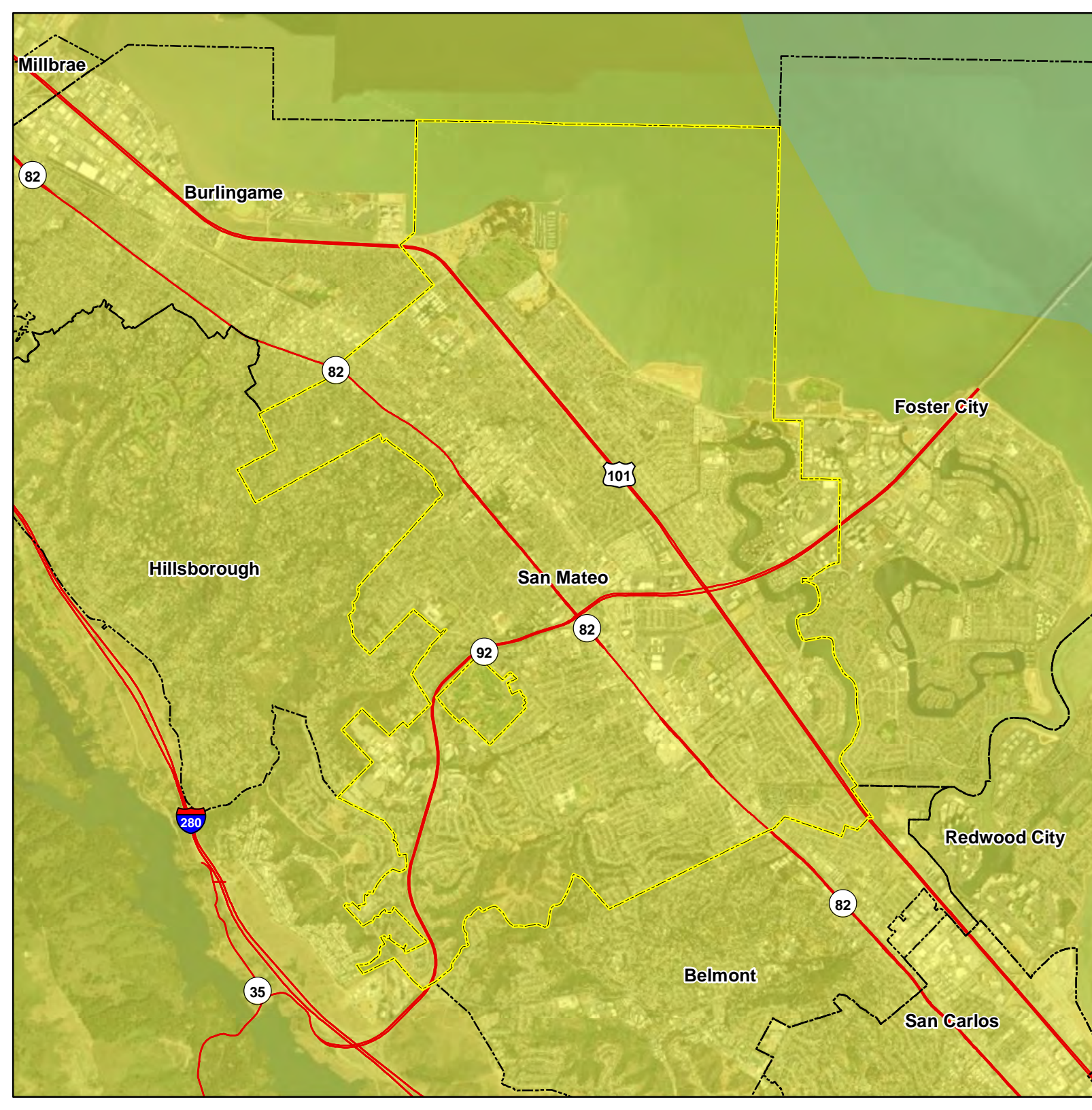
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.35 0.7 1.4  
Miles





# San Mateo

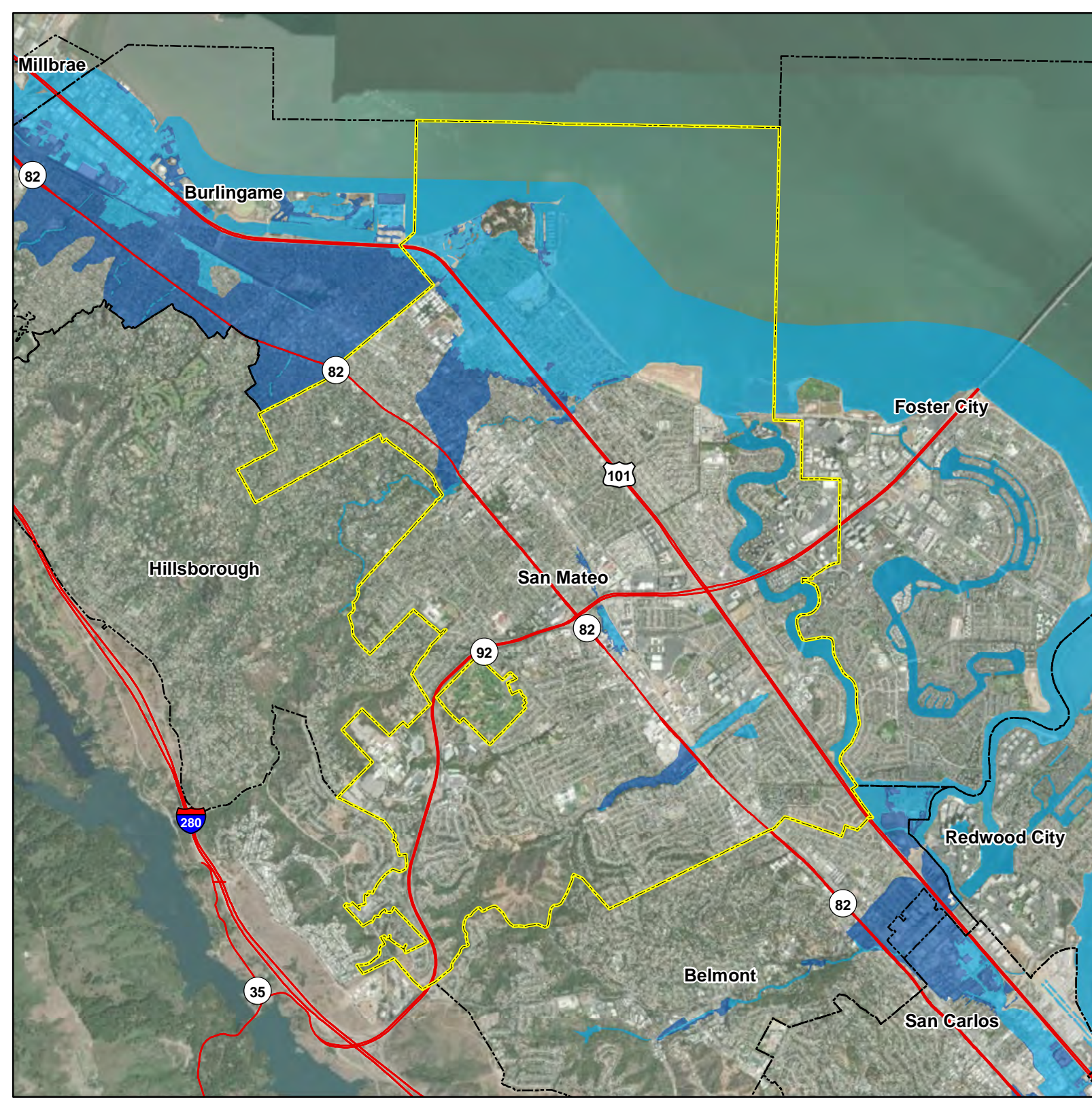
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA



0 0.35 0.7 1.4 Miles





# San Mateo

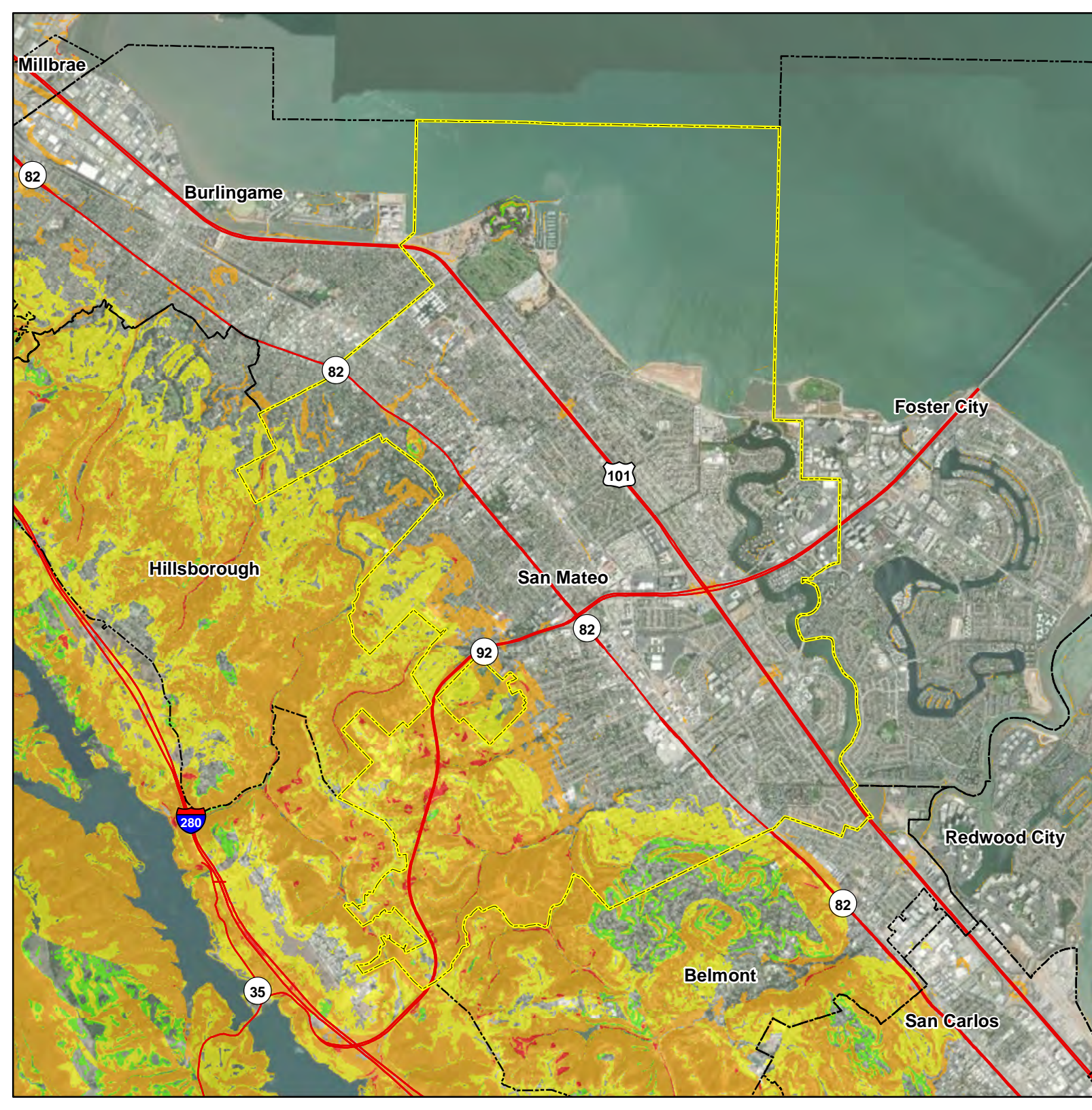
## Susceptibility to Deep-Seated Landslides

- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CGS








0 0.35 0.7 1.4 Miles





# San Mateo

## Sea Level Rise

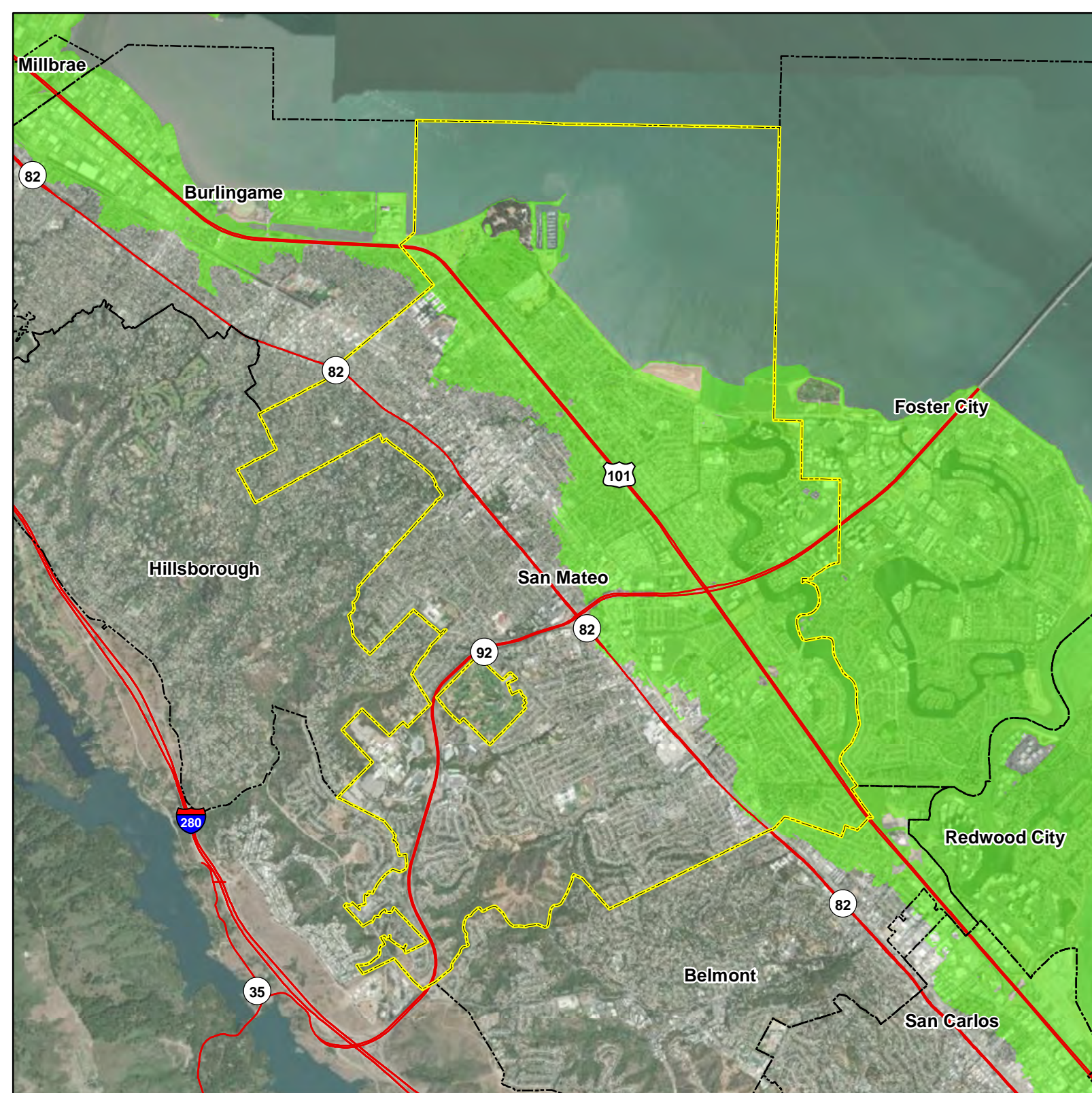
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.35 0.7 1.4 Miles





# San Mateo

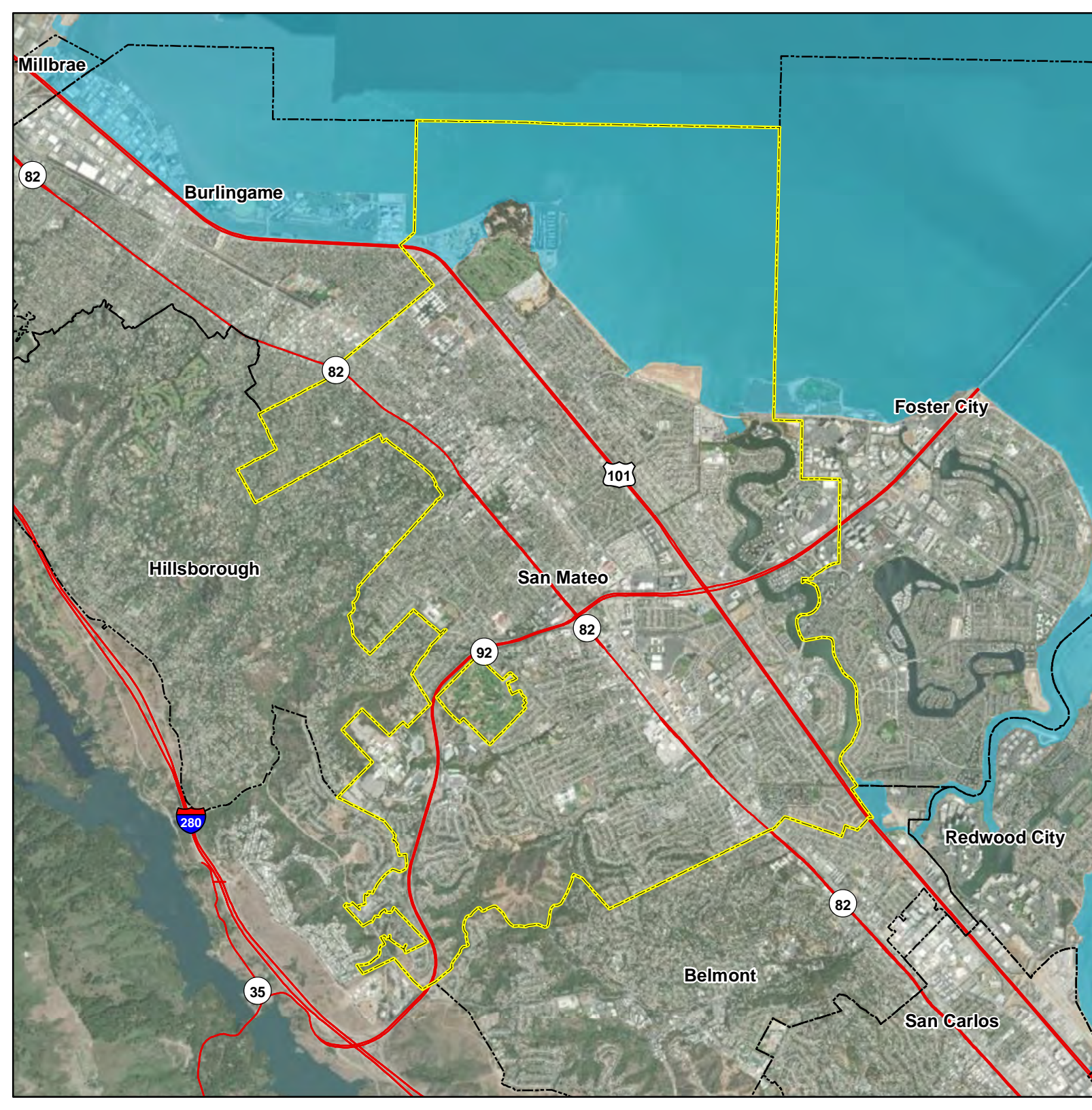
## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.35 0.7 1.4  
Miles





# San Mateo

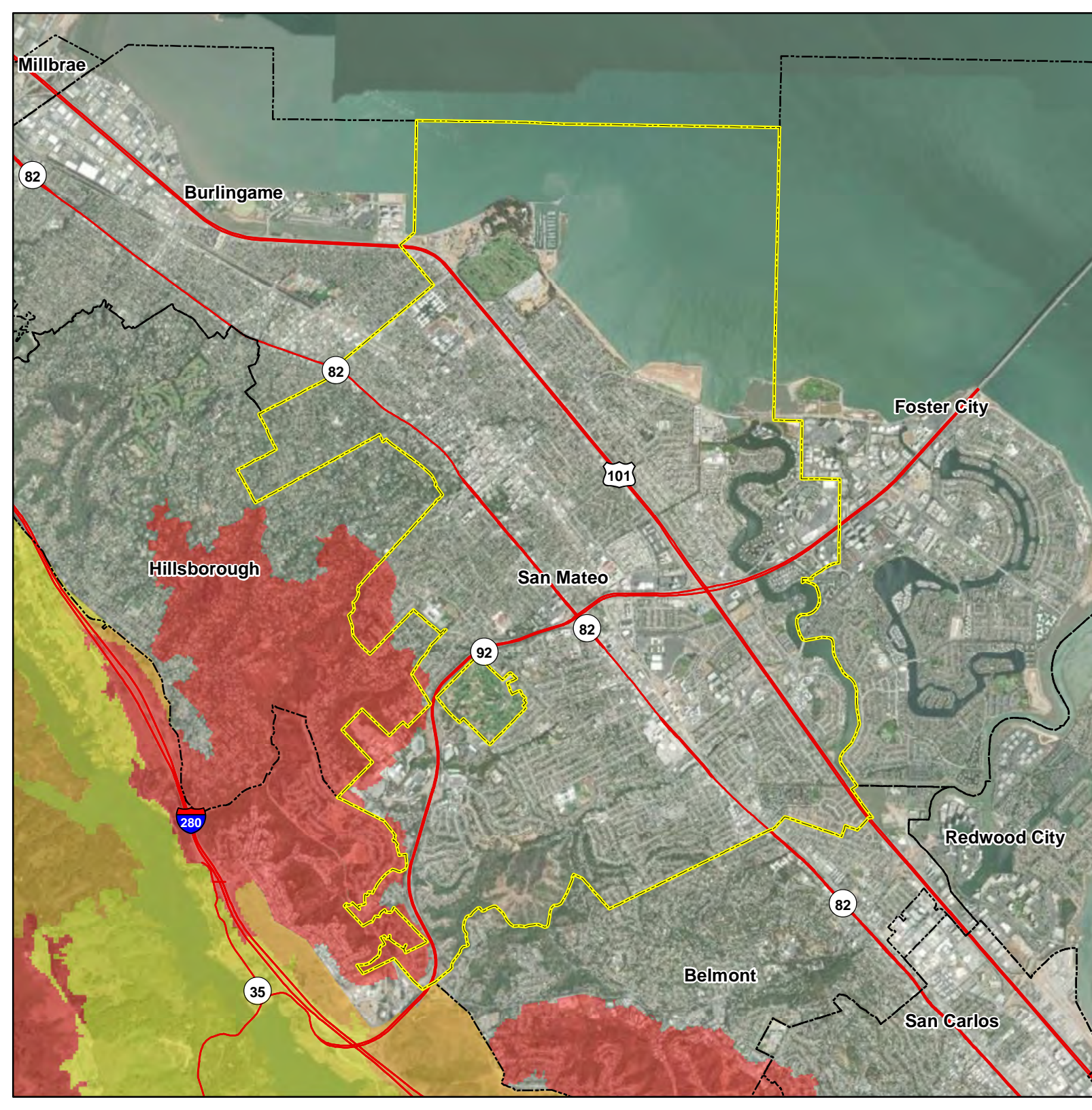
## Wildfire Hazard Severity Zones

- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.35 0.7 1.4 Miles







## 20. CITY OF SOUTH SAN FRANCISCO

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### 20.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Ken Anderson Sr., Emergency Services Manager  
480 N. Canal Street  
South San Francisco, CA 94080  
650-829-3950  
[ken.anderson@ssf.net](mailto:ken.anderson@ssf.net)

#### Alternate Point of Contact

Matt Powleson, Public Works Supervisor  
550 N. Canal Street  
South San Francisco, CA 94080  
650-829-6652  
[matt.powleson@ssf.net](mailto:matt.powleson@ssf.net)

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 20-1.

**Table 20-1. Local Mitigation Planning Team Members**

Name	Title
Ken Anderson Sr.	Emergency Services Manager
Matt Powleson	Public Works Supervisor
Mike Futrell	City Manager
David Bockhaus	Deputy Director of Public Works
Alex Greenwood	ECD Director
Greg Mediati	Parks and Recreation Deputy Director
Matt Samson	SSFFD Deputy Fire Chief

### 20.2 JURISDICTION PROFILE

#### 20.2.1 Location and Features

Located in San Mateo County, California. Situated in the San Francisco Bay Area, just south of the City of San Francisco, the City is 9.5 square miles. South City borders the cities of San Bruno to the South, and Daly City and the Town of Colma to the North.

South San Francisco has warm, dry summers and cool, relatively wet winters. South San Francisco is frequently windy. Summer is the windiest with winds averaging 13.6 mph. The City gets an average of 20 inches of rain per year. And its warmest days come in July averaging 71 degrees.

## 20.2.2 History

In 1890, after Charles Lux’s death, his heirs sold the land to Peter Iler of Omaha, who was representing meat packer Gustavus F. Swift. Swift selected the site as South San Francisco, a West Coast stockyard and marketplace, similar to his operations in South Omaha and South Chicago.

Needing money, Swift aligned with several Chicago capitalists and formed two joint stock corporations: South San Francisco Land and Improvement Company, and the Western Meat Company. The driving force behind the Land and Improvement Company was William J. Martin whose efforts to attract industries and workers to South San Francisco led to the city’s growth and its incorporation on September 19, 1908. Major industries continued to locate in South San Francisco and two world wars brought a transition to shipbuilding. The Shaw-Batcher shipyard built cargo ships and between wars it built barges and dredges and fabricated pipe, becoming one of the pioneers of automatic welding machinery. The shipyard in South San Francisco had four berths from which ships were launched sideways, two on each side of a large basin at Oyster Point. Following World War II, the population boomed, and a well-balanced community of industrial and residential areas developed.

The 1950’s brought modern industrial parks to the East of 101 area, such as Cabot, Cabot, and Forbes; freight forwarding, light industries, and other airport related businesses thrived. A new era for South San Francisco began in 1976 with the founding of Genentech by venture capitalist Robert Swanson and molecular biologist Dr. Herbert Boyer. Their objective: to explore ways of using recombinant DNA technology to create breakthrough medicines. This earned South San Francisco the title of “Birthplace of Biotechnology”, and thus attracted other biotech and pharmaceutical businesses to the area, bringing economic growth and stability to the community for several years. In 2008, the city celebrated its centennial with many memorable events honoring its forefathers, and recognizing businesses, organizations, and outstanding citizens for their contributors.

## 20.2.3 Governing Body Format

Five members are elected to four-year Council terms. Elections are held in even-numbered years. Three members are elected together, and the other two are elected in the next election. The Mayor and Vice Mayor are selected by the Council from its members in non-election years. During election years, the Mayor and Vice Mayor are selected after election results have been tabulated.

The Council also directs the City Manager and sits as the Successor Agency Board of Directors.

The City Council assumes responsibility of the adoption of this plan; the City Manager will oversee its implementation.

## 20.3 CURRENT TRENDS

### 20.3.1 Population

According to the as of California Department of Finance, the population of South San Francisco January 2020 was 67,879. Since 2020, the population has grown at an average annual rate of 1.21 percent.



### 20.3.2 Development

Anticipated development levels for the City of South San Francisco (City) within the next five years are moderate to high, consisting of both residential rental and for-sale housing, commercial mixed-use, and public facilities. All of the new development will be infill, as the city is a medium sized City in the San Francisco Bay Area and surrounding by other developed jurisdictions. The City recently received a grant to fund a new specific plan that focuses new development adjacent to the downtown core and nearby the Caltrain commuter station. Additionally, adoption of a sales tax measure has provided funds for development of a new library, and a shared police and fire municipal facility that are currently under construction.

Table 20-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 20-2. Recent and Expected Future Development Trends**

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <ul style="list-style-type: none"> <li>If yes, give the estimated area annexed and estimated number of parcels or structures.</li> </ul>	No
Is your jurisdiction expected to annex any areas during the performance period of this plan? <ul style="list-style-type: none"> <li>If yes, describe land areas and dominant uses.</li> <li>If yes, who currently has permitting authority over these areas?</li> </ul>	No
Are any areas targeted for development or major redevelopment in the next five years? <ul style="list-style-type: none"> <li>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</li> </ul>	Yes  We are projecting significant continued office, R&D, industrial and commercial development in the "East of 101" area and continued medium to high density housing and commercial development in the Downtown and El Camino Real corridor areas.
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	The City of South San Francisco has issued 210 building permits for new construction (all construction types) during the past 5 years.
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	Approximately half of the permits were for the East of 101 area, and half were for the rest of the city (i.e., west of 101).
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	The City of South San Francisco is fully built out, with very few vacant lots.

### 20.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and

determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 20-3.
- Development and permitting capabilities are presented in Table 20-4.
- An assessment of fiscal capabilities is presented in Table 20-5.
- An assessment of administrative and technical capabilities is presented in Table 20-6.
- An assessment of education and outreach capabilities is presented in Table 20-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 20-8.
- Classifications under various community mitigation programs are presented in Table 20-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 20-10.

**Table 20-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
Building Code <i>Comment: MC Title 15 Adopted March 2014 Chapter 15.08.010</i>	Yes	No	Yes	Yes
Zoning Code <i>Comment: MC Title 20 Adopted July 28<sup>th</sup>, 2010 Effective August 28<sup>th</sup>, 2010 Div. 1 thru 6</i>	Yes	No	Yes	Yes
Subdivisions <i>Comment: MC Title 19 Adopted 1982 Chapter 19</i>	Yes	No	Yes	Yes
Stormwater Management <i>Comment: MC Chapter 14.04 Adopted 2013</i>	Yes	No	Yes	Yes
Post-Disaster Recovery <i>Comment: MC Title 2 Adopted August 1971 Chapter 2.72.080 managed by SSFFD</i>	Yes	No	No	Yes
Real Estate Disclosure <i>Comment: CA State Civil Code 1102 requires full disclosure on natural Hazard Exposure of the sale of any and all real Prop</i>	No	No	Yes	No
Growth Management <i>Comment:</i>	No	No	No	No
Site Plan Review <i>Comment: MC Chapter 20.440</i>	Yes	No	No	Yes
Environmental Protection <i>Comment: CA Environmental Quality Act (CEQA)</i>	Yes	No	Yes	Yes
Flood Damage Prevention <i>Comment: MC Title 15, January 2009 Chapter 15.56.030</i>	Yes	No	Yes	Yes
Emergency Management <i>Comment: MC Title 2, Adopted July 1971, Chapter 2.72 Managed by SSFFD</i>	Yes	No	No	Yes
Climate Change <i>Comment: Adopted Climate Action Plan</i>	Yes	No	No	Yes
Other <i>Comment: Unreinforced Structure MC Chapter 15.28 1990, Fire Code Adopted 2014 as per MC 15.24.010</i>	Yes	No	No	Yes



	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Planning Documents</b>				
General Plan <i>Is the plan compliant with Assembly Bill 2140? YES</i> <i>Comment: General Plan Adopted 1999 (Housing Element Adopted 2015) and currently being updated for 2040</i>	Yes	No	No	Yes
Capital Improvement Plan <i>How often is the plan updated? Annually</i> <i>Comment:</i>	Yes	No	No	Yes
Disaster Debris Management Plan <i>Comment: New Plan Currently in the Planning Stages</i>	No	No	No	Yes
Floodplain or Watershed Plan <i>Comment:</i>	No	No	No	No
Stormwater Plan <i>Comment: Stormwater Pollution Prevention Plan June 2015 (Water Quality Control Plan)</i>	Yes	No	No	Yes
Urban Water Management Plan <i>Comment:</i>	No	No	No	No
Habitat Conservation Plan <i>Comment: General Plan Conservation Element, Open Space Element, 1999</i>	No	No	No	Yes
Economic Development Plan <i>Comment: General Plan, Economic Development Element, 1999</i>	Yes	No	No	Yes
Shoreline Management Plan <i>Comment: Jurisdiction of Bay Conservation Development Commission</i>	No	No	No	Yes
Community Wildfire Protection Plan <i>Comment: MC Title 8, Article 2, Chapter 8.54.070 and 8.54.080 Adopted January 2013</i>	Yes	No	No	Yes
Forest Management Plan <i>Comment: MC Title 13, Tree Preservation Chapter 13.30 March 2016</i>	Yes	No	No	Yes
Climate Action Plan <i>Comment: Approved 2/2014</i>	Yes	No	Yes	Yes
Other Downtown Station Specific Plan, Parks & Recreation Master Plan <i>Comment: Adopted February 2015, Adopted July 2015</i>	Yes	No	No	
Emergency Operations Plan <i>Comment: SSF EOP Managed by the SSFFD 2007</i>	Yes	No	No	Yes
Threat & Hazard Identification & Risk Assessment (THIRA) <i>Comment:</i>	No	No	No	Yes
Post-Disaster Recovery Plan <i>Comment: SSF EOP (TAB 13 Recovery and Chapter 4 Recovery) Managed by SSFFD 2007</i>	Yes (Partial)	No	No	Yes
Continuity of Operations Plan <i>Comment: SSF EOP (Page 104 Use of SSF Employees) Managed by SSFFD 2007, Administrative Instruction (AI) City Employee Responsibility to Respond in Emergencies June 2005, SSF COOP Plan Update 2020</i>	Yes (Partial)	No	No	Yes
Public Health Plan <i>Comment: Managed by San Mateo County Health Agency</i>	No	Yes	No	Yes

**Table 20-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? • If no, who does? If yes, which department?	Yes Building, Planning, and Engineering
Does your jurisdiction have the ability to track permits by hazard area?	Yes
Does your jurisdiction have a buildable lands inventory?	No

**Table 20-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes Sewer
Incur Debt through General Obligation Bonds	Yes Civic Campus
Incur Debt through Special Tax Bonds	Yes Oyster Point Interagency
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes, Library, Parks & Rec, Public Safety Grants
Development Impact Fees for Homebuyers or Developers	Yes
Other	Yes Commercial Linkage, Transportation, Library Impact Fee, Public Safety Impact Fee

**Table 20-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	ECD/PW
Engineers or professionals trained in building or infrastructure construction practices	Yes	ECD/PW
Planners or engineers with an understanding of natural hazards	Yes	ECD/PW/Fire
Staff with training in benefit/cost analysis	Yes	PW/Consultants
Surveyors	Yes	PW/Consultants
Personnel skilled or trained in GIS applications	Yes	IT/GIS Coordinator, ESM
Scientist familiar with natural hazards in local area	Yes	USGS
Emergency manager	Yes	Fire/Emergency Services Manager
Grant writers	Yes	Fire/PW/Parks/ECD/Consultant



**Table 20-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes City Manager's Office
Do you have personnel skilled or trained in website development?	No each Dept. has trained person who can update the website IT is lead
Do you have hazard mitigation information available on your website? • If yes, briefly describe.	Yes Fire Dept. Page
Do you use social media for hazard mitigation education and outreach? • If yes, briefly describe.	Yes Fire/PD/PW/Parks/City use of Social Media
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, briefly describe.	No
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, briefly describe.	Yes City Cable Channel/CERT
Do you have any established warning systems for hazard events? • If yes, briefly describe.	Yes SMC Alert, Social Media Sites, Twitter, FB, ZoneHaven

**Table 20-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	PW/Engineering
Who is your floodplain administrator? (department/position)	PW/Director & City Engineer
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	1/14/2009
Does your floodplain management program meet or exceed minimum requirements? • If exceeds, in what ways?	Meets
When was the most recent Community Assistance Visit or Community Assistance Contact?	8/22/2014
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state what they are.	No
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what they are.	No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If no, state why.	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Does your jurisdiction participate in the Community Rating System (CRS)? • If yes, is your jurisdiction interested in improving its CRS Classification? • If no, is your jurisdiction interested in joining the CRS program?	No Yes
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> • What is the insurance in force? • What is the premium in force?	206 \$78,947,900 \$323,905
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> • What were the total payments for losses?	78 \$3,427,156

a. According to FEMA statistics as of March 31, 2021

**Table 20-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608173262	N/A
DUNS#	Yes	004952263	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	Yes	Active	Ongoing
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 20-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
<b>Jurisdiction-level understanding of potential climate change impacts</b> Comment: Incorporate climate change adaptation into relevant local and regional plans and projects.	Medium
<b>Jurisdiction-level monitoring of climate change impacts</b> Comment: Establish an ongoing monitoring program to track local and regional climate impacts and adaptation strategy effectiveness.	Low
<b>Technical resources to assess proposed strategies for feasibility and externalities</b> Comment: Identify and pursue new sources of funding for mitigation and adaptation activities	Low
<b>Jurisdiction-level capacity for development of greenhouse gas emissions inventory</b> Comment: Ask local employers and business associations to participate in local efforts to address climate change and natural hazard risk reduction.	Medium
<b>Capital planning and land use decisions informed by potential climate impacts</b> Comment: Develop coordinated plans for mitigating future flood, landslide, and related impacts through concurrent adoption of updated general plan safety elements and local hazard mitigation plans.	Medium
<b>Participation in regional groups addressing climate risks</b> Comment: Incorporate climate change adaptation into relevant local and regional plans and projects.	Medium
<b>Implementation Capacity</b>	
<b>Clear authority/mandate to consider climate change impacts during public decision-making processes</b> Comment: Establish a climate change adaptation and hazard mitigation public outreach and education program.	Low
<b>Identified strategies for greenhouse gas mitigation efforts</b> Comment: Identify and pursue new sources of funding for mitigation and adaptation activities	Low
<b>Identified strategies for adaptation to impacts</b> Comment: Use performance metrics and data to evaluate and monitor the impacts of climate change and natural hazard risk reduction strategies on public health and social equity.	Low
<b>Champions for climate action in local government departments</b> Comment: Hire new staff or provide training to current staff to ensure an adequate level of administrative and technical capability to pursue mitigation and adaptation activities.	Medium
<b>Political support for implementing climate change adaptation strategies</b> Comment: Hire new staff or provide training to current staff to ensure an adequate level of administrative and technical capability to pursue mitigation and adaptation activities.	Medium
<b>Financial resources devoted to climate change adaptation</b> Comment: Identify and pursue new sources of funding for mitigation and adaptation activities.	Medium
<b>Local authority over sectors likely to be negative impacted</b> Comment: Develop coordinated plans for mitigating future flood, landslide, and related impacts through concurrent adoption of updated general plan safety elements and local hazard mitigation plans.	Medium



Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk Comment: Establish a climate change adaptation and hazard mitigation public outreach and education program.	Low
Local residents support of adaptation efforts Comment: Increase participation of low-income, immigrant, non-English-speaking, racially and ethnically diverse, and special-needs residents in planning and implementation.	Unsure
Local residents' capacity to adapt to climate impacts Comment: Establish an ongoing monitoring program to track local and regional climate impacts and adaptation strategy effectiveness.	Unsure
Local economy current capacity to adapt to climate impacts Comment: Increase participation of low-income, immigrant, non-English-speaking, racially and ethnically diverse, and special-needs residents in planning and implementation.	Medium
Local ecosystems capacity to adapt to climate impacts Comment: Establish an ongoing monitoring program to track local and regional climate impacts and adaptation strategy effectiveness.	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 20.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 20.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **City General Plan**, provides guidance and supports the LHMP actions and efforts to acquire grant funding or other financing opportunities as well as land use or redevelopment
- **Smoke Alarm Program**, Our Fire department engine companies install fire smoke alarms in an existing dwelling as needed upon discovery during incident calls or public calls to schedule installation. Providing a Safer City to live in.
- **City’s Emergency Operations Plan 2007 (EOP)** provides mitigation improvements, grant opportunities and guidance after a disaster

### 20.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **City’s Emergency Operations Plan (EOP)** to be Revised. Provides grant opportunities and guidance after a disaster

- **Pedestrian Master Plan** can provide grant opportunities and guidance and reduce risk
- **Sea Level Rise (County Master Plan)** Impact on Critical Infrastructure such as City’s Water Quality Control Plant
- **City 2040 General Plan**, (Currently undergoing revision) provides guidance and supports the LHMP actions and efforts to acquire grant funding or other financing opportunities as well as land use or redevelopment. All chapters of the existing General Plan, except for the Housing Element, will be comprehensively updated.
- **ZoneHaven Evacuation Platform**, Master Plan for evacuations within San Mateo County, County Guidelines currently in the planning stages.
- **Debris Removal Plan**, Currently in the Planning Stages for Locals of San Mateo County, hazard mitigation,
- **Environmental Impact Report (EIR)** currently being revised, An Environmental Impact Report will be prepared, including the analysis and disclosure of the potential impacts of the General Plan on the environment. This process is required by the State’s California Environmental Quality Act (CEQA).
- **Climate Action Plan (CAP)** currently being revised, including the vision for climate action, quantitative goals and tracking metrics, recent accomplishments and implementation actions related to climate and sustainability efforts, and programs/actions that reduce greenhouse gas emissions and increase community resiliency.
- **Zoning Code** currently being revised, to streamline implementation of the General Plan, the City’s Municipal Zoning Code will be updated in parallel.

## 20.6 RISK ASSESSMENT

### 20.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 20-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 20-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Drought	N/A	July/August 2021	Unknown
Severe Weather/Heat	N/A	August 20, 2020	Unknown
Severe Weather/Lightning	N/A	August 16-18	Unknown
Wildfire/Diamond Fire	N/A	October 16 2020	Unknown
Severe Weather/Flood	N/A	12/11/2015	\$3,598,050
Wildfire (San Bruno Mtn. located in SSF)		8/2002	Unknown
Severe Storm(s)	DR-1646	6/5/2006	Unknown
Severe Storm(s)	DR-1628	2/3/2006	Unknown
Severe Weather-Tornado	N/A	3/20/2005	Unknown
Severe Storm(s)	DR-1046	3/12/1995	Unknown
Severe Storm(s)	DR-1044	1/10/1995	Unknown
Earthquake	DR-845	10/18/1989	Unknown



## 20.6.2 Hazard Risk Ranking

Table 20-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 20-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	117	High
2	Earthquake	78	High
3	Sea Level Rise/Climate Change	72	High
4	Flood	54	High
5	Severe Weather	24	Medium
6	Wildfire	0	Medium
7	Drought	9	Low
8	Tsunami	3	Low
9	Dam Failure	0	Low

\*Wildfire risk was increased based on recent local wildfires in the City on Sign Hill and San Bruno Mountain. The mountain and hill area in the city are more vulnerable to this hazard.

## 20.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

### Repetitive Loss Properties

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 1
- Number of FEMA-identified Severe-Repetitive-Loss Properties: 1
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

### Other Noted Vulnerabilities

No jurisdiction-specific issues were identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources.

## 20.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 20-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 20-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SSF-1</b> Implement Colma Creek flood control improvement measures by raising flood walls to mitigate overflow along areas of the canal</p> <p><b>Comment:</b></p>			✓	SSF-13
<p><b>Action SSF 2</b> Initiate storm drain improvements with the goal of mitigating flood damage to reduce or eliminate claims</p> <p><b>Comment:</b></p>			✓	SSF-12
<p><b>Action SSF 3</b> Construct a tide gate to mitigate flood waters from SF Bay</p> <p><b>Comment:</b></p>			✓	SSF-12
<p><b>Action SSF 4</b> Identify critical City-owned bridges and roads that are affected by flooding and are in need of seismic retrofitting</p> <p><b>Comment:</b></p>			✓	SSF-7
<p><b>Action SSF 5</b> Integrate planning elements of the Hazard Mitigation Plan into the General Plan, Emergency Operations Plan (EOP), Parks Master Plan and Facility Master Plan; conduct ongoing maintenance of these plans (AB2140)</p> <p><b>Comment:</b></p>			✓	SSF-8
<p><b>Action SSF 6</b> Develop an Oyster Point Landfill Master Plan to mitigate flood damage and reduce or eliminate claims</p> <p><b>Comment:</b></p>			✓	SSF-17
<p><b>Action SSF 7</b> Conduct an inventory of building types (i.e., soft-story commercial, residential, or industrial structures) for all City-owned and privately owned buildings as a first step to establishing voluntary or mandatory programs for retrofitting these buildings</p> <p><b>Comment:</b> Completed in 9/2019</p>	✓			
<p><b>Action SSF 8</b> Due to building age and condition, construct a new City Center to house the Library, PD Station, Fire Station, and Parks &amp; Rec.</p> <p><b>Comment:</b></p>			✓	SSF-11
<p><b>Action SSF 9</b> Implement Sign Hill wildfire mitigation measures (i.e., removal of dead trees due to drought and disease)</p> <p><b>Comment:</b></p>			✓	SSF-14
<p><b>Action SSF 10</b> Retrofit, acquire, or relocate the identified severe repetitive loss property within SSF.</p> <p><b>Comment:</b> Completed 10/2019</p>	✓			
<p><b>Action SSF 11</b> Construction to the current Emergency Operations Center (EOC) to include a 2nd floor. Improving emergency management and preparedness capabilities as well as continuity of operations and continuity of government caused by any hazard.</p> <p><b>Comment:</b></p>			✓	SSF-18
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b></p>			✓	SSF-21
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b></p>			✓	SSF-22



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action G-3</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts.</p> <p><b>Comment:</b></p>			✓	SSF-23
<p><b>Action G-4</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b></p>			✓	SSF-5
<p><b>Action G-5</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b></p>			✓	SSF-8
<p><b>Action G-6</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><b>Comment:</b></p>			✓	SSF-24
<p><b>Action G-7</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b></p>			✓	SSF-1
<p><b>Action G-8</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b></p>			✓	SSF-12

## 20.8 HAZARD MITIGATION ACTION PLAN

Table 20-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 20-15 identifies the priority for each action. Table 20-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 20-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SSF-1</b> —Support the County-wide and City-wide initiatives identified in Volume I of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami						
New & Existing	1, 2, 3, 5, 7,8	SSF	County	Low	General Fund	Ongoing
<b>Action SSF-2</b> — Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe Weather, Wildfire, Drought, Tsunami						
New & Existing	1, 2, 3, 5, 7,8	SSF	County	Low	General Fund	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SSF-3</b> —Identify and pursue strategies to incorporate earthquake, tsunami and wildfire hazards into project planning, design, and implementation.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Tsunami						
New & Existing	1, 5, 6, 7, 8	SSF FSLRRD	County	High	General Fund	Ongoing
<b>Action SSF-4</b> —Update and enhance existing water-related climate hazard mapping (including flood, sea level rise, coastal erosion, stormwater, and groundwater emergence) to better reflect current conditions and most current long-term future conditions.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Flood, Severe Weather						
New & Existing	1, 5, 6, 7, 8,9	SSF	FSLRRD, County, C/CAG	Low	Tax-Funded Flood Zones, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action SSF-5</b> —Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Flood, Severe Weather, Tsunami						
New & Existing	1, 5, 6, 7, 8	SSF	FSLRRD, County	Medium	General Fund	Short-term
<b>Action FSL-6</b> — Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Flood, Severe Weather						
New & Existing	1, 2, 5, 6, 7, 8, 9, 13, 14	SSF	FSLRRD, County	Low	General Fund, Private Developers, City Capital Project Funding	Ongoing
<b>Action SSF-7</b> —Identify critical City-owned bridges and roads that are affected by flooding and are in need of seismic retrofitting						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Flood, Earthquake, Severe Weather						
New & Existing	1, 3, 4, 5, 6, 7, 8,11	SSF	County, U.S. Army Corps of Engineers, Caltrans	High	Tax-Funded Flood Zones, Grant Funding	Ongoing
<b>Action SSF-8</b> —Integrate planning elements of the Hazard Mitigation Plan into the General Plan, Emergency Operations Plan (EOP), Parks Master Plan and Facility Master Plan; conduct ongoing maintenance of these plans (AB2140)						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Earthquake, Flood, Severe Weather, Wildfire, Drought, Tsunami						
New & Existing	All	SSF	N/A	Medium	General Fund	Ongoing
<b>Action SSF-9</b> —Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including pump stations, generators, tide gates, stream gages, open channel, and culvert/pipeline infrastructure.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Flood, Severe Weather						
New & Existing	2, 6, 7,8	SSF	FSLRRD, County, San Mateo Resource Conservation District	Medium	Tax-Funded Flood Zones, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action SSF-10</b> —Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Flood, Severe Weather, Drought						
New & Existing	2, 6, 7, 8, 14	SSF	County, C/CAG*, FSLRRD, San Mateo Resource Conservation District	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, - EPA Grants (Section 319 grants, CWSRF), City Capital Project Funding	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SSF-11</b> —Due to building age and condition, construct a new City Center to house the Library, PD Station, Fire Station, and Parks & Rec.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe Weather, Drought, Earthquake						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	SSF	County, State	High	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, City Capital Project Funding	Ongoing
<b>Action SSF-12</b> —Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to FSLRRD Flood Zone channels and infrastructure.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe Weather						
New & Existing	1, 2, 4, 6, 7,8	SSF	FSLRRD, County	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding-FEMA HMA (BRIC, FMA and HMGP), City Capital Project Funding	Ongoing
<b>Action SSF-13</b> —Plan, design, and implement long-term resilience to sea level rise, extreme storms, and coastal erosion for culverts, roadways, and bridges in the vicinity of other flood protection projects, including assets identified in the Caltrans District 4 Adaptation Priorities Report.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Landslide/Mass Movements, Flood, Severe Weather						
New & Existing	2, 4, 6, 7, 8,13	SSF	Caltrans, County, FSLRRD, San Mateo Resource Conservation District	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action SSF-14</b> —Implement Sign Hill wildfire mitigation measures (i.e., removal of dead trees due to drought and disease)						
<i>Hazards Mitigated:</i> Wildfire, Landslide/Mass Movements, Severe Weather, Drought						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 10, 11,	SSF		Medium	Grant Funding-FEMA HMA (BRIC, FMA, FMAG and HMGP)	Ongoing
<b>Action SSF-15</b> —Identify and pursue strategies to enhance recycled water infrastructure planning/implementation in the vicinity of FSLRRD projects.						
<i>Hazards Mitigated:</i> Drought						
New & Existing	1, 6, 7,8	SSF	County FSLRRD, San Mateo Resource Conservation District	Medium	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action SSF-16</b> —Improve community response to flood emergencies in various ways, including but not limited to: - Upgrade and expand the countywide flood early warning system - Conduct community flood preparation, education, and recovery outreach.						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Flood, Severe Weather						
New & Existing	2, 3, 7, 8, 9, 10, 11	SSF	County, FSLRRD	Low	Grant Funding-EMPG and HSGP. National Weather Service grants for flood warning systems	Short-term
<b>Action SSF-17</b> —Develop Emergency Action Plans for three multi-jurisdictional watersheds/Oyster Point Landfill area: 1) Bayfront Canal and Atherton Channel 2) Belmont Creek 3) Navigable Slough, Colma Creek, and San Bruno Creek						
<i>Hazards Mitigated:</i> Sea Level Rise/Climate Change, Flood, Severe Weather						
Existing	3, 4, 7, 8, 9,11	SSF	FSLRRD,	Low	Grant Funding-EMPG and HSGP	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action SSF-18</b>—Construction to the current Emergency Operations Center (EOC) to include a 2nd floor. Improving emergency management and preparedness capabilities as well as continuity of operations and continuity of government caused by any hazard.</p> <p><u>Hazards Mitigated:</u> Climate Change, Landslide/Mass Movements, Earthquake, Flood, Severe Weather, Wildfire, Drought, Tsunami</p>						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	SSF	County, State	High	Grant Funding-FEMA EOC grants, EMPG and HSGP	Long-term
<p><b>Action SSF-19</b>—Advance long-term resilience to sea level rise and extreme storms for the communities and critical assets adjacent to Colma Creek, San Bruno Creek, Navigable Slough, and nearby areas of the shoreline, as well as provide environmental, recreation, community/connectivity enhancements where possible.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather</p>						
New & Existing	6, 7, 8,14	SSF	FSLRRD	Low	Tax-Funded Flood Zones, Grant Funding-FEMA HMA (BRIC, FMA and HMGP), USACE CAP	Ongoing
<p><b>Action SSF-20</b>—Continue routine maintenance responsibilities of the Colma Creek Channel through collaborative agreements with neighboring jurisdictions so that the Channel operates as designed.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather</p>						
Existing	2, 7, 8,10	SSF	FSLRRD, County	Low	Tax-Funded Flood Zones	Ongoing
<p><b>Action SSF-21</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather, Earthquake</p>						
New & Existing	1, 3, 4, 5, 6, 7, 11	SSF	County, State	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<p><b>Action SSF-22</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and Storm Ready</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather, Drought</p>						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	SSF		Low	General Fund	Ongoing
<p><b>Action SSF-23</b>—Maintain good standing under the National Flood Insurance Program by implementing programs that meet or exceed the minimum NFIP requirements. Such programs include enforcing an adopted flood damage prevention ordinance, participating in floodplain mapping updates, and providing public assistance and information on floodplain requirements and impacts</p> <p><u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Flood, Severe Weather</p>						
New & Existing	6, 7, 8,14	SSF		Medium	General Fund	Ongoing
<p><b>Action SSF-24</b>—Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.</p> <p><u>Hazards Mitigated:</u> Earthquake</p>						
New & Existing	2, 3, 4, 5, 6, 7, 8, 10, 11,	SSF		Medium	Grant Funding--FEMA HMA (BRIC, FMA and HMGP), City Capital Project Funding	Long-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.



**Table 20-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	6	Medium	Low	Yes	Yes	Yes	High	Medium	Medium
2	6	Medium	Low	Yes	No	Yes	High	Low	Medium
3	5	High	High	Yes	Yes	No	Medium	High	Medium
4	6	Medium	Low	Yes	Yes	Yes	High	Medium	Medium
5	5	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
6	9	High	Low	Yes	Yes	Yes	High	High	Medium
7	8	High	High	Yes	Yes	No	Medium	High	Medium
8	1	Medium	Medium	Yes	Yes	Yes	High	Medium	High
9	4	High	Medium	Yes	Yes	Yes	High	High	Medium
10	5	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
11	14	High	High	Yes	Yes	No	High	High	High
12	6	High	Medium	Yes	Yes	Yes	High	High	Medium
13	6	High	Medium	Yes	Yes	Yes	High	High	Medium
14	11	High	Medium	Yes	Yes	Yes	High	High	Medium
15	4	Medium	Medium	Yes	Yes	Yes	High	Medium	Low
16	7	High	Low	Yes	Yes	Yes	High	Low	High
17	6	High	Low	Yes	Yes	Yes	High	Low	High
18	14	High	High	Yes	Yes	No	Medium	High	Medium
19	4	High	Low	Yes	Yes	Yes	High	High	Medium
20	4	High	Low	Yes	Yes	Yes	High	High	Medium
21	7	Medium	High	Yes	Yes	No	Medium	Medium	Medium
22	14	Medium	Low	Yes	No	Yes	Low	Low	Medium
23	4	High	Medium	Yes	Yes	Yes	High	High	Medium
24	9	High	Medium	Yes	Yes	No	High	High	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 20-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Landslide/Mass Movements	1,8	1, 10, 18	1	14	18	10,13	1, 10, 13	1, 2, 4,8
Earthquake	1, 3, 8	1, 7, 11, 18, 21	1		18		1	1, 2, 8,24
Sea Level Rise/Climate Change	1, 6, 8, 17, 22, 23	1, 7, 9, 10, 11, 18, 21	1,16	19	16,18	9, 10, 12, 13, 20	1, 10, 13, 19, 22	1, 2, 4, 5, 6, 8, 17, 19, 20, 22
Flood	1, 6, 8, 17, 22, 23	1, 7, 9, 10, 11, 18, 21	1,16	19	16,18	9, 10, 12, 13, 20	1, 10, 13, 19, 22	1, 2, 4, 5, 6, 8, 17, 19, 20, 22

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>Medium-Risk Hazards</b>								
Severe Weather	1, 6, 8, 17, 22, 23	1, 7, 9, 10, 11, 18, 21	1,16	14,19	16,18	9, 10, 12, 13, 20	1, 10, 13, 19, 22	1, 2, 4, 5, 6, 8, 17, 19, 20, 22
Wildfire	1, 3, 8	1,18	1	14			1	1, 2, 8
<b>Low-Risk Hazards</b>								
Drought	8	10, 11, 18	1	14,15		15	1, 15, 22	1, 2, 8, 15, 22
Tsunami	1, 3, 8	1,18	1				1	1, 2, 5,8
Dam Failure	1	1	1				1	1,219

a. See the introduction to this volume for explanation of mitigation types.

## 20.9 PUBLIC OUTREACH

Table 20-17 lists public outreach activities for this jurisdiction.

Local Outreach Activity	Date	Number of People Involved
General Plan Update Meetings	2019-Current	Thousands
Social Media posts	March/April 2021	
SSF CERT Meeting	March 2021	97
Social Media Posts	June 2021	

## 20.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **City of South San Francisco Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **City of South San Francisco Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- **City of South San Francisco General Plan (Current)**
- **City of South San Francisco General Plan (2040 version Currently being revised)**
- **City of South San Francisco Climate Action Plan**
- **South San Francisco Pedestrian Master Plan**
- **City of South San Francisco Citizen Participation Plan**
- **City of South San Francisco Urban Forest Master Plan**
- **SSF Commission on Racial and Social Equity DRAFT Action Plan Outline: Goals, Strategies and Actions**



- **South San Francisco Green Infrastructure Plan**
- **SSF General Plan Phase 1 Outreach Key Themes**

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

# South San Francisco

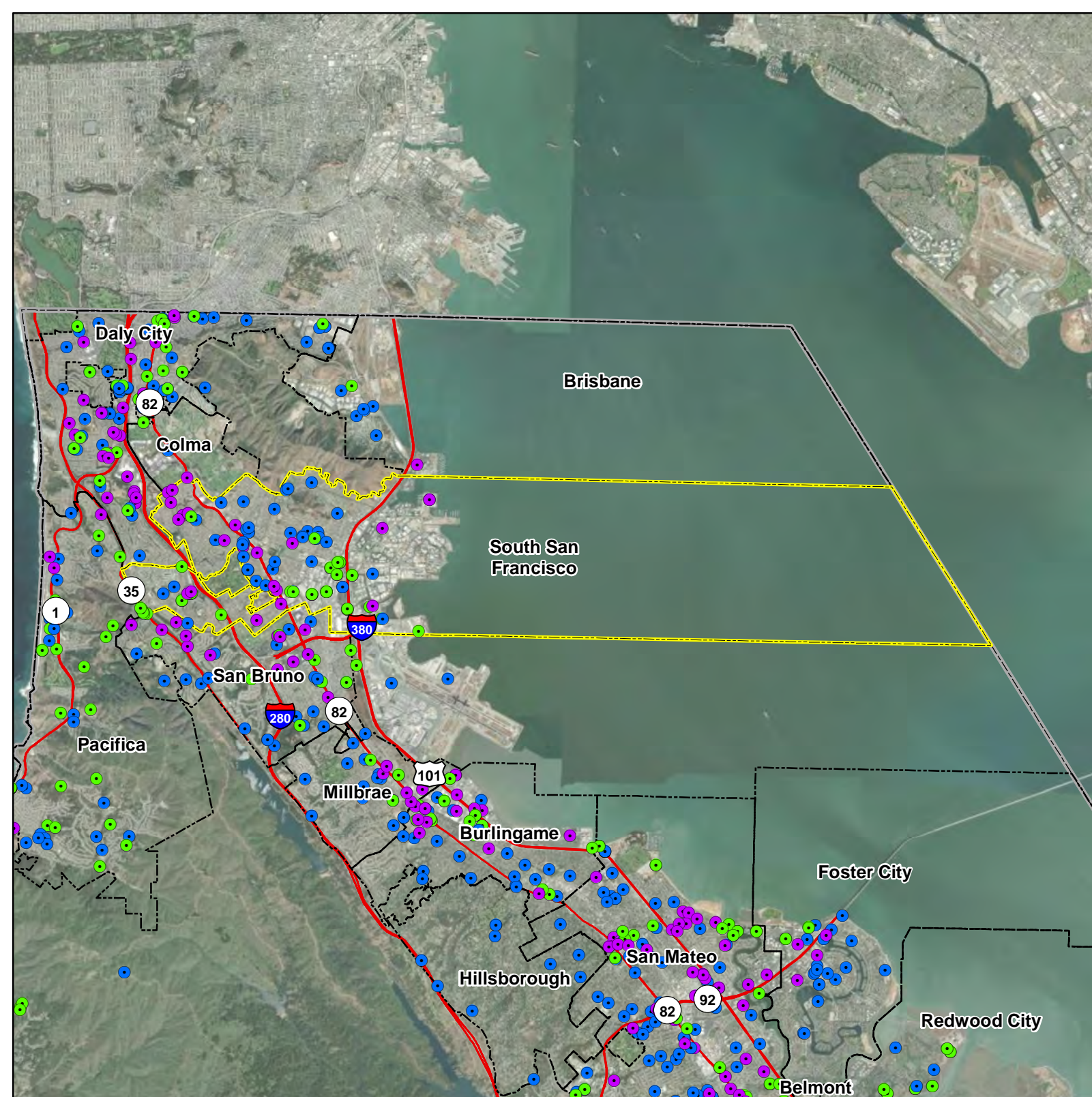
## Critical Facilities, 1 of 2

- Food, Water, Shelter
- Health and Medical
- Safety and Security
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD



0 0.75 1.5 3 Miles





# South San Francisco

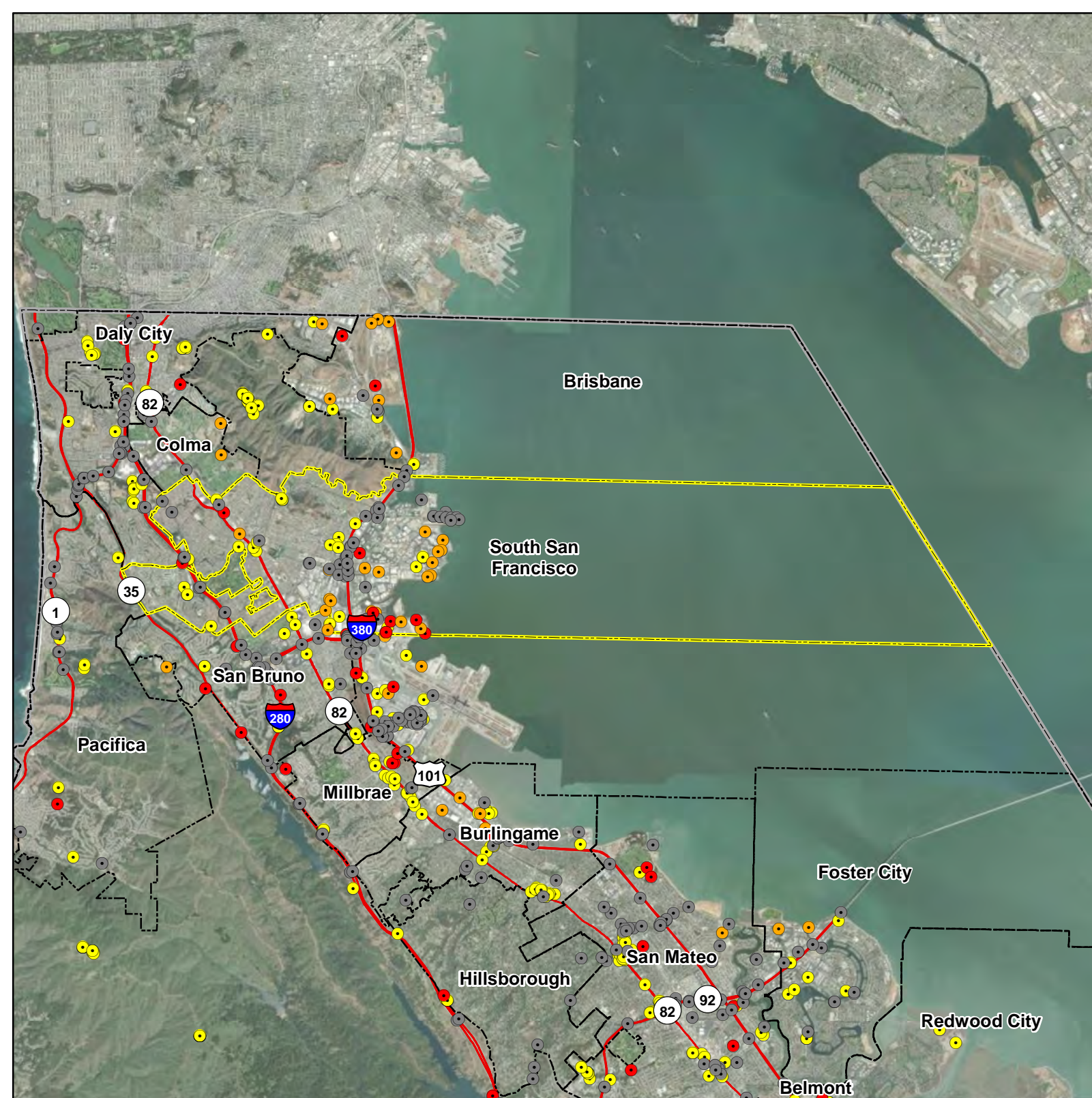
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap, San Mateo Co., DHS HIFLD









0 0.75 1.5 3 Miles





# South San Francisco

## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CA DWR










0 0.75 1.5 3 Miles





# South San Francisco

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS



0 0.75 1.5 3  
Miles





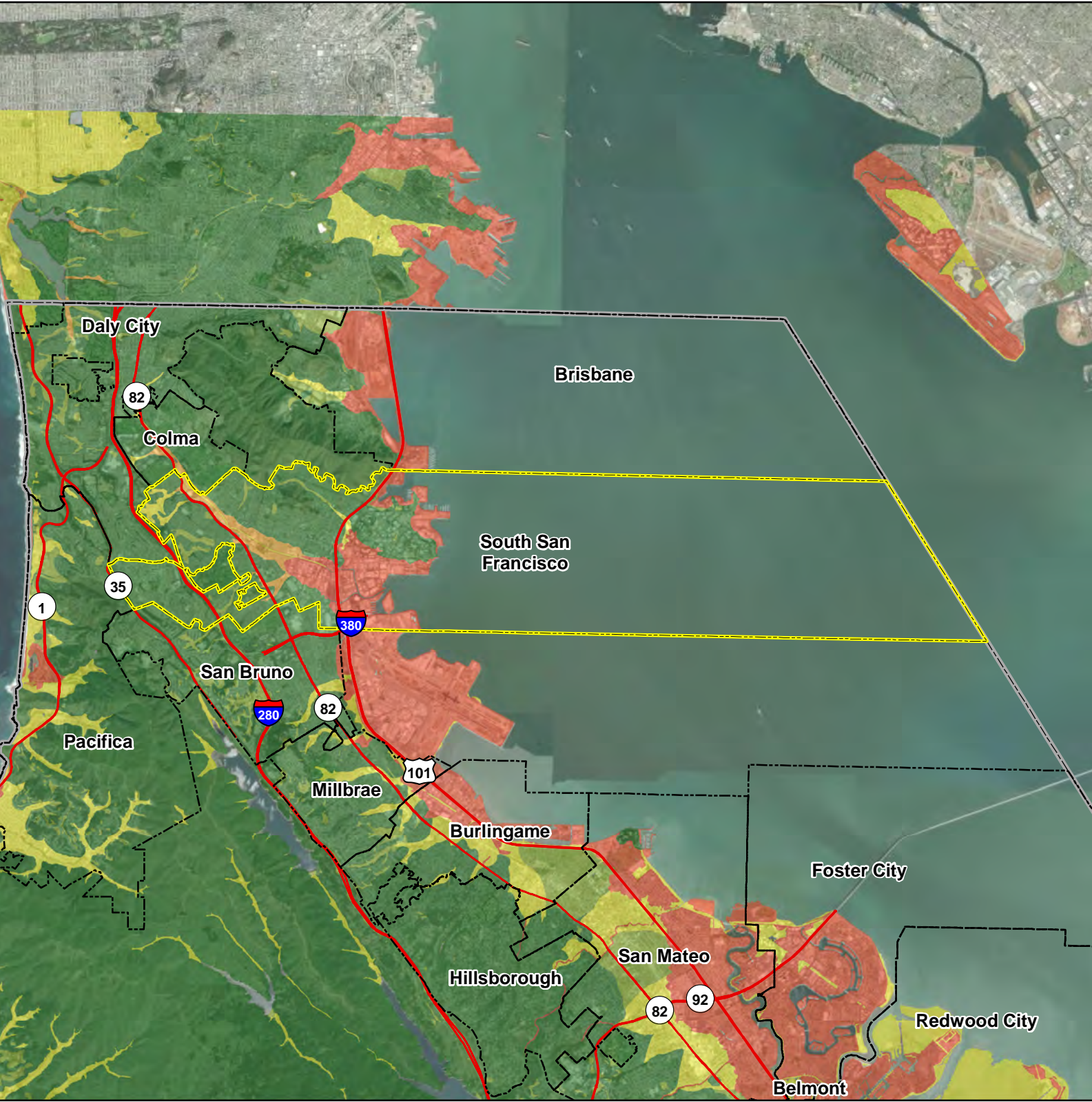
# South San Francisco Liquefaction Susceptibility

- Very Low
- Low
- Moderate
- High
- Very High
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Data Sources: ESRI Basemap,  
San Mateo Co., ABAG (USGS)



0 0.75 1.5 3 Miles





# South San Francisco

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

 V (Moderate/Very Light)

 VI (Strong/Light)

 Selected City

 Incorporated Cities


 County Boundary

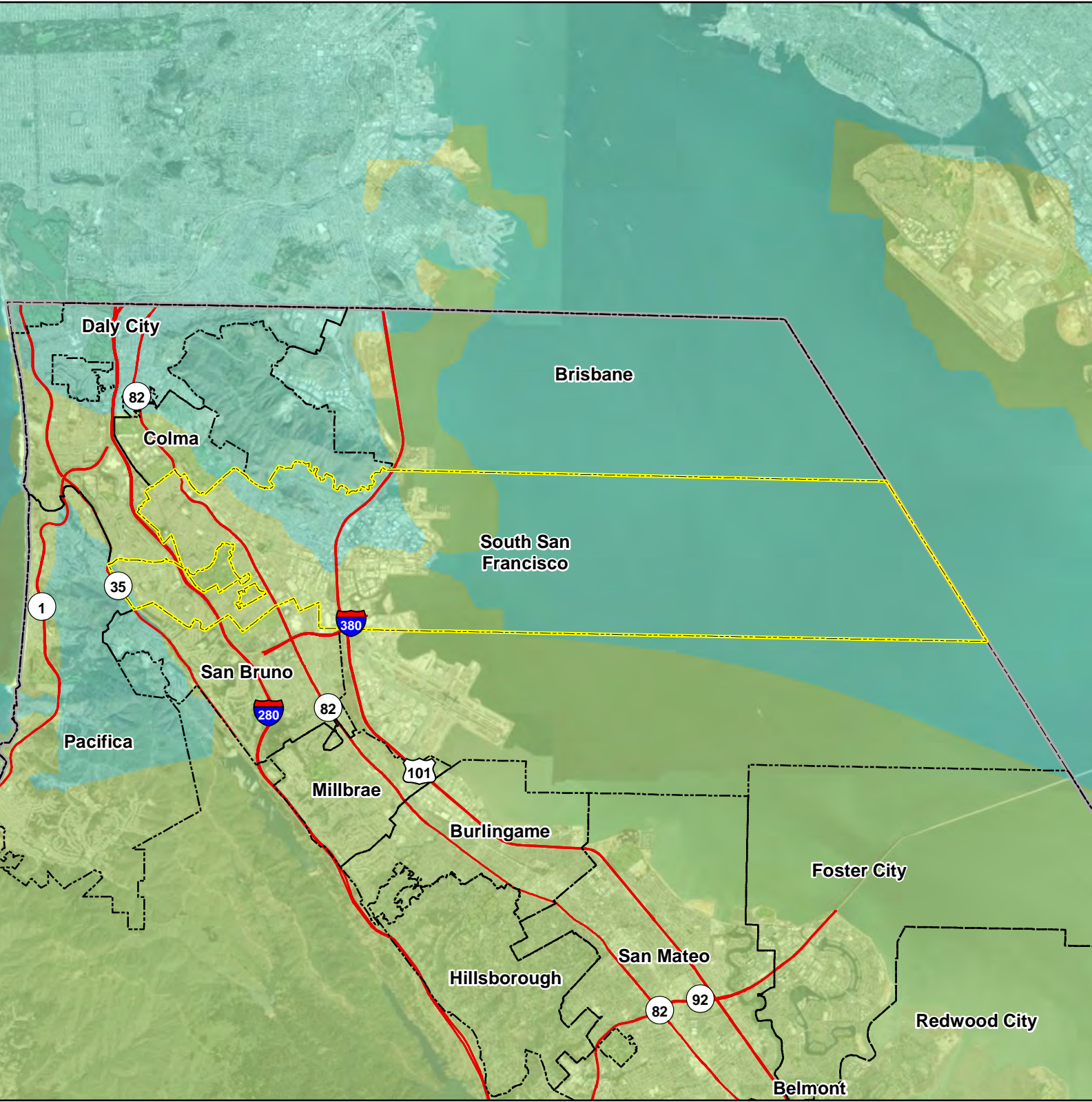
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.75 1.5 3  
 Miles













# South San Francisco

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

-  V (Moderate/Very Light)
-  VI (Strong/Light)
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.75 1.5 3 Miles





# South San Francisco

## 100-Year Probabilistic Earthquake Scenario

### Mercalli Intensity Scale

-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.75 1.5 3 Miles





# South San Francisco

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)
- VIII (Severe/Moderate-Heavy)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.75 1.5 3 Miles





# South San Francisco

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

- VI (Strong/Light)
- VII (Very Strong/Moderate)
- VIII (Severe/Moderate-Heavy)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.75 1.5 3 Miles

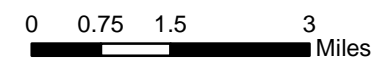




# South San Francisco FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

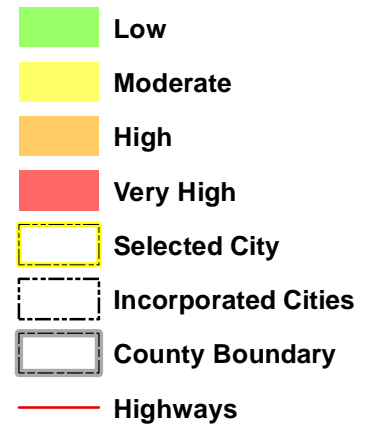
Data Sources: ESRI Basemap,  
San Mateo Co., FEMA



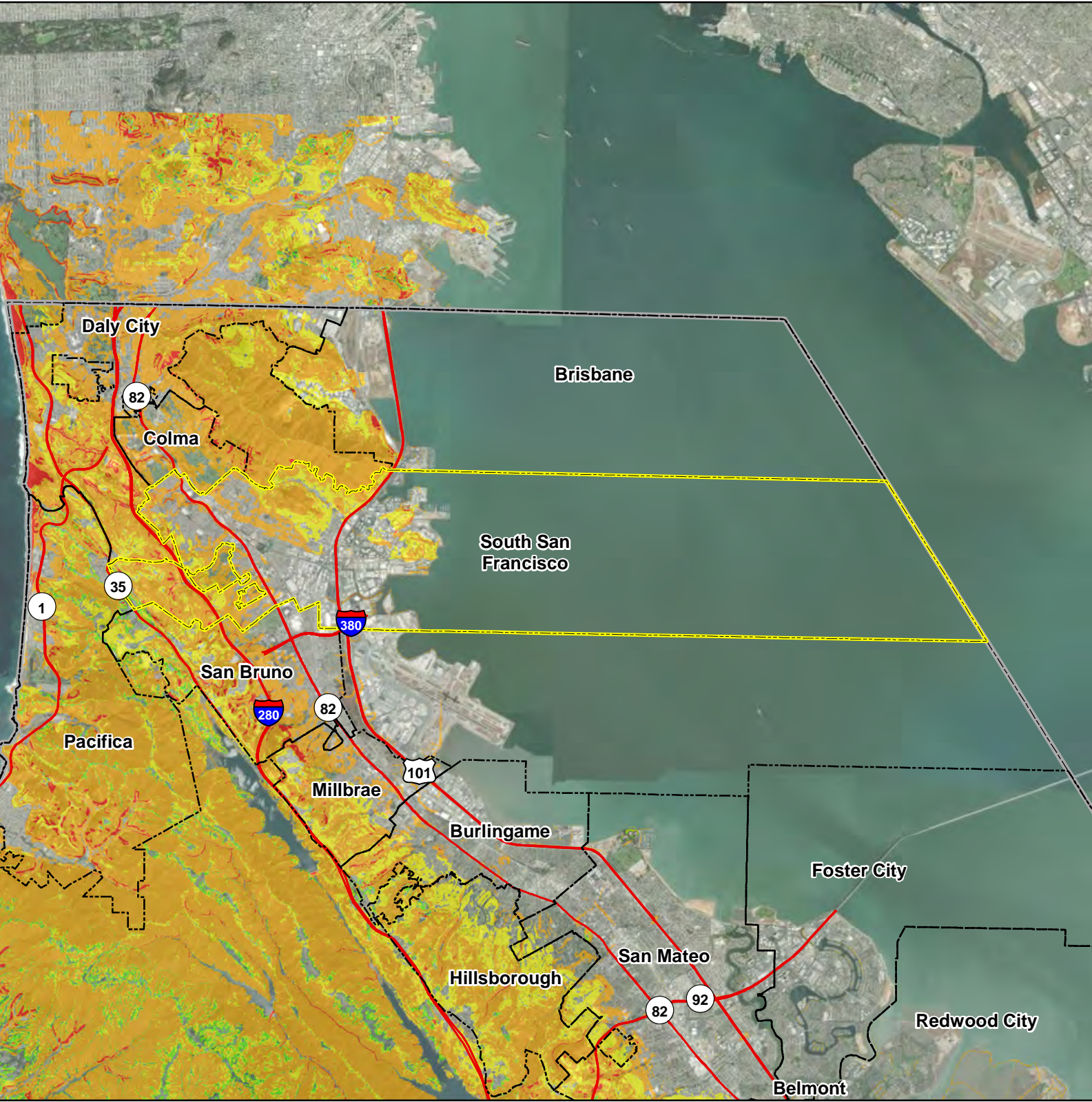
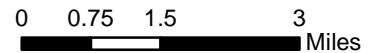


# South San Francisco

## Susceptibility to Deep-Seated Landslides








Data Sources: ESRI Basemap, San Mateo Co., CGS





# South San Francisco

## Sea Level Rise

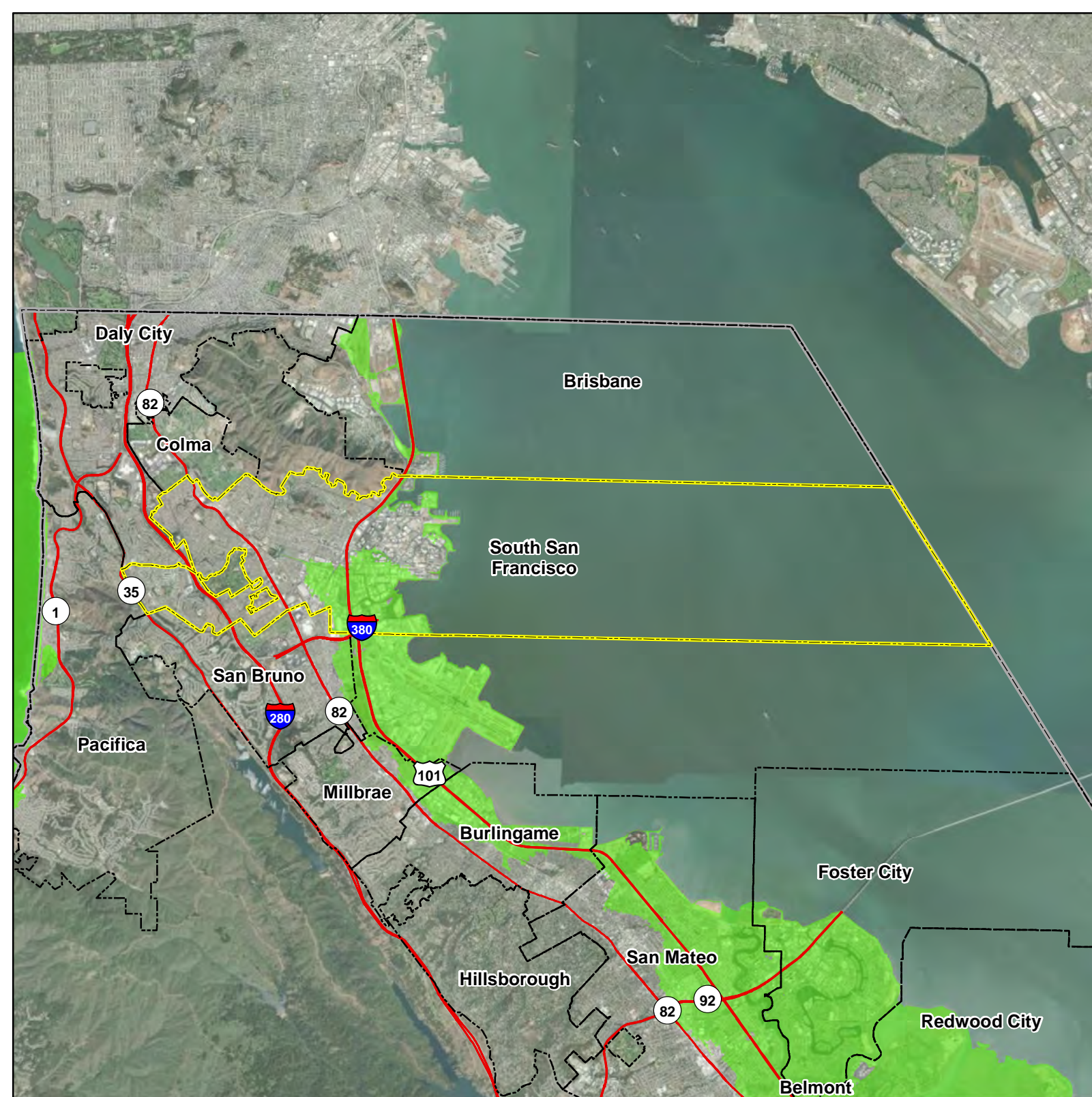
-  Inundation Area
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Inundation areas are a combination of Our Coast Our Future 200cm (6.6 feet) of SLR with 100-year storm for the Pacific Ocean coastline, and Adapting to Rising Tides 108 inches (9 feet) of SLR for the San Francisco Bay coastline.

Data Sources: ESRI Basemap, San Mateo Co., ART, OCOF








0 0.75 1.5 3 Miles





# South San Francisco

## Tsunami Hazard Areas

-  Hazard Areas
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.75 1.5 3 Miles





# South San Francisco

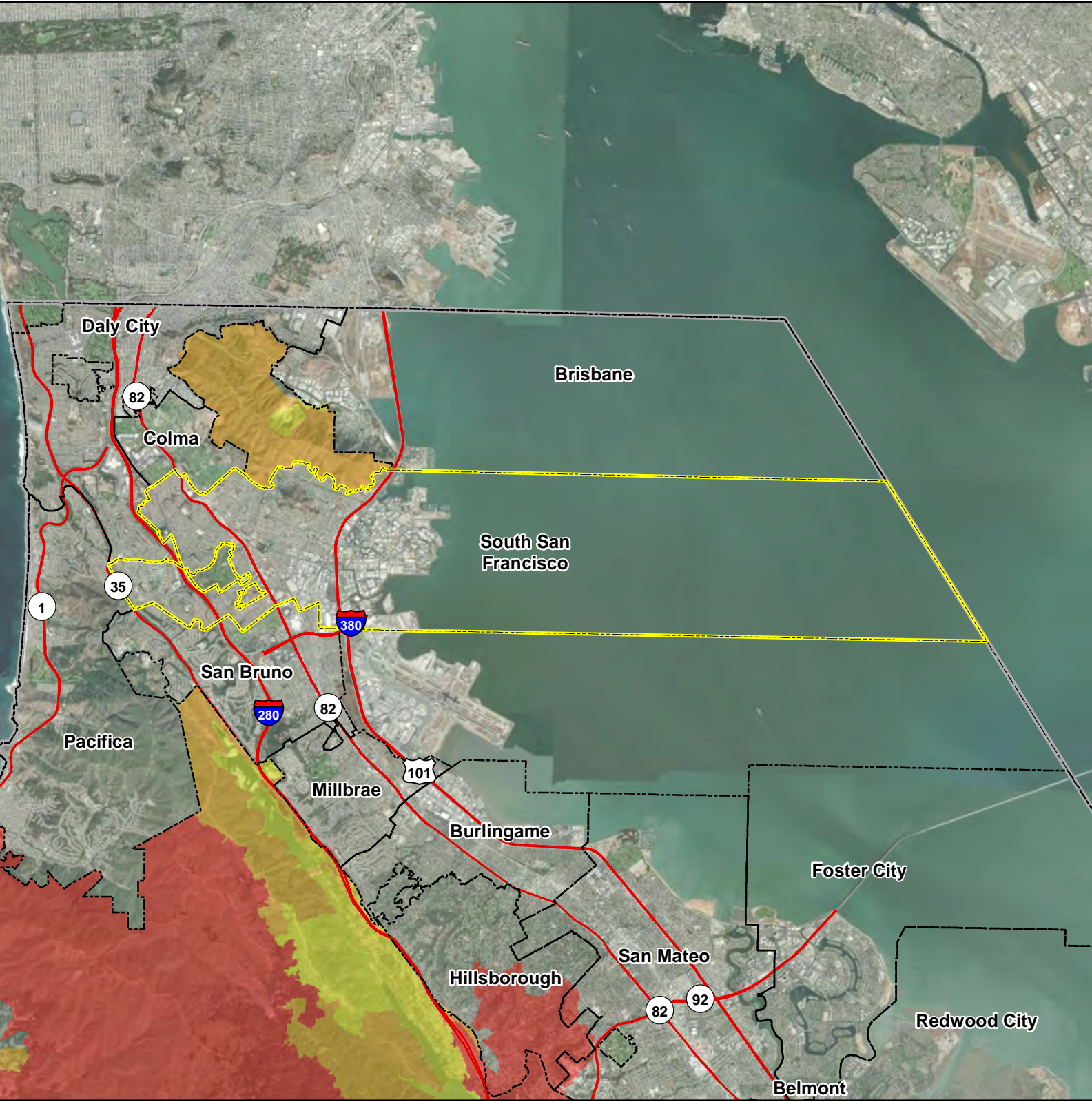
## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., CAL FIRE



0 0.75 1.5 3 Miles





# 21. TOWN OF WOODSIDE

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## 21.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Sean Rose, Public Works Director  
2955 Woodside Road  
Woodside, CA 94062  
605-851-6790  
srose@woodsidetown.org

### Alternate Point of Contact

Sindhi Mekala, Senior Engineer  
2955 Woodside Road  
Woodside, CA 94062  
650-851-6790  
smekala@woodsidetown.org

This annex was developed by the Town’s local mitigation planning team, whose members are listed in Table 21-1.

**Table 21-1. Local Mitigation Planning Team Members**

Name	Title
Sean Rose	Public Works Director / Town Engineer
Joanne Kurz	Building Official
Sindhi Mekala	Senior Engineer
Kevin Bryant	Town Manager

## 21.2 JURISDICTION PROFILE

### 21.2.1 Location and Features

The Town of Woodside is located on the San Francisco Peninsula, midway between San Jose and San Francisco, in San Mateo County. The town has a total area of approximately 11.7 square miles. Woodside has 18 full time employees with an annual operating budget of approximately \$8 million. The Town owns and operates three buildings, Town Hall and Independence Hall, and a network of roadway and trail infrastructure. The Town also owns the building that houses the Woodside library which is operated by the San Mateo County Library System Woodside Library.

As is true of most of the California coastal areas, weather in Woodside is usually mild during most of the year. Summers are dry and can be hot; winter temperatures rarely dip much below freezing. Average winter temperatures vary from 36 to 60°F and average summer temperatures from 51 to 88°F. Annual rainfall averages 30 inches and falls on an average of 61 days. The record maximum temperature was 114°F on July 22, 2006, and the record minimum temperature was 17°F on February 6, 1989. Hills and mountains between Woodside and the Pacific coast make fog much less prevalent than in nearby San Francisco. As well, during the summer, Woodside’s climate is remarkably hotter than that of San Francisco.

## 21.2.2 History

The Woodside area was originally home to natives belonging to the Ohlone tribe. In 1769, led by Gaspar de Portolá, Spanish explorers searching for San Francisco Bay camped at a site near Woodside.

Woodside is located on the Rancho Cañada de Raymundo Mexican Land grant. Woodside is said to be the oldest English-speaking settlement in the southern part of the San Francisco Peninsula. The first English-speaking settlers arrived in the early 19th century to log the rich stands of redwoods. Charles Brown constructed the first sawmill in Woodside on his Mountain Home Ranch around 1838. His adobe house, built in 1839, still stands today. By mid-century, the Woodside area had a dozen mills producing building materials for a booming San Francisco.

In 1849, during the California Gold Rush, 20-year-old Mathias Alfred Parkhurst purchased 127 acres (0.5 km<sup>2</sup>) of timberland and named it “Woodside”; of course, this name was kept. By the late 19th century, Woodside was home to country estates. The Sequoia Redwood trees in Woodside are currently 3 generation growth. The first generation of the Redwood trees were used to build San Francisco original homes. After the 1906 San Francisco Earthquake, the lumberjacks returned to Woodside to cut the second growth of redwood so they could be used for the rebuilding of San Francisco again.

The Town of Woodside was incorporated in 1956.

## 21.2.3 Governing Body Format

Woodside is a general law Town with a Council-Manager system of government. The Town Council is comprised of seven members who are each elected to represent a geographic district. This provides the Town with public direction from the Town Council and professional administration through the Town Manager. The Town is assisted by a Planning Commission, Architectural Site Review Board, and 11 citizen advisory committees. The Town organization consists of the Planning and Building, Administration and Finance, and Public Works Departments.

The Town’s Council would be responsible for adopting this plan; Town staff will oversee its implementation.

## 21.3 CURRENT TRENDS

### 21.3.1 Population

According to the California Department of Finance, the population of Woodside as of January 2020 was 5,676. Since 2016, the population has grown at an average annual rate of 0.05 percent.

### 21.3.2 Development

Anticipated future development for Woodside is low to moderate, consisting primarily of residential growth. There has been a focus on affordable housing and a push for more accessory dwelling units. Future growth in the City will be managed as identified in the Town’s general plan.

The overwhelming majority of Woodside’s developed land area is dedicated to residential use. The Town is largely built-out in areas with development potential, with a significant portion of the Town’s land area set aside



as permanent open space. Accordingly, most projects reviewed by the Town involve renovation or redevelopment of existing developed parcels including full remodels of obsolete or underutilized sites, or residential infill development on topographically challenging vacant lots. Overall, the level of development activity in Woodside over the past several years has been relatively high due in large part to the overall economic health and activity in the Bay Area region.

Table 21-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 21-2. Recent and Expected Future Development Trends**

Criterion	Response
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	No
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	No
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	No
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	
	2016
	2017
	2018
	2019
2020	
Single Family	N/A
Multi-Family	N/A
Other (commercial, mixed use, etc.)	N/A
Total	3
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: Development in these areas is subject to FEMA restrictions regarding development in Floodplain.</li> <li>• Landslide: We don't separately track number of permits in these areas. Projects get reviewed by Town Geologist, Town Engineer, and Building Official for stability and mitigation.</li> <li>• High Liquefaction Areas: We don't separately track number of permits in these areas. Projects get reviewed by Town Geologist, Town Engineer, and Building Official for stability and mitigation.</li> <li>• Tsunami Inundation Area: N/A</li> <li>• Wildfire Risk Areas: The entirety of the Town is within a Wildfire Risk Area. We implement Fire Code and current Building Code requirements related to Fire Hardening, etc.</li> </ul>
Describe the level of buildout in the jurisdiction, based on your jurisdiction's buildable lands inventory. If no such inventory exists, provide a qualitative description.	The Town is largely built-out in areas with development potential, with a significant portion of the Town's land area set aside as permanent open space

## 21.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 21-3.
- Development and permitting capabilities are presented in Table 21-4.
- An assessment of fiscal capabilities is presented in Table 21-5.
- An assessment of administrative and technical capabilities is presented in Table 21-6.
- An assessment of education and outreach capabilities is presented in Table 21-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 21-8.
- Classifications under various community mitigation programs are presented in Table 21-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 21-10.



**Table 21-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b> <i>Comment: Woodside Municipal Code (WMC) Title XV Chapter 150, Sections 150.01 through 150.99; Effective 1/9/14</i>	Yes	No	Yes	Yes
<b>Zoning Code</b> <i>Comment: WMC Title XV, Chapter 153, Sections 153.001 through 153.999; 3/25/99</i>	Yes	No	Yes	Yes
<b>Subdivisions</b> <i>Comment: WMC Title XV Chapter 152. Sections 152.001 through 152.999; 4/8/82</i>	Yes	No	Yes	Yes
<b>Stormwater Management</b> <i>Comment: WMC Title XV, Chapter 151, Section 151.043; subdivisions subject to WMC Title XV, Chapter 152, Section 152.070. 4/12/84</i>	Yes	No	Yes	Yes
<b>Post-Disaster Recovery</b> <i>Comment:</i>	No	No	No	No
<b>Real Estate Disclosure</b> <i>Comment: CA. State Civil Code 1102 requires full disclosure on Natural hazard Exposure of the sale/re-sale of any and all real property.</i>	No	No	Yes	No
<b>Growth Management</b> <i>Comment: None. Growth in the Town of Woodside is limited by multiple environmental constraints and sewer capacity. Large portions of the Town are zoned for Special Conservation Planning based on the number of these constraints (Zoning Districts SCP-5, SCP-7, and SCP-10).</i>	No	No	No	No
<b>Site Plan Review</b> <i>Comment: WMC Title XV, Chapter 151, Sections 151.01 through 151.77; and Chapter 153, Sections 153.001 through 153.999; 3/25/99</i>	Yes	No	No	Yes
<b>Environmental Protection</b> <i>Comment: WMC Title XV Chapter 153, Section 153.001 through 153.999; Woodside General Plan (2012) Conservation Element; and Residential Design Guidelines (2012; Revised 2016); Compliance with CEQA; and CESA; and Fish and Game Code, etc. 3/25/99</i>	Yes	No	Yes	Yes
<b>Flood Damage Prevention</b> <i>Comment: WMC Title V, Chapter 55, Sections 55.01 through 55.53; the Town enforces FEMA's floodplain administration regulations, which regulate impervious surface coverage and site drainage. 1/22/01</i>	Yes	No	No	Yes
<b>Emergency Management</b> <i>Comment: WMC Title III, Chapter 33, Sections 33.01 through 33.0711/22/01</i>	Yes	No	No	Yes
<b>Climate Change</b> <i>Comment:</i>	No	No	No	Yes
<b>Other</b> <i>Comment:</i>				
<b>Planning Documents</b>				
<b>General Plan</b> <i>Is the plan compliant with Assembly Bill 2140? Yes</i> <i>Comment: The General Plan currently contains a Natural Hazards and Safety Element that addresses various potential hazards facing the Town and policies and action programs to address these hazards. The Natural Hazards and Safety Element describes the natural and man-made disasters that have occurred since a previous general plan. It has a section on 'Acceptable Risk' and includes tables on Risk Classification of Structures, Occupancies and Land Uses, and a Table on the Location of Structures and Land Uses in Relation to Defined Hazard Areas.</i>	Yes	No	No	Yes
<b>Capital Improvement Plan</b> <i>How often is the plan updated? Every 5 years</i> <i>Comment: Reviewed yearly as part of Town's budget process</i>	Yes	No	No	Yes
<b>Disaster Debris Management Plan</b> <i>Comment: Countywide Disaster Debris Management Plan being developed project date May 2022</i>	No	No	No	No

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Floodplain or Watershed Plan <i>Comment:</i>	No	No	No	No
Stormwater Plan <i>Comment: 1978 Storm Drain Master Plan and any subsequent revisions; Town General Plan (2012) Public Utilities Element, includes discussion, policies, and strategies on retaining storm water runoff and utilizing natural drainages.</i>	Yes	No	No	Yes
Urban Water Management Plan <i>Comment: CalWater</i>	N/A	Yes	N/A	N/A
Habitat Conservation Plan <i>Comment: Town of Woodside General Plan (2012) includes a Conservation Element. The Town also has an ongoing Backyard Habitat Program to encourage residents to preserve, restore, and connect natural habitat areas.</i>	Yes	No	No	Yes
Economic Development Plan <i>Comment: The Town of Woodside is almost entirely a residential community and has only two very limited commercial areas. Development within the commercial areas is guided by the Town of Woodside Town Center Area Plan (Adopted 1970; Amended 1977) and the Skylonda Area Plan (Adopted 1985).</i>	Yes	No	No	Yes
Shoreline Management Plan <i>Comment: The Town of Woodside does not have shoreline areas.</i>	N/A	N/A	N/A	N/A
Community Wildfire Protection Plan <i>Comment: The Town of Woodside Fire Management Plan (2003). Woodside Fire Protection District</i>	No	Yes	No	No
Forest Management Plan <i>Comment: Town of Woodside General Plan (2012), Conservation Elements. Woodside Fire Protection District</i>	No	No	No	No
Climate Action Plan <i>Comment: Town of Woodside Climate Action Plan; 9/22/2015 (Targets set by AB 32, California Global Warming Solutions Act of 2006)</i>	Yes	No	No	Yes
Emergency Operations Plan <i>Comment: County of San Mateo Emergency Operations Plan 2013</i>	No	Yes	No	Yes
Threat & Hazard Identification & Risk Assessment (THIRA) <i>Comment: Bay Area UASI THIRA</i>	No	No	No	No
Post-Disaster Recovery Plan <i>Comment: Emergency Operations Plan</i>	No	No	No	Yes
Continuity of Operations Plan <i>Comment:</i>	No	No	No	Yes
Public Health Plan <i>Comment: San Mateo County Health</i>	No	Yes	No	No
Other <i>Comment:</i>	N/A	N/A	N/A	N/A

**Table 21-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? • If no, who does? If yes, which department?	Yes Planning, Building & Public Works
Does your jurisdiction have the ability to track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No



**Table 21-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	No
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	Yes (For Sewer)
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Other	No

**Table 21-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Engineering / Planning
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering Department: Town Engineer, Deputy Engineer, Contract Engineers (x2) / Building Official, Contract Structural Engineers / Plan Checkers (CSG Consultants)
Planners or engineers with an understanding of natural hazards	Yes	Engineering Department: Town Engineer, Deputy Engineer, Contract Engineers (x2) / Building Official, Contract Structural Engineers / Plan Checkers (CSG Consultants) Contract Geologist
Staff with training in benefit/cost analysis	Yes	Engineering / Planning
Surveyors	Yes	Contract Surveyors (CSG Consultants)
Personnel skilled or trained in GIS applications	Yes	Engineering / Planning
Scientist familiar with natural hazards in local area	Yes	Engineering / Planning / Geology
Emergency manager	Yes	Town Manager
Grant writers	Yes	Engineering (3) / Planning (2)

**Table 21-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes. Town Clerk is the Community Information officer, Building Official works closely with CERPP (local CERT program) to provide any necessary updates.
Do you have personnel skilled or trained in website development?	Yes, Contracted IT. Engineering and Planning Departments regularly update the website.
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe.</i>	Yes Emergency Services including Emergency Preparedness, Fire Safety Construction and the Wildland Urban Interface and Rapid Notify Self Registration all have links on the Town website.
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe.</i>	Yes Nextdoor Woodside
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe.</i>	Yes Emergency Preparedness Committee and Citizens of Emergency and Preparedness Program (CERPP) promote emergency preparedness and response capability at the citizen and neighborhood level in the event of a disaster. In association with the Woodside Protection Fire District.
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, briefly describe.</i>	Yes Town website, SMC Alert
Do you have any established warning systems for hazard events? <i>If yes, briefly describe.</i>	Yes. San Mateo County Alert System is an alert notification system used to immediately contact you during urgent or emergency situations with useful information and updates. The Town Clerk is the Community Information officer; the Building Official works closely with CERPP to provide any necessary updates.

**Table 21-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Public Works Department
Who is your floodplain administrator? (department/position)	Town Engineer
Are any certified floodplain managers on staff in your jurisdiction?	Town Engineer
What is the date that your flood damage prevention ordinance was last amended?	November 22, 2001
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i>	Meet
When was the most recent Community Assistance Visit or Community Assistance Contact?	Unknown
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i>	No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i>	No



Criterion	Response
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i>	Yes
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i>	No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> <i>If no, is your jurisdiction interested in joining the CRS program?</i>	No N/A No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> <i>What is the premium in force?</i>	39 \$13,550,000 \$21.030
How many total loss claims have been filed in your jurisdiction? <sup>a</sup> <i>What were the total payments for losses?</i>	13 \$341,827

a. According to FEMA statistics as of March 31, 2021

**Table 21-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	0608186440	May 2019
DUNS#	Yes	004952339	1956
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	Yes	N/A. Council participates on Ad hoc Committee	N/A
Tsunami Ready	N/A	N/A	N/A

**Table 21-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: The Town of Woodside approved a Climate Action Plan in 2015 to better plan for the effects of Climate Change.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: The Town of Woodside is most affected by increased wildfires. While no jurisdiction-level monitoring occurs, the Town has access to data regarding local and regional fires through CAL FIRE and other entities.</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: staff together with the County of San Mateo Office of Sustainability consider strategies for feasibility and externalities</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: The County of San Mateo Office of Sustainability has taken the lead on developing greenhouse gas emissions inventories.</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: The Town has identified capital funds for EV chargers and hybrid vehicles to reduce greenhouse gases. Improving infrastructure for water/fire flow and storage has been a key priority. Improving road conditions, particularly for evacuation routes has also been a high priority for the Town.</i>	High
Participation in regional groups addressing climate risks <i>Comment: The Town has worked with the County of San Mateo Office of Sustainability and has utilized Town specific inventories and region-wide information and resources. The Town is also a member of Peninsula Clean Energy.</i>	High

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Town decision making related to climate change is guided by the Sustainability Element goals and policies in the General Plan and the Climate Action Plan developed in response to a mitigation measure required for the General Plan.</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: The Town of Woodside is located within a forested region. The Town balances tree protection with the need for maintaining defensible space around residences.</i>	High
Identified strategies for adaptation to impacts <i>Comment: Strategies for adapting to the impacts of climate change relate to minimizing fire hazard in a wooded environment through maintenance of defensible space, home hardening, and removal of trees particularly prone to ignite in a wildland fire; ensuring adequate infrastructure for fire flow and water storage; and maintaining good road conditions, particularly key evacuation routes.</i>	High
Champions for climate action in local government departments <i>Comment: Staff in the Engineering, Planning and Building Departments work together to mitigate the effects of climate change and implement adaptation strategies. The Environment Committee and Town Manager work together to prioritize strategies.</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: There has been very strong support for the Defensible Space and Home Hardening program as well as for maintaining infrastructure, and other programs to adapt to climate change.</i>	High
Financial resources devoted to climate change adaptation <i>Comment: The Town has provided particularly strong support for the Defensible Space and Home Hardening Program to help residents adapt to increased fire danger.</i>	High
Local authority over sectors likely to be negative impacted <i>Comment: The Town has land use authority over areas within the Very High Fire Hazard Severity Zones.</i>	High
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: The Town has held several forums on Climate Change to increase knowledge and understanding through its Arts &amp; Culture program.</i>	High
Local residents support of adaptation efforts <i>Comment: Residents have been very active in participating in the Defensible Space and Home Hardening program.</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: In steep, heavily wooded areas of the Town, particularly in the Western Hills, fire hazard remains high, even with adaptation strategies.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment: Throughout the County of San Mateo and its jurisdictions, there are numerous efforts to adapt to climate impacts.</i>	High
Local ecosystems capacity to adapt to climate impacts <i>Comment: With residential development throughout the wooded hillsides, there are some limitations on using tools such as controlled burns to adapt to climate impacts.</i>	Medium

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 21.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard



mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 21.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **General Plan:** The General Plan contains a Natural Hazards and Safety Element. Additionally, it integrates information on pertinent local natural hazards, especially in the Safety Element. The Safety Element includes information on seismic and geologic hazards, flooding and drainage concerns, hazardous materials, and fire hazards. For further compliance, the Town will reference the LHMP in future updates.
- **Town of Woodside Sanitary Sewer Overflow and Backup Response Plan** – To ensure minimal environmental impact to receiving waters of the United States of America and to minimize exposure to the general public and to private property. During a catastrophic event, the Town’s sewer system operation would be evaluated, and a damage assessment would be completed to ensure the function of the necessary utility.
- **Town Emergency Preparedness Committee** – The Emergency Preparedness Committee supports the General Plan policies to institute or participate in education related to natural hazards and to support emergency preparedness education. The Emergency Preparedness Committee works with Town staff to develop and maintain appropriate plans and procedures for responding to disasters, including wildfires, earthquakes, floods, and other emergencies. The Emergency Preparedness Committee supports the work of the Citizens’ Emergency Response and Preparedness Program (CERPP) to develop a network of volunteers to respond to emergencies at the neighborhood level.
- **Capital Improvements Plans** – Staff will continue to evaluate ways in which mitigation strategies can be incorporated into the CIP planning process and selected projects.
- **Defensible Space Matching Fund Program** - The purpose of the Town’s Defensible Space Matching Fund Program is to encourage Woodside residents to create and maintain defensible space for fire protection around their homes and the perimeter of their properties through the provision of a matching fund grant to help offset the cost of this undertaking. The Town reimburses residents 50% of the cost of creating defensible space, up to a maximum of \$3,000.

### 21.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Flood Plain Ordinance Update** – An update of the floodplain ordinance is planned to ensure compliance with and new FEMA requirements.
- **Update Geologic Map**– The Town updated its Town-wide Geologic Map in 2017 which included an updated and more accurate location of seismic faults and associated seismic hazards. The location of the seismic faults and landslides are used to help provide design parameters for new development.
- **Housing Element Update** – The Town is working with 21 Elements, a group working together to update the 21 Housing Elements in San Mateo County. The Housing Element will utilize information from the Hazard Mitigation Plan update to ensure consistency in goals, policies, and programs.

## 21.6 RISK ASSESSMENT

### 21.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 21-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 21-11. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Storm	DR-4308	2/1/17 – 2/23/17	\$229,797
Fire	N/A	Unknown	Trees downed powerlines and caused fire damaging residential barn
Storm	Portola Road	December 23, 2012	\$112,829
Storm	Kings Mountain Road	December 2005	\$142,000
Wildfire	N/A	August 2002	Fallen trees created large residential fire
Storm	DR-1155	January 1997	California Severe Storms
Landslide	N/A	1988	Large landslides on Summit Springs Road

### 21.6.2 Hazard Risk Ranking

Table 21-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 21-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Wildfire	51	High
2	Earthquake	36	High
3	Landslide/Mass Movements	33	High
4	Severe Weather	24	Medium
5	Flood	15	Low
6	Dam Failure	10	Low
7	Drought	9	Low
8	Sea Level Rise/Climate Change	0	Low
9	Tsunami	0	Low

### 21.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: 0



- Number of FEMA-identified Severe-Repetitive-Loss Properties: 0
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: 0

### **Other Noted Vulnerabilities**

No jurisdiction-specific issues were identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources.

## **21.7 STATUS OF PREVIOUS PLAN ACTIONS**

Table 21-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 21-13. Status of Previous Plan Actions**

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
WS-1—Update Town Geologic Map showing to better show zones of potential geologic hazards. <b>Comment:</b> February 2017	✓			
WS-2— Work with CalWater to expedite review and processing of water tanks for fire suppression in high severity areas. <b>Comment:</b> CalWater has upgraded the water tanks in the Old La Honda area and is currently in the process of upgrading the water tanks in Skyline area. CalWater has and is in the process of upgrading their distribution lines Town-wide.			✓	WDS-7
WS-3— Work with PG&E to promote Vegetation Removal Program and to seek large scale tree removal projects near overhead lines. <b>Comment:</b> PG&E has removed several large scale trees and is continuing to remove trees under overhead lines as identified by the Woodside Fire District. PG&E has an annual vegetation maintenance permit from the Town to trim and/or remove trees under overhead lines.			✓	WDS-8
WS-4—Continued to upgrade equipment for Town Vegetation Removal Program <b>Comment:</b> Town's Public Works department continues to replace and/or upgrade the equipment used for Town's vegetation management and removal program.			✓	WDS-9
WS-5— Provide Sandbag Program and continued educational outreach for storm season. <b>Comment:</b> Sandbags and sand are stocked and are available at Town Hall parking lot for Town's residents. Town's website and newsletter provides information on winter storm watercourse protection and sandbag availability.			✓	WDS-10
WS-6— 5 year CIP for upgrading and maintaining storm drain conveyance facility. <b>Comment:</b> Town has replaced storm drainpipes that were recommended to be replaced immediately in the "Stormwater Facility Prioritized Repair/Replacement Program" in 2016-2017. Town continues to investigate and replace damaged storm drain conveyance facilities.			✓	WDS-11
WS-7—Continue to support Defensible Space Match Fund Program to reduce the threat of wildfire in the community. <b>Comment:</b> Town continues to support Defensible Space Match Fund Program. For approved projects, the Town will reimburse 50% of the cost of creating defensible space and/or home hardening, up to a maximum of \$3,000.			✓	WDS-12
WS-8— Continue to support the Community Emergency Response Training through Citizens Emergency Response Preparedness Program (CERPP) <b>Comment:</b> The Town has emergency preparedness committee. Town's Building Official works closely with the committee to provide support for emergency response and training programs.			✓	WDS-13

Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>WS-9</b>—Upgrade majority of sewer system including providing new Town Center pump station with built in redundancy for natural disasters. (Back generators, overflow wet well capacity, and contract with West Bay Sanitation District to provide emergency backup services.</p> <p><b>Comment:</b> Town Center pump station was upgraded in December 2017. Town contracts with Westbay for the maintenance of the Town Center sewer system.</p>	✓			
<p><b>WS-10</b>—Obtain good standing and compliance with the National Flood Insurance Program (NFIP). This will be accomplished through the implementation of floodplain management programs that will, at a minimum, meet the requirements of the NFIP: Enforcement of the flood damage prevention ordinance Participate in floodplain identification and mapping updates Provide public assistance/information on floodplain requirements and impacts.</p> <p><b>Comment:</b> This is an ongoing item.</p>			✓	WDS-4
<p><b>WS-11</b>—Continue to improve water efficiency in all public facilities by installing water efficient fixtures, monitoring the maintenance of Town’s fields, and continued support of the California Department of Water Resources Water Efficient Landscape Ordinance for all development projects.</p> <p><b>Comment:</b> Water efficient fixtures have been installed in Town Library in 2015 and in Town Hall in 2017-2018. Irrigation system at Town fields has been updated to increase water efficiency and is monitored regularly. Town’s planning department enforces State’s Water Efficient Landscape Ordinance for all development projects.</p>			✓	WDS-14
<p><b>WS-12</b>— Continue to support the county wide actions defined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	WDS-15
<p><b>WS-13</b>— Actively participate in the plan maintenance strategy and protocols outlined in Volume I of the hazard mitigation plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	WDS-15
<p><b>WS-14</b>— Integrate the hazard mitigation plan into other plans, programs or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Ongoing</p>			✓	WDS-16
<p><b>WS-15</b>—Improve the development of a post disaster recovery plan and a debris management plan.</p> <p><b>Comment:</b> Ongoing</p>			✓	WDS-17
<p><b>Action G-1</b>—Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses.</p> <p><b>Comment:</b> We support issuance of permits that prevent future damage for properties in hazard prone areas.</p>			✓	WDS-1
<p><b>Action G-2</b>—Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.</p> <p><b>Comment:</b> This is an ongoing item.</p>			✓	WDS-18
<p><b>Action G-4</b>—Where feasible, implement a program to record high water marks following high-water events.</p> <p><b>Comment:</b> Majority of the streams are on private properties and Town</p>		✓		
<p><b>Action G-5</b>—Integrate the hazard mitigation plan into other plans, programs, or resources that dictate land use or redevelopment.</p> <p><b>Comment:</b> Similar to WS-14</p>		✓		



Action Item	Completed	Removed; No longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action G-7</b> —Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.			✓	WDS-19
<b>Comment:</b> Council adopted a program to reimburse for home hardening projects that include replacement of an existing wood shake roof with a non-wood shake roof; Installation of non-combustible ember-resistant vent screens and/or chimney spark arrestors; Installation of an approved seismic gas shut-off device or valve that will shut off gas automatically in an earthquake.				

## 21.8 HAZARD MITIGATION ACTION PLAN

Table 21-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction.

Table 21-15 identifies the priority for each action. Table 21-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 21-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action WDS-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure						
Existing	6, 7, 9, 11, 13	Town of Woodside	Woodside Fire Protection Department	High	Grant funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action WDS-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community.						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure, Drought, Climate Change						
New & Existing	2, 4, 6,7	Town of Woodside	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action WDS-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure, Drought, Sea Level Rise/Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Town of Woodside	N/A	Low	Staff Time, General Funds	Short-term
<b>Action WDS-4</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>Enforce the flood damage prevention ordinance.</li> <li>Participate in floodplain identification and mapping updates.</li> <li>Provide public assistance/information on floodplain requirements and impacts.</li> </ul>						
<u>Hazards Mitigated:</u> Flood						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14	Town of Woodside	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action WDS-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
<ul style="list-style-type: none"> <li>Items identified in the Town's Climate Action Plan update annually.</li> </ul>						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure, Drought, Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Town of Woodside	N/A	Low	Staff Time, General Funds	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action WDS-6</b> — Provide additional ingress/egress route where feasible for neighborhood that only has one ingress/egress route out of the neighborhood.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure, Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	Town of Woodside	N/A	Medium	Staff Time, General Funds, Grant Funds-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action WDS-7</b> — Work with CalWater to expedite review and processing of water tanks for fire suppression in high severity areas.						
<i>Hazards Mitigated:</i> Wildfire						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,13	Town of Woodside	N/A	Low	Staff Time, General Funds, Grant Funds-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action WDS-8</b> — Work with PG&E to promote Vegetation Removal Program and to seek large scale tree removal projects near overhead lines.						
<i>Hazards Mitigated:</i> Wildfire						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,13	Town of Woodside	N/A	Medium	Staff Time, General Funds, Grant Funds-FEMA HMA (BRIC, FMA, FMAG and HMGP)	Ongoing
<b>Action WDS-9</b> —Continue to upgrade equipment for Town Vegetation Removal Program						
<i>Hazards Mitigated:</i> Wildfire						
New	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,13	Town of Woodside	N/A	Medium	Staff Time, General Funds, Grant Funds-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action WDS-10</b> - Provide Sandbag Program and continued educational outreach for storm season.						
<i>Hazards Mitigated:</i> Severe Weather, Flood, Drought, Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,13	Town of Woodside	N/A	Low	Staff Time, General Funds, Grant Funds-EMPG and HSGP	Ongoing
<b>Action WDS-11</b> — 5 year CIP for upgrading and maintaining storm drain conveyance facility.						
<i>Hazards Mitigated:</i> Severe Weather, Flood, Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Town of Woodside	N/A	High	Staff Time, General Funds, Grant Funds-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action WDS-12</b> — Continue to support Defensible Space Match Fund Program to reduce the threat of wildfire in the community.						
<i>Hazards Mitigated:</i> Wildfire						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 14	Town of Woodside	N/A	Medium	Staff Time, General Funds, Grant Funds-FEMA HMA (BRIC, FMA,FMAG and HMGP)	Ongoing
<b>Action WDS-13</b> — Continue to support the Community Emergency Response Training through Citizens Emergency Response Preparedness Program (CERPP)						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure						
New & Existing	1, 2, 3, 4, 5, 7, 8, 9, 10, 11	Town of Woodside	N/A	Medium	Staff Time, General Funds, Grant Funds-EMPG and HSGP	Ongoing
<b>Action WDS-14</b> - Continue to improve water efficiency in all public facilities by installing water efficient fixtures, monitoring the maintenance of Town's fields, and continued support of the California Department of Water Resources Water Efficient Landscape Ordinance for all development projects.						
<i>Hazards Mitigated:</i> Drought, Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14	Town of Woodside	N/A	Low	Staff Time, General Funds, Grant Funds-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action WDS-15</b> - Continue to support the county wide actions and actively participate in the plan maintenance strategy and protocols in Volume I of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure, Drought, Sea Level Rise/Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Town of Woodside	N/A	Low	Staff Time, General Funds	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action WDS-16</b> - Integrate the hazard mitigation plan into other plans, programs or resources that dictate land use or redevelopment.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure, Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14	Town of Woodside	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action WDS-17</b> - Improve the development of a post disaster recovery plan and a debris management plan.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide/Mass Movements, Severe Weather, Flood, Dam Failure						
New & Existing	1, 2, 6, 8, 9, 11	Town of Woodside	N/A	Low	Staff Time, General Funds, Grant Funds-EMPG and HSGP	Ongoing
<b>Action WDS-18</b> Consider participation in incentive-based programs such as the Community Rating System, Tree City, and StormReady.						
<i>Hazards Mitigated:</i> Severe Weather, Flood, Dam Failure, Climate Change						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14	Town of Woodside	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action WDS-19</b> - Provide incentives for eligible non-profits and private entities, including homeowners, to adapt to risks through structural and nonstructural retrofitting.						
<i>Hazards Mitigated:</i> Earthquake, landslide						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14	Town of Woodside	N/A	Low	Staff Time, General Funds, Grant Funds-FEMA HMA (BRIC, FMA and HMGP)	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
WDS-1	5	High	High	Yes	Yes	No	Medium	High
WDS-2	4	Medium	Low	Yes	No	Yes	High	Low
WDS-3	14	High	Low	Yes	No	Yes	High	Low
WDS-4	13	Medium	Low	Yes	No	Yes	High	Low
WDS-5	14	Medium	Low	Yes	No	Yes	High	Low
WDS-6	11	High	Medium	Yes	Yes	No	Medium	High
WDS-7	12	High	Low	Yes	Yes	No	Medium	High
WDS-8	12	High	Medium	Yes	Yes	No	Medium	High
WDS-9	12	High	Medium	Yes	Yes	No	Medium	High
WDS-10	12	High	Low	Yes	Yes	No	Medium	High
WDS-11	14	Medium	High	No	Yes	No	Medium	Medium
WDS-12	11	Medium	Medium	Yes	Yes	No	Medium	Medium
WDS-13	10	Medium	Medium	Yes	Yes	No	Medium	Medium
WDS-14	13	High	Low	Yes	Yes	No	Medium	High
WDS-15	14	Medium	Low	Yes	Yes	No	Medium	Medium
WDS-16	13	Medium	Low	Yes	Yes	No	Medium	Medium
WDS-17	6	Medium	Low	Yes	Yes	No	Medium	Medium
WDS-18	13	Medium	Low	Yes	Yes	No	Medium	Medium
WDS-19	11	Medium	Low	Yes	Yes	No	Medium	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 21-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	WDS-2, 15, 16	WDS-19	WDS-19			WDS-6		WDS-2, 3, 4, 5, 10, 11, 13, 15, 16, 17, 18
Wildfire	WDS-2, 15, 16	WDS-1, 2	WDS-12	WDS-8, 9, 12		WDS-6,11	WDS-1, 2, 3, 5, 7,12	WDS-2, 3, 4, 5, 12, 13, 15, 16, 17
Landslide/ Mass Movements	WDS-2, 15, 16	WDS-1, 2				WDS-6	WDS-1, 2, 3, 5	WDS-2, 3, 4, 5, 13, 15, 16, 17
<b>Medium-Risk Hazards</b>								
Flood	WDS-2, 4, 15, 16, 18	WDS-1, 2	WDS-19	WDS-18	WDS-10	WDS-6,11	WDS-1, 2, 3, 5, 10	WDS-2, 3, 4, 5, 10, 11, 13, 15, 16, 17, 18
<b>Low-Risk Hazards</b>								
Drought	WDS-2, 15		WDS-19		WDS-10		WDS-2, 3, 5, 10, 14	WDS-2, 3, 4, 5, 10, 15
Severe Weather	WDS-2, 15, 16, 18	WDS-1, 2	WDS-19	WDS-18	WDS-10	WDS-6,11	WDS-1, 2, 3, 5, 10	WDS-2, 3, 4, 5, 10, 11, 13, 15, 16, 17, 18
Dam Failure	WDS-2, 15, 16, 18	WDS-1, 2		WDS-18		WDS-6	WDS-1, 2, 3,5	2, 3, 5, 13, 15, 16, 17, 18
Sea Level Rise/ Climate Change	WDS-2, 15, 16, 18		WDS-19	WDS-18	WDS-10	WDS-6,11	WDS-2, 3, 5, 10, 14	WDS-2, 3, 4, 5, 10, 11, 15, 16, 18

a. See the introduction to this volume for explanation of mitigation types.

## 21.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Town of Woodside Municipal Code**—The Municipal Code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **Town of Woodside Flood Damage Prevention Ordinance** – For flood hazard assessment and mitigations.
- **Town of Woodside General Plan** – To ensure consistency of this Annex with the Town’s General Plan.
- **Town of Woodside Climate Action Plan.** – For current status of actions and mitigations for climate change.
- **The Town of Woodside Fire Management Plan (2003), Woodside Fire Protection District.** – For concerns relating to fire management and fire mitigation as specified in this annex.



- 
- **Town of Woodside Capital Improvement Plan.** – For review of storm drain projects and other projects addressing hazardous mitigations.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## 21.10 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

- Education regarding communication in the event of disaster and/or evacuation when technology is down (i.e., cell phones, telephones, computers not working)
- Survey of the number of residents that have 3+ days of emergency supplies, Family Management and Communication Plans, including plans for pets.

## 21.11 ADDITIONAL COMMENTS

The Town of Woodside recognizes the need for ongoing education of its residents regarding living with the risks of hazards such as Earthquakes, Wildfire, Landslides, and Liquefaction/Settlement that may affect critical roads and evacuation routes. The Town conducts periodic emergency drills and Office of Emergency Services (OES) operations. The Town might be able to share lessons learned from the drills with the public, so that the drills are an opportunity for ongoing education and preparation.

# Woodside

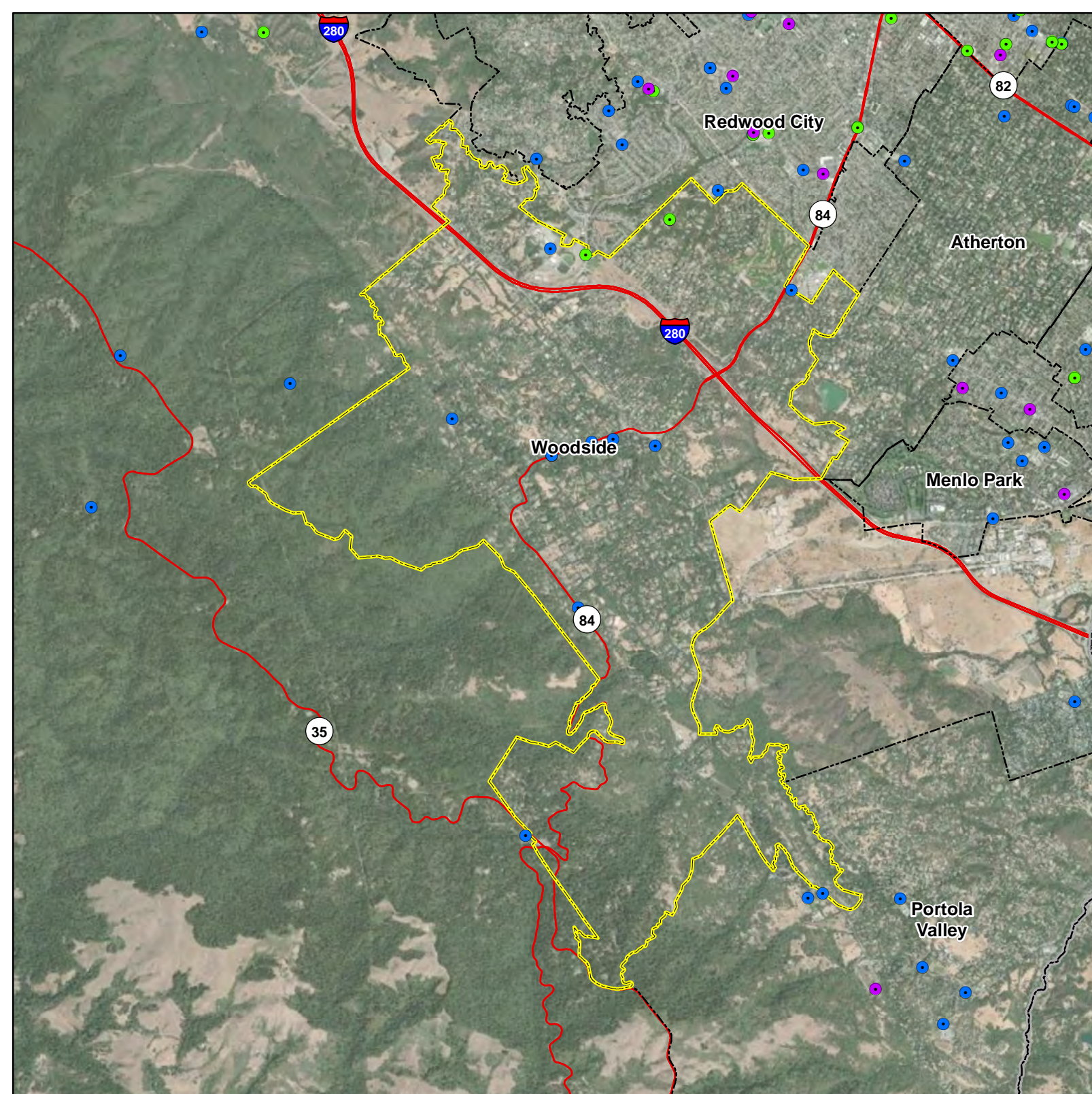
## Critical Facilities, 1 of 2

-  Food, Water, Shelter
-  Health and Medical
-  Safety and Security
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD



0 0.35 0.7 1.4  
Miles





# Woodside

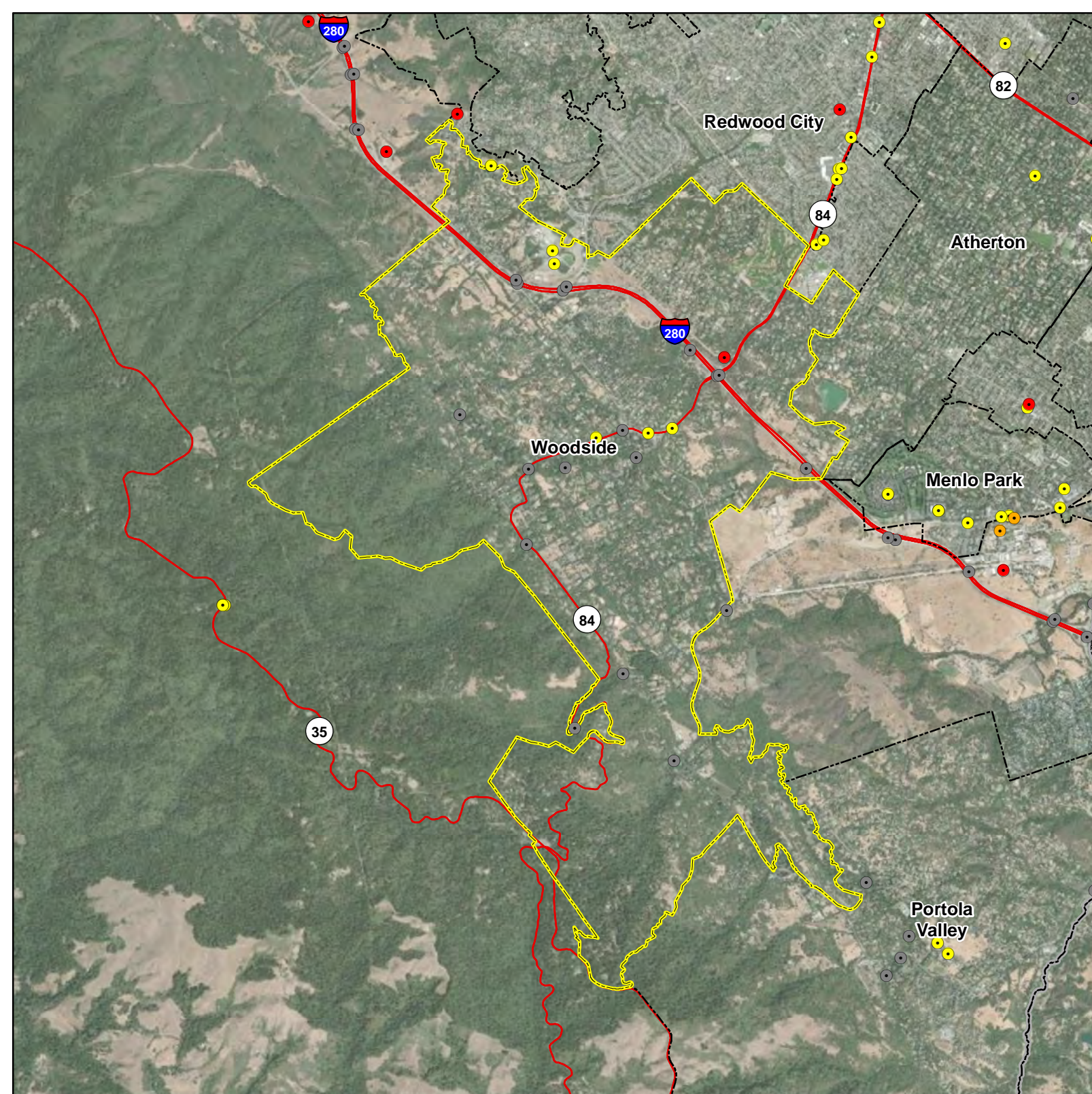
## Critical Facilities, 2 of 2

- Communications
- Energy
- Hazardous Materials
- Transportation
- ▭ Selected City
- ▭ Incorporated Cities
- ▭ County Boundary
- Highways

Data Sources: ESRI Basemap,  
San Mateo Co., DHS HIFLD









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# Woodside

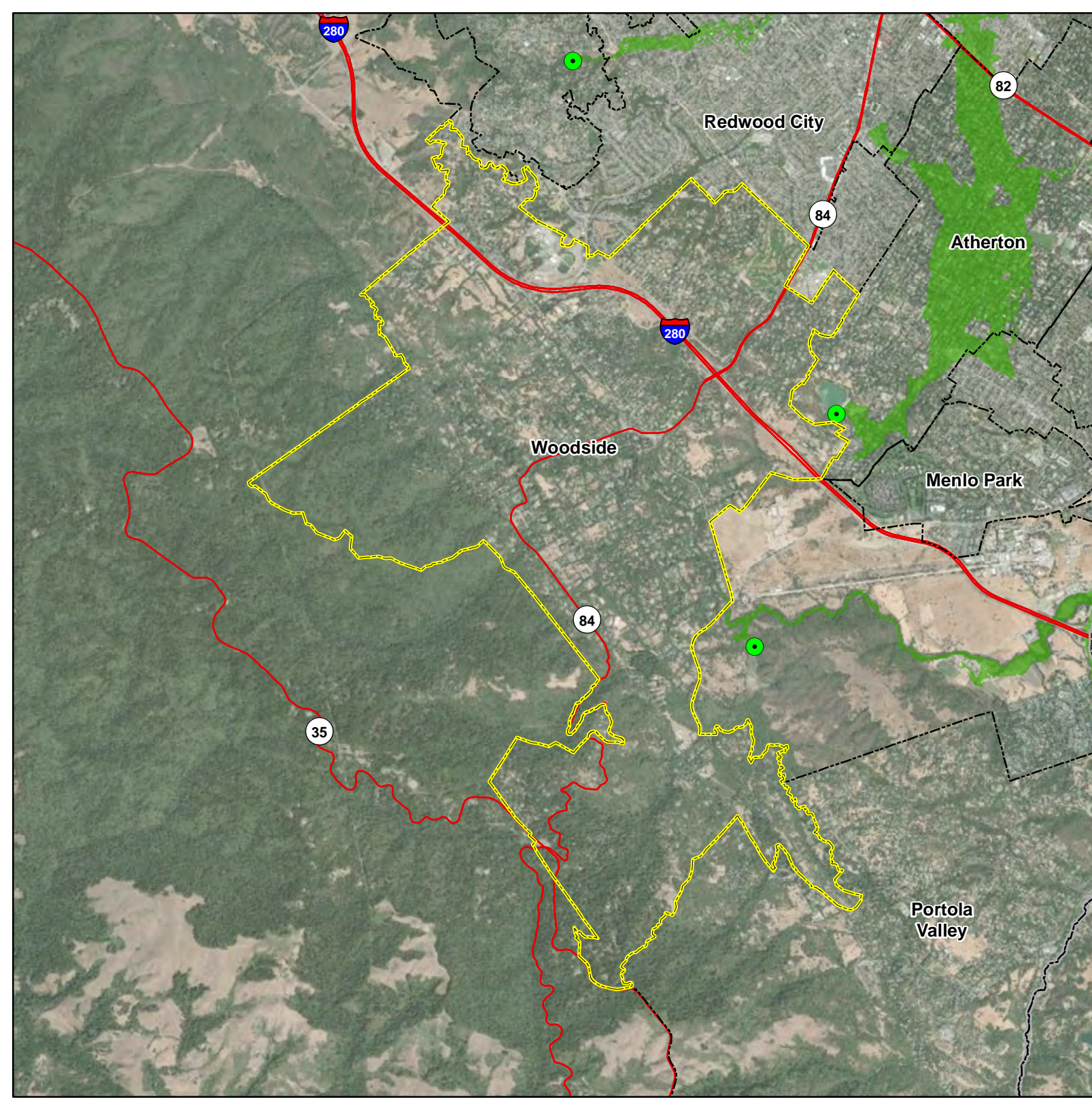
## Dam Failure Inundation Area Used for Risk Assessment

-  Inundation Area
-  Dam
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CA DWR










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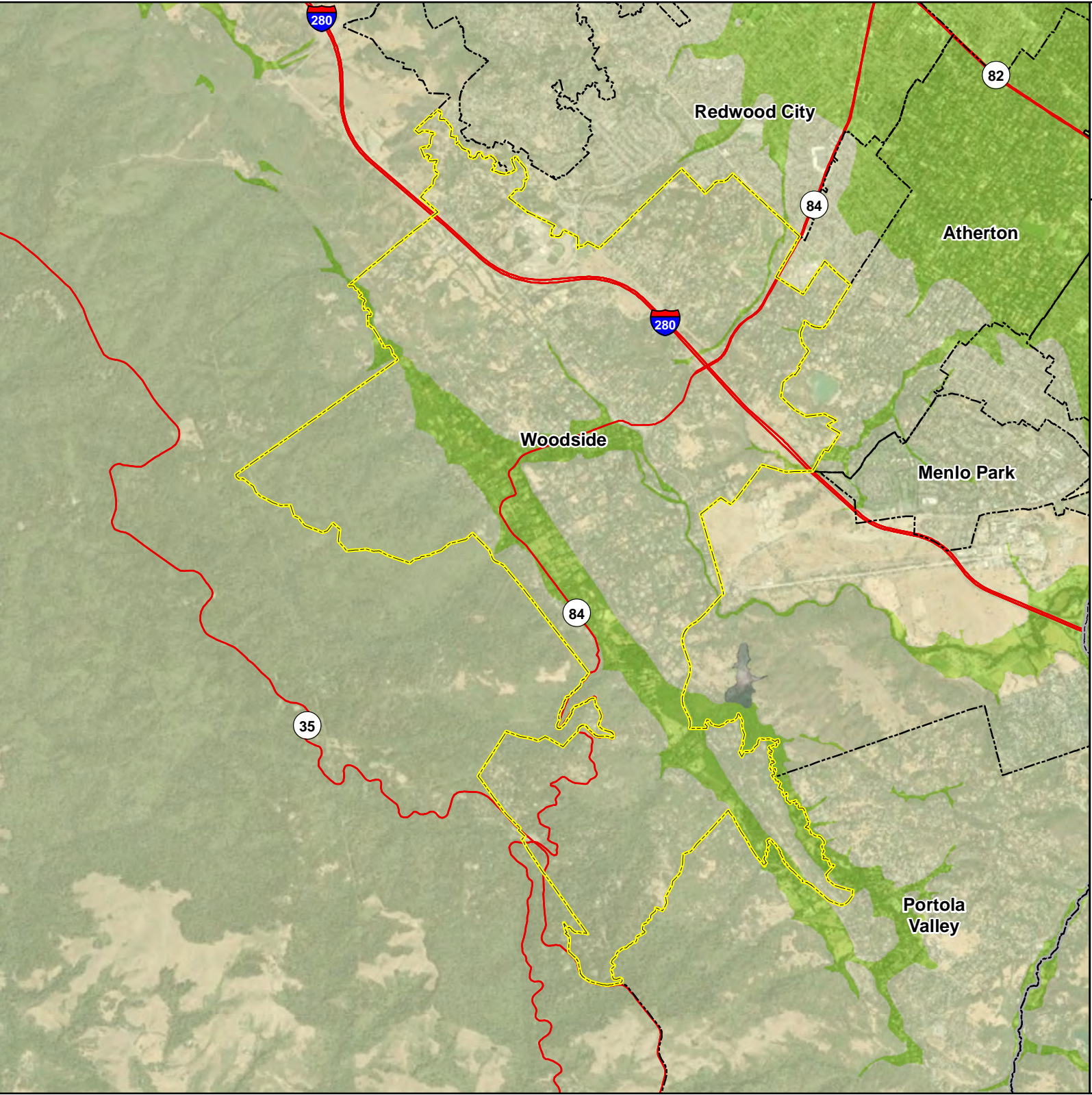
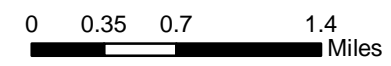


# Woodside

## NEHRP Soil Class

-  C (Dense soil/soft rock)
-  D (Stiff soil)
-  E (Soft clay)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways










Data Sources: ESRI Basemap,  
San Mateo Co., CGS





# Woodside

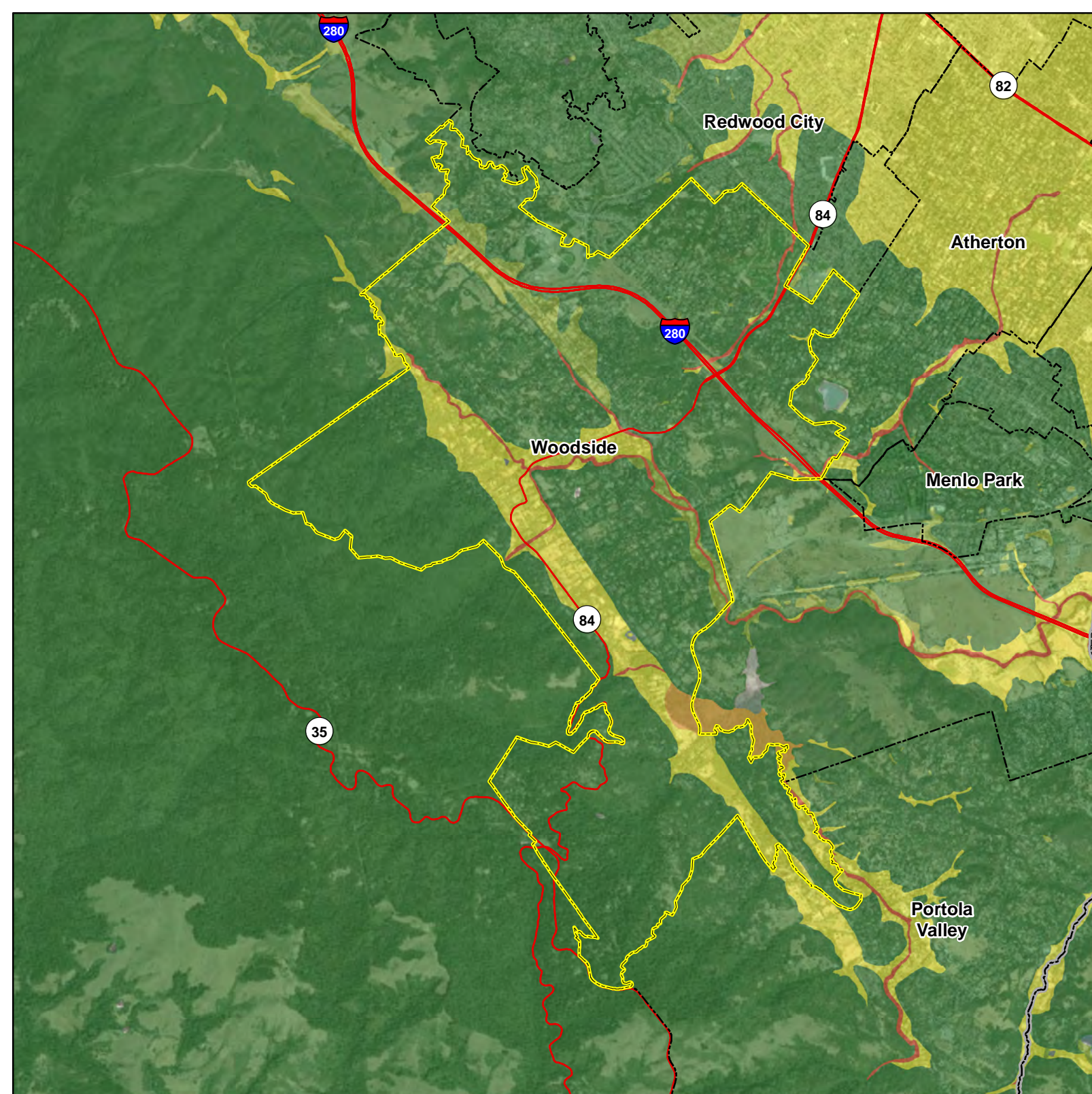
## Liquefaction Susceptibility

-  Very Low
-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., ABAG (USGS)



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Miles





# Woodside

## Butano M6.93 Earthquake Scenario

### Mercalli Intensity Scale

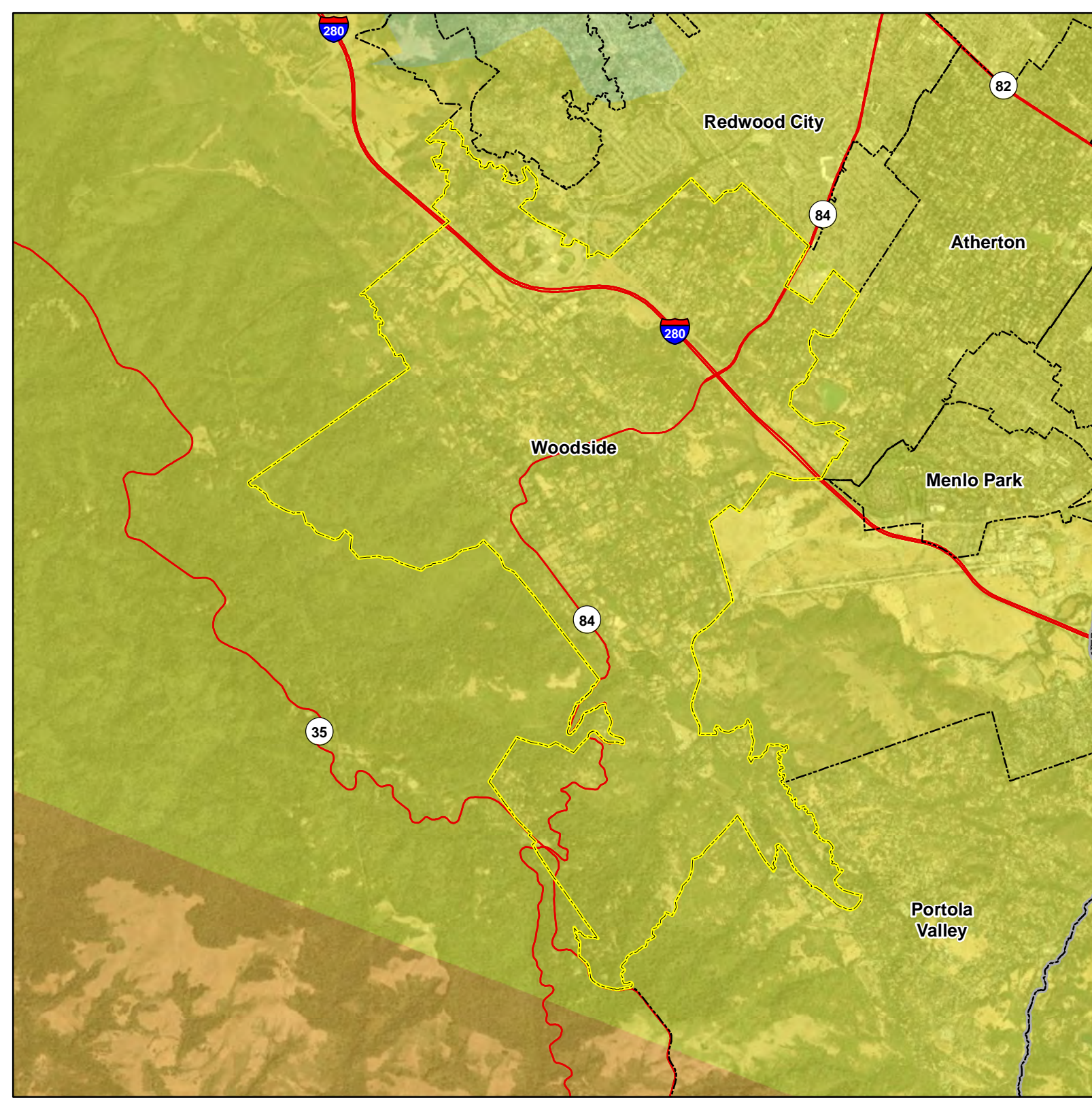
- VI (Strong/Light)
- VII (Very Strong/Moderate)
- VIII (Severe/Moderate-Heavy)
- Selected City
- Incorporated Cities
- County Boundary
- Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.35 0.7 1.4  
Miles





# Woodside

## Monte Vista Shannon M7.14 Earthquake Scenario

### Mercalli Intensity Scale

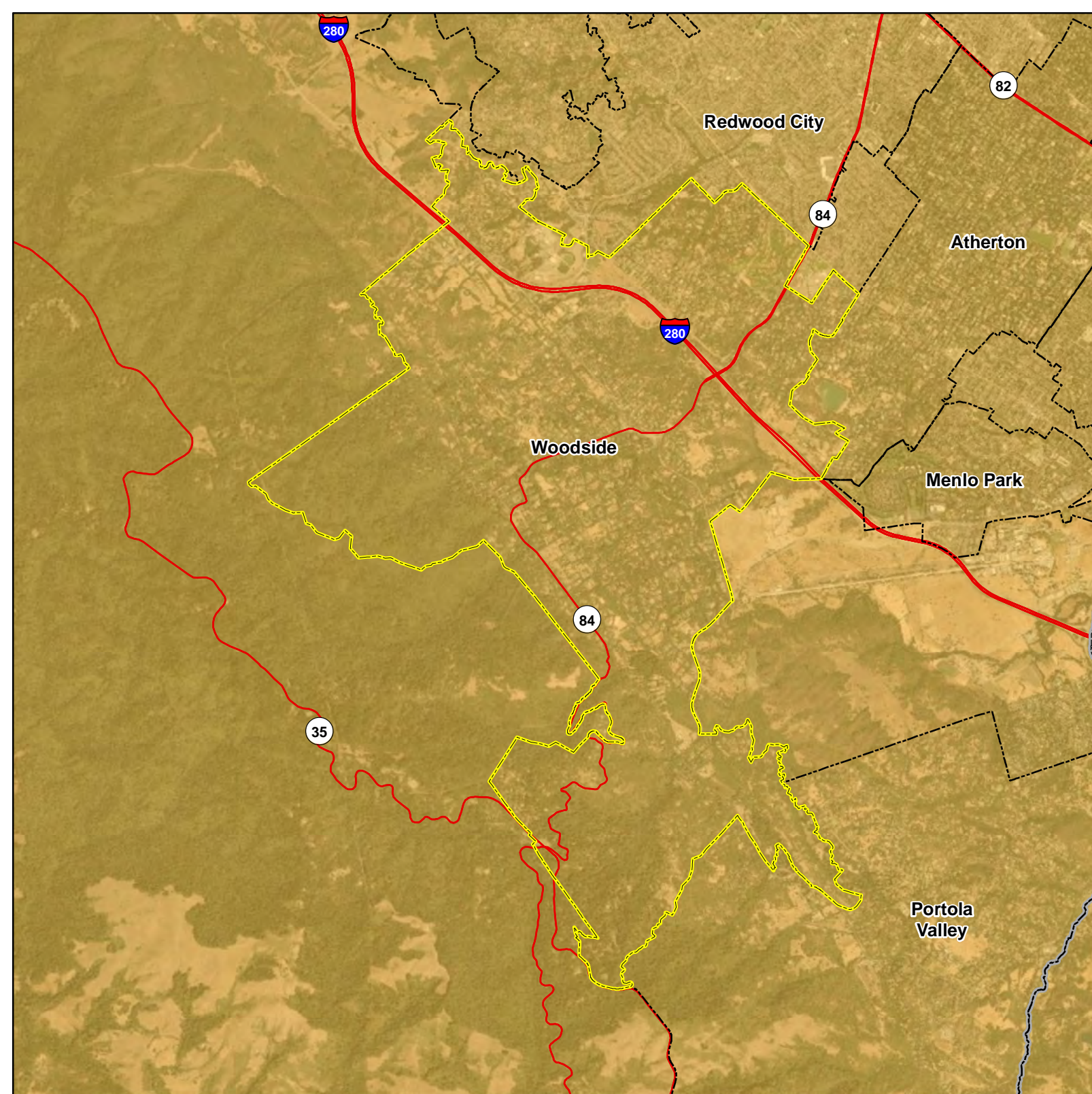
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



0 0.35 0.7 1.4  
Miles





# Woodside

## 100-Year Probabilistic Earthquake Scenario


### Mercalli Intensity Scale

 VII (Very Strong/Moderate)

 Selected City

 Incorporated Cities


 County Boundary

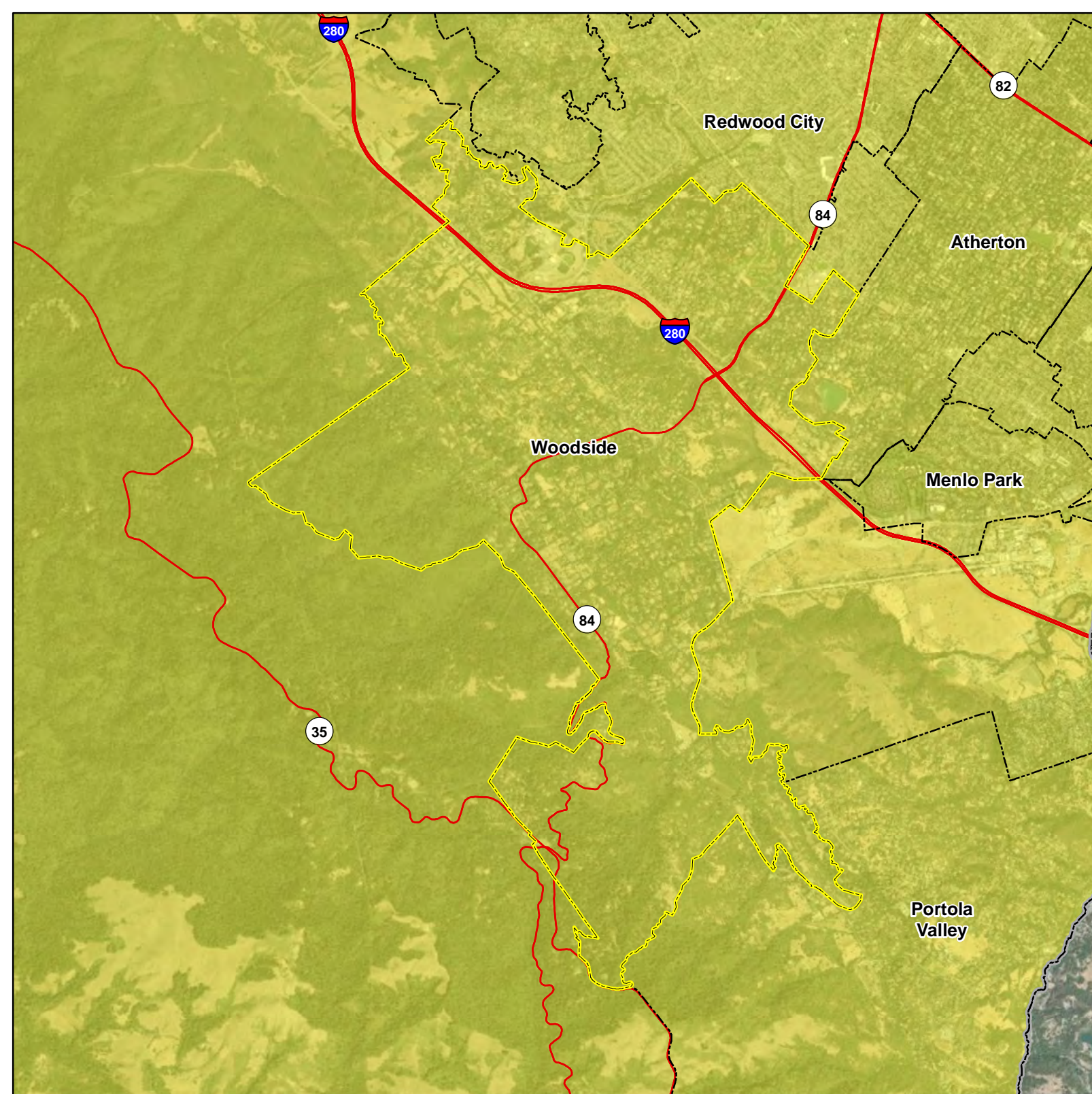
 Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



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 Miles







# Woodside

## San Andreas Peninsula M7.38 Earthquake Scenario

### Mercalli Intensity Scale

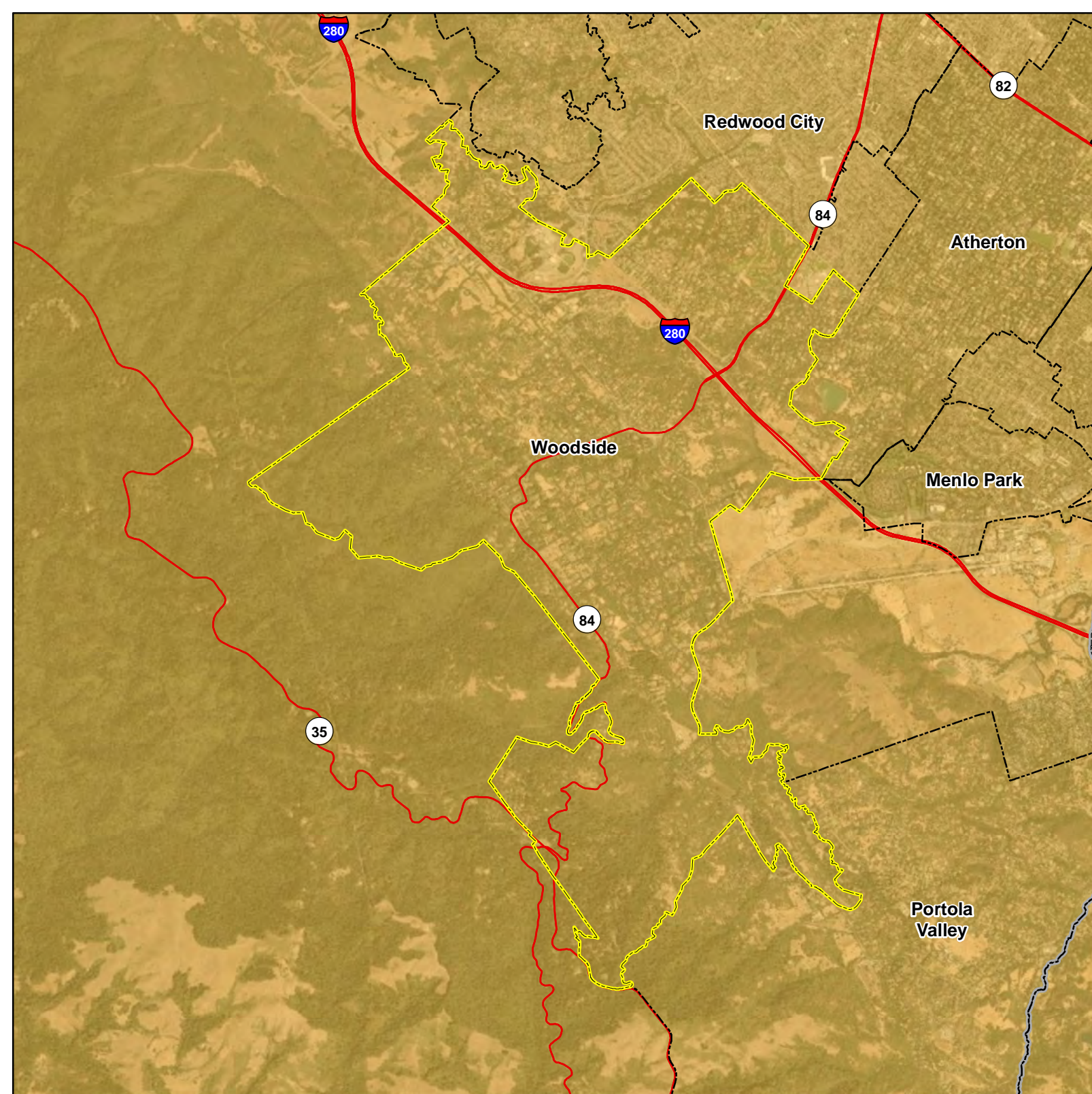
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS



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Miles











# Woodside

## San Gregorio North M7.44 Earthquake Scenario

### Mercalli Intensity Scale

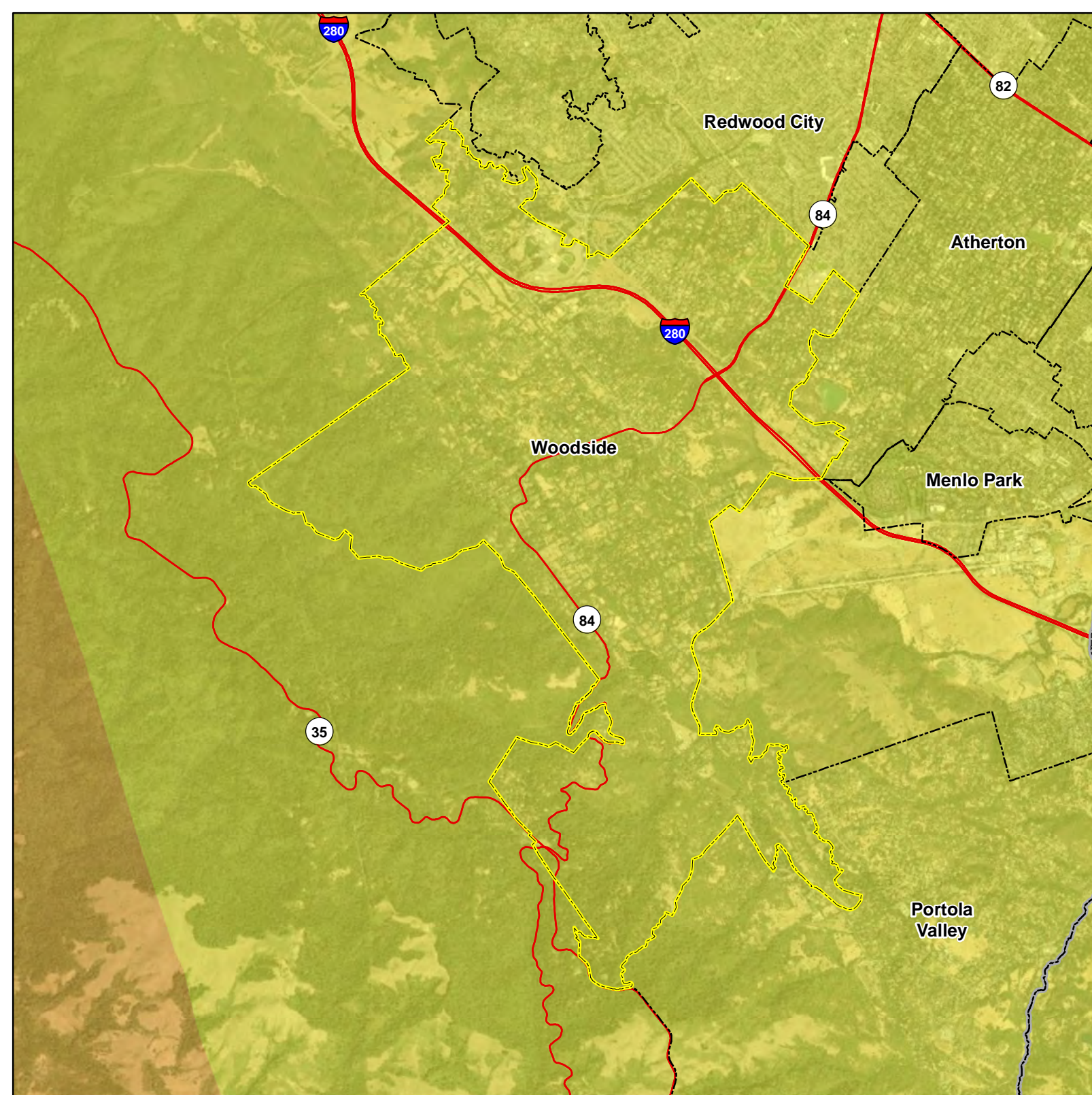
-  VII (Very Strong/Moderate)
-  VIII (Severe/Moderate-Heavy)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Intensity scale described as:  
(perceived shaking / potential damage)

Data Sources: ESRI Basemap,  
San Mateo Co., USGS









0 0.35 0.7 1.4  
Miles





# Woodside

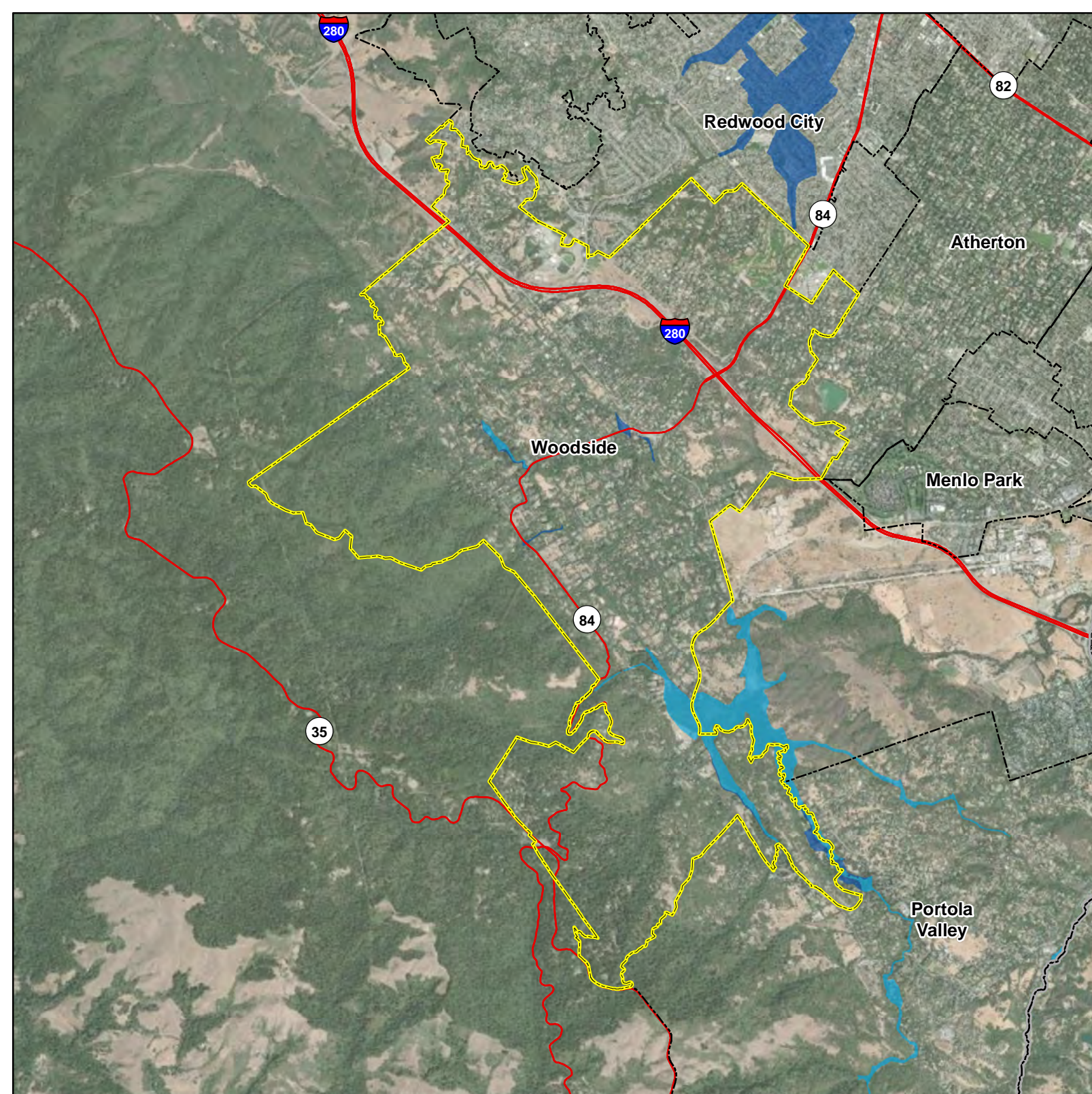
## FEMA Flood Hazard Areas

-  1% Annual Chance Flood (100-Year)
-  0.2% Annual Chance Flood (500-Year)
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap, San Mateo Co., FEMA











0 0.35 0.7 1.4 Miles





# Woodside

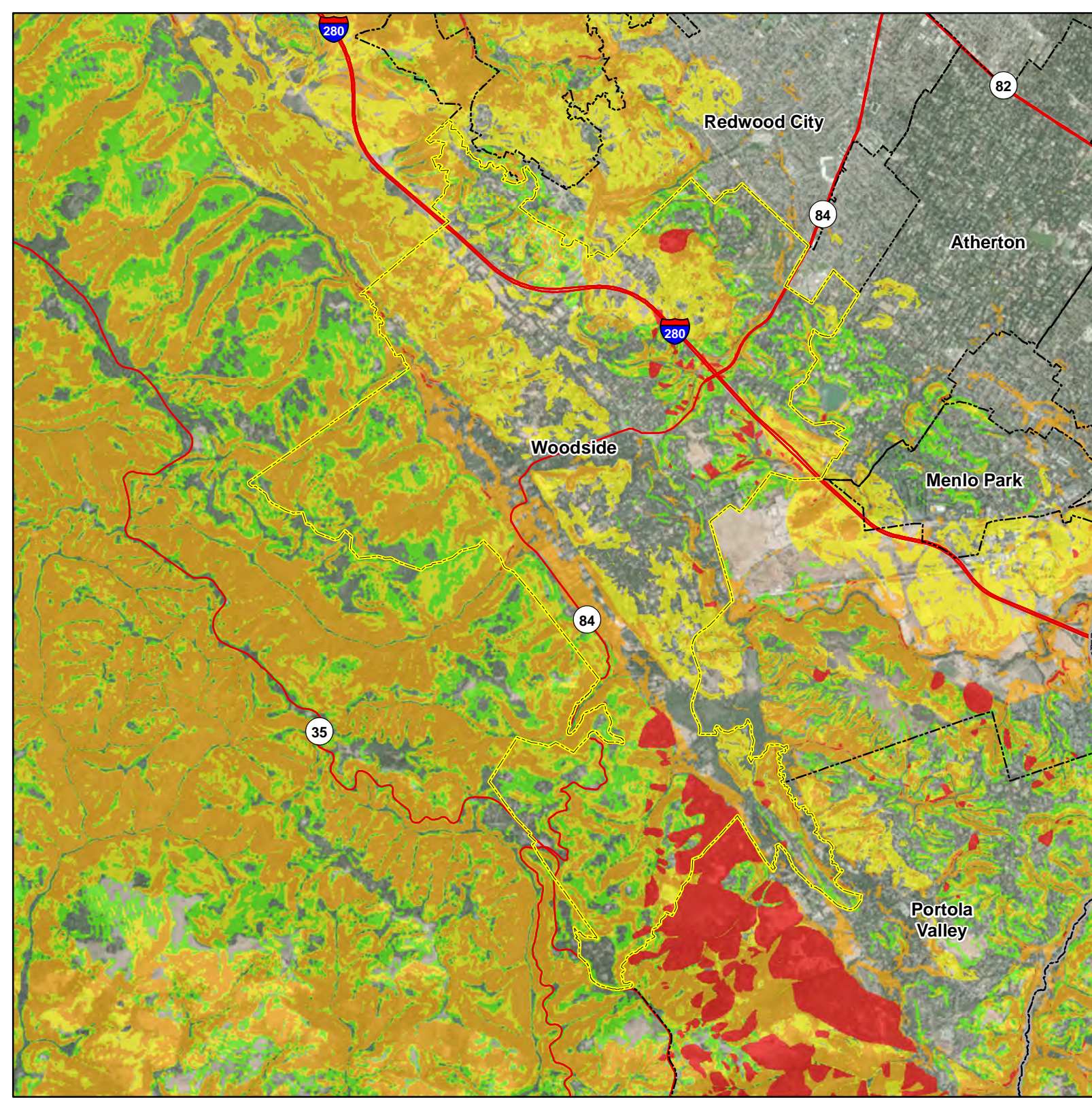
## Susceptibility to Deep-Seated Landslides

-  Low
-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CGS










0 0.35 0.7 1.4  
Miles





# Woodside

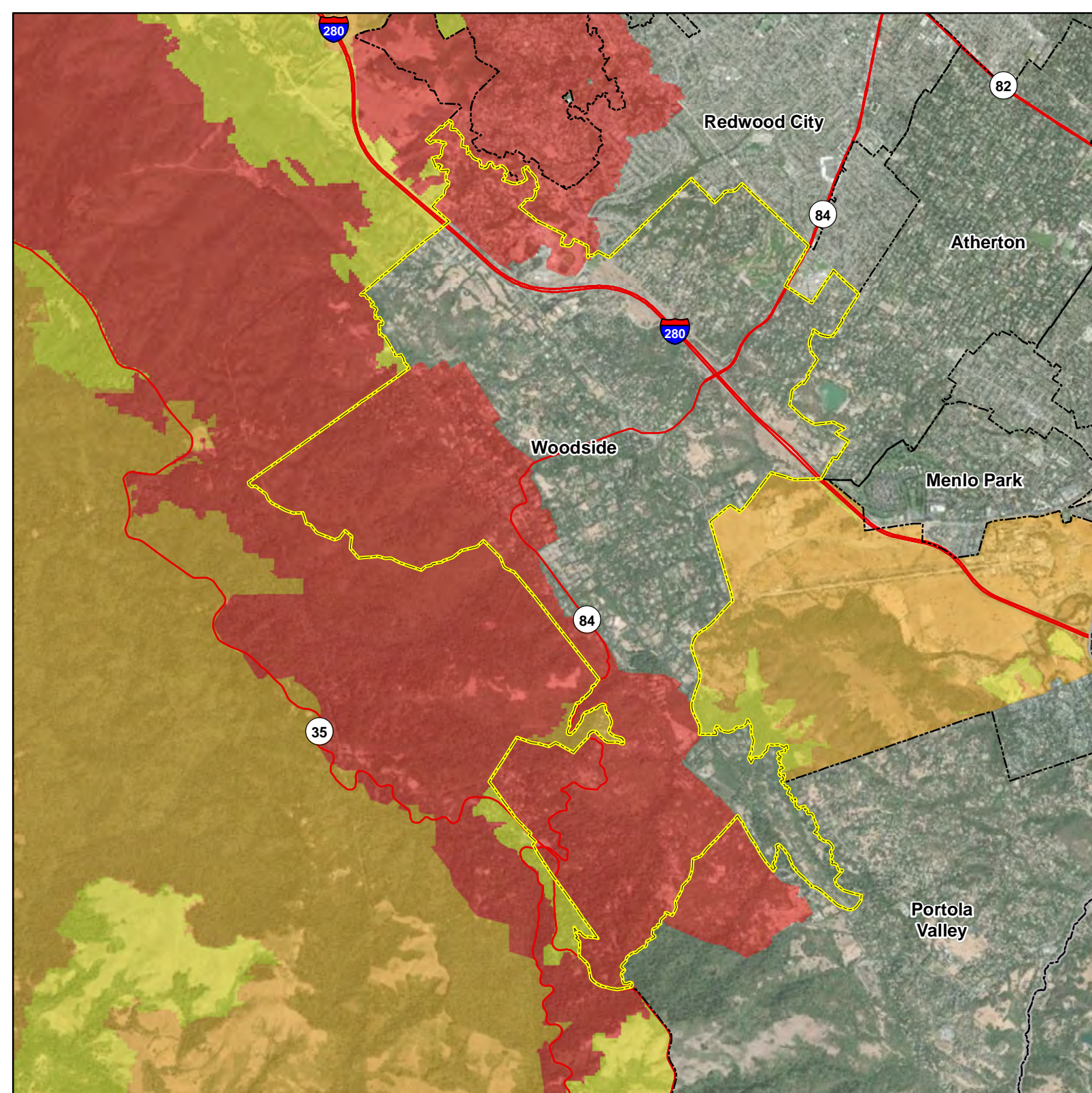
## Wildfire Hazard Severity Zones

-  Moderate
-  High
-  Very High
-  Selected City
-  Incorporated Cities
-  County Boundary
-  Highways

Data Sources: ESRI Basemap,  
San Mateo Co., CAL FIRE



0 0.35 0.7 1.4  
Miles





## 22. COASTSIDE COUNTY WATER DISTRICT

### 22.1 LOCAL HAZARD MITIGATION PLANNING TEAM

**Primary Point of Contact**

Mary Rogren  
 766 Main Street  
 Half Moon Bay, CA 94019  
 650-726-4405  
 mrogren@coastsidewater.org

**Alternate Point of Contact**

James Derbin  
 766 Main Street  
 Half Moon Bay, CA 94019  
 650-726-4405  
 mrogren@coastsidewater.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 22-1.

**Table 22-1. Local Mitigation Planning Team Members**

Name	Title
Mary Rogren	General Manager
James Derbin	Superintendent
Darin Sturdivan	Distribution Supervisor
Sean Donovan	Water Treatment Supervisor
Todd Schmidt	Senior Treatment Operator
Dustin Jahns	Senior Distribution Operator

### 22.2 JURISDICTION PROFILE

#### 22.2.1 Overview

The Coastside County Water District is a special district created in 1947 to provide safe, reliable, and adequate water supply for the City of Half Moon Bay and unincorporated areas of Miramar, El Granada, and Princeton. A five-member elected Board of Directors governs the District. The District currently employs a staff of 21. Funding comes primarily through rates.

The Board of Directors of Coastside County Water District assumes responsibility for the adoption of this plan; The General Manager will oversee its implementation.

#### 22.2.2 Service Area

The District is located along the coast of the Pacific Ocean approximately 30 miles south of San Francisco. Residing at approximately 69 feet above sea level, the District is bounded to the east by the northernmost portion of the Santa Cruz Mountains. District boundaries extend approximately 9.5 miles north to south along the coast

and 1.5 miles east to west, encompassing approximately 14 square miles. The District serves a population of 17,000 and services 7,600 connections.

The District’s service area consists of predominantly residential land uses (approximately 81 percent) surrounded by agriculture and light ranching activities. Commercial development is constrained within the populated areas along State Route 1 and Highway 92 and at Pillar Point Harbor. Floriculture is the largest agricultural industry in the area.

### 22.2.3 Assets

Table 22-2 summarizes the critical assets of the district and their value.

<b>Asset</b>	<b>Value</b>
<b>Property</b>	
350 acres of land	\$8,000,000
<b>Equipment</b>	
80 miles of distribution pipe; 20 miles transmission pipe (@ \$2M per mile)	\$200,000,000
8 Emergency Generators	\$4,000,000
Emergency Pumps	\$100,000
Service Equipment/Fleet	\$2,000,000
<i>Total:</i>	<i>\$206,100,000</i>
<b>Critical Facilities and Infrastructure</b>	
District Main Office and Corp Yard – 766 Main St, Half Moon Bay, CA	\$3,000,000
Nunes Water Treatment Plant – 500 Lewis Foster Drive, Half Moon Bay, CA	\$100,000,000
Denniston Water Treatment Plant	\$40,000,000
Crystal Springs Pump Station – off Hwy 92 (Upper Crystal Springs Reservoir)	\$75,000,000
(10) Treated Water Tanks & 1 Raw Water Tank – Various Locations	\$22,000,000
(5) Booster Pump Stations	\$15,000,000
<i>Total:</i>	<i>\$255,000,000</i>

## 22.3 CURRENT TRENDS

Growth management provisions in the San Mateo County Local Coastal Program (LCP) limit growth to 125 units/year in the County’s planning area, only a portion of which is in the District service area. In addition, the proposed development must also be consistent with all applicable policies of the certified LCP. In addition, growth in the City of Half Moon Bay is constrained by Measure D (LCP, 1999) which limits residential growth within the City of Half Moon Bay to 1 percent per year. The City may increase the annual residential growth to 1.5 percent per year for units in downtown only, but this increase is not required.

## 22.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.



Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 22-3.
- An assessment of fiscal capabilities is presented in Table 22-4.
- An assessment of administrative and technical capabilities is presented in Table 22-5.
- An assessment of education and outreach capabilities is presented in Table 22-6.
- Classifications under various community mitigation programs are presented in Table 22-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 22-8.

**Table 22-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
Standard Specifications and Standard Drawings	2018	
Capital Improvement Program (10 year)	2020	
Backflow Prevention and Cross Connection Control Program (and Ordinance 2013-01)	2018	
General Regulations Regarding Water Service	2019	
Urban Water Management Plan and Water Shortage Contingency Plan	2021	
Emergency Response & Emergency Communications Plan	2020	
America’s Water Infrastructure Act of 2018-Risk and Resiliency Assessment	2021	

**Table 22-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	No
Other – Bank Loans	Yes

**Table 22-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Y	Engineering Consultants
Engineers or professionals trained in building or infrastructure construction practices	Y	Engineering Consultants
Planners or engineers with an understanding of natural hazards	Y	Engineering Consultants
Staff with training in benefit/cost analysis	Y	Engineering Consultants
Surveyors	Y	Engineering Consultants
Personnel skilled or trained in GIS applications	Y	Engineering Consultants
Scientist familiar with natural hazards in local area	Y	Engineering Consultants
Emergency manager	Y	GM and Superintendent
Grant writers	Y	GM and Consultants
Other	None	

**Table 22-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes – Contractor
Do you have hazard mitigation information available on your website? <i>Emergency Preparedness Links; 2020 Urban Water Management Plan</i>	Yes
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	Yes Constant Contact
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	No
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes Constant Contact; WaterSmart e-mail communication; Tyler Incode e-mail and voice
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	No

**Table 22-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	155696032	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A



**Table 22-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Climate change is discussed in the 2020 Urban Water Management Plan..</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment: Climate change adaptation was the overarching theme of the 2013 Bay Area Integrated Regional Water Management Plan includes a detailed Climate Change Vulnerability Assessment.</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: SFPUC (San Francisco Public Utilities Commission conducts ongoing projects with regular updates to reflect improvements in climate science, atmospheric/ocean modeling, and human response to the threat of greenhouse emissions. Studies include comprehensive assessments of the potential effects of climate supply on water supply.</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: SFPUC Studies. Also refer to the 2020 Urban Water Management Plan – Recommended Energy Reporting DWR Table – Total Utility Approach. Pacific Gas and Electric staff have conducted studies/provided recommendations to reduce electricity use.</i>	Unsure
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Incorporated in 10 year capital plan. Projects often require other jurisdictional approvals including the California Coastal Commission, County of San Mateo, City of Half Moon Bay, CEQA.</i>	Low
Participation in regional groups addressing climate risks <i>Comment: SFPUC, BAWSCA (Bay Area Water Supply and Conservation Agency); Coastside One Water; ACWA (Association of California Water Agencies); California Special Districts Association</i>	Low
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Coastside County Water District is governed by a 5 person elected Board. Staff and consultants make recommendations to the Board as appropriate.</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Staff relies on SFPUC, BAWSCA, ACWA, other governmental and water industry specific agencies and outside consultants to assist in identifying strategies.</i>	Low
Identified strategies for adaptation to impacts <i>Comment: Staff relies on SFPUC, BAWSCA, ACWA, other governmental and water industry specific agencies and outside consultants to assist in identifying strategies.</i>	Low
Champions for climate action in local government departments <i>Comment: Staff interfaces with City of Half Moon Bay and San Mateo County Planning departments.</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment: Board and staff support strategies that would reduce climate change impacts.</i>	Medium
Financial resources devoted to climate change adaptation <i>Comment: Capital Improvement Planning and the District Budget support activities and outreach to address climate impacts.</i>	Low
Local authority over sectors likely to be negative impacted	Low

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Given the location of the District on the coast and the known importance of the local industries including agriculture, fishing and tourism, staff believes that local residents are generally knowledgeable about climate risk.</i>	Medium
Local residents support of adaptation efforts <i>Comment: See above.</i>	Medium
Local residents' capacity to adapt to climate impacts <i>Comment: District believes residents can adapt to a limited extent (depending on the severity) when provided with relevant information. (Example – Customers were able to reduce water consumption in 2013-2017 drought.)</i>	Low
Local economy current capacity to adapt to climate impacts <i>Comment: To be determined.</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment: To be determined.</i>	Low

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
 Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 22.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 22.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **CAL-WARN Mutual Aid Agreement**
- **Emergency Response & Emergency Communications Plan**
- **Capital Improvement Planning**
- **CAL Fire – Coastside Fire Protection District**
- **California Coastal Commission-Coastal Development Permit Process**
- **City of Half Moon Bay and County of San Mateo Planning Departments/LCP and LUP**

### 22.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Improvements in 1.5.1 above**



## 22.6 RISK ASSESSMENT

### 22.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 22-8 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 22-8. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
COVID-19 Pandemic	DR-4482	1/20/2020 to present	\$150,000
Severe Winter Storms, Flooding, and Mudslides	DR-4308	February 1-23, 2017	\$100,000
Severe Winter Storms, Flooding and Mudslides	DR-4305	January 18-23, 2017	?
Loma Prieta Earthquake	DR-845	October 17-December 18, 1989	?

### 22.6.2 Hazard Risk Ranking

Table 22-9 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 22-9. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	36	High*
2	Wildfire	35	High**
3	Drought	35	High**
4	Severe weather	24	Medium*
5	Landslide/Mass Movements	24	Medium*
6	Sea Level Rise / Climate Change	21	Medium**
7	Flood	16	Medium**
8	Dam Failure	14	Low**
9	Tsunami	10	Low**

\* We used the risk scores based on Half Moon Bay's ranking for these hazards.

\*\* We used the combination of Half Moon Bay and the unincorporated areas to determine risk ranking score. Much of our infrastructure is located in the unincorporated areas. Transmission lines go over the mountains from Crystal Springs Reservoir and/or from the top of the ridge at Pilarcitos Reservoir then down a canyon through forested area and along 92 to our Nunes treatment plant. We have two treatment plants located in unincorporated areas and both are surrounded by eucalyptus and pine trees. We also have a lot of infrastructure in El Granada. As such, we used a combination and divided by 2 in most cases. We gave drought a score equal to wildfire due to the hazard's impact on the water district.

### 22.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Multiyear droughts will result in significant decreases in the District’s available water supply from SFPUC (San Francisco Public Utilities Commission) and local sources, resulting in rationing that could exceed 50%. (Refer to the District’s 2020 Urban Water Management Plan Chapters 7 and 8.)
- The District is located on the San Mateo coastline with limited road access to other urban communities (e.g., only via CA Highway 92 or CA Highway 1 to the North and South.) Earthquakes, wildfire, or power outages (PSPS) events may result in the District becoming isolated from other urban communities limiting the ability to obtain supplies, repair parts, or emergency assistance from CAL Warn, Cal OES and other applicable agencies. Access to the District’s infrastructure along CA Highway 92 or in the watershed could be limited given damage to public and private roads.
- The District’s primary water supply is pumped from Crystal Springs Reservoir located on the other side of the mountains from the coast. The Crystal Springs pump station does not have a permanent backup generator given the generator size requirements and possible impact to the watershed. (The District may need to utilize its alternative sources in an emergency.)
- Critical facilities and water infrastructure including but not limited to tanks, water treatment plants, pump stations, distribution and transmission pipelines could be vulnerable in earthquake or wildfire events.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 22.7 HAZARD MITIGATION ACTION PLAN

Table 22-10 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 22-11 identifies the priority for each action. Table 22-12 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 22-10. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action CWS-1</b> —Seismically evaluate/retrofit/replace water storage tanks and tank piping connections.						
<i>Hazards Mitigated:</i> Earthquake						
Existing	1, 5, 6, 7, 9,13	CCWD	Cal-OES, City of HMB, County San Mateo	High	Staff Time, General Fund; Debt; Grant Funding	Short-term
<b>Action CWS-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including San Mateo County Hazard Mitigation Plan						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Drought, Severe weather, Landslide/Mass Movements, Climate Change, Flood, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	1-14	San Mateo County	CCWD and other Local Jurisdictions	Low	Staff Time, General Funds	Ongoing
<b>Action CWS-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Severe weather, Landslide/Mass Movements, Flood, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	1-14	San Mateo County	CCWD and other Local Jurisdictions	Low	Grant Funding, Staff Time, General Funds	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action CWS-4</b> —Continually assess emergency preparedness and planning within our District and with other Water agencies; Cal WARN; Cal OES; SFPUC; BAWSCA; City of Half Moon Bay; County of San Mateo (including CAL FIRE.) Evaluate adequacy of critical supplies (# of days/months on hand); redundancy of repair parts and equipment; redundancy of communications (radios/internet)						
<u>Hazards Mitigated:</u> Earthquake, Wildfire, Drought, Severe weather, Landslide/Mass Movements, Climate Change, Flood, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	CCWD	Cal-OES; Cal-WARN, Cal Fire; SFPUC; BAWSCA; City of HMB; County of San Mateo; other jurisdictions	Low	Staff Time, General Funds	Ongoing
<b>Action CWS-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following:						
<ul style="list-style-type: none"> <li>Monitor infrastructure close to the coast for potential damage due to coastal erosion, sea level rise and other impacts.</li> </ul>						
<u>Hazards Mitigated:</u> Climate Change, Sea Level Rise						
New & Existing	1, 5, 7, 9, 13, 14	CCWD	City of Half Moon Bay; County of San Mateo	Low	Staff Time, General Funds	Ongoing
<b>Action CWS-6</b> —Purchase/maintain generators for critical facilities and infrastructure that lack adequate backup power.						
<u>Hazards Mitigated:</u> Earthquake, Wildfire, Drought, Severe weather, Landslide/Mass Movements, Flood, Dam Failure, Tsunami						
New & Existing	1, 6, 8, 9, 11, 13	CCWD	SFPUC; Cal OES; County of San Mateo	Low	Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action CWS-7</b> —Pro-actively plan/schedule for replacement of aging and vulnerable infrastructure and facilities within the District as part of the District's 10 year Capital Improvement Program.						
<u>Hazards Mitigated:</u> Earthquake, Wildfire, Drought, Severe weather, Landslide/Mass Movements, Climate Change, Flood, Dam Failure, Tsunami, Sea Level Rise						
New & Existing	1, 4, 5, 6, 7, 8, 9, 13, 14	CCWD	City of Half Moon Bay; County of San Mateo	Medium	Staff & Consultant Time, General Funds; Debt; Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long-term
<b>Action CWS-8</b> —Ongoing, provide for Fire Break Maintenance including (but not limited to) clearing brush, creating defensible spaces around District assets, facilities and infrastructure, and tree maintenance and removal.						
<u>Hazards Mitigated:</u> Wildfire, Climate Change						
Existing	1, 6, 8, 9, 13, 14	CCWD	Cal Fire; SFPUC; City of Half Moon Bay; County of San Mateo	Low	Staff Time, General Funds	Ongoing
<b>Action CWS-9</b> — Study, evaluate, and assess local source options for water.						
<u>Hazards Mitigated:</u> Drought, Earthquake, Wildfire, Dam Failure, Climate Change						
New & Existing	1, 5, 7, 10, 13, 14	CCWD	SWRCB; SFPUC; BAWSCA; California Coastal Commission; County of San Mateo; CDFW	Low	Staff & Consultant Time, General Funds; Grant Funding-FEMA HMA (BRIC, FMA and HMGP); Debt	Long-Term
<b>Action CWS-10</b> —Continue with Water Conservation Program and Water Shortage Contingency Planning.						
<u>Hazards Mitigated:</u> Drought, Climate Change						
Existing	1, 2, 3, 5, 7, 8, 9, 10, 14	CCWD	SWRCB, SFPUC; BAWSCA; City of Half Moon Bay; County of San Mateo	Low	Staff & Consultant Time, General Funds	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 22-11. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	6	High	High	Yes	Yes	Yes	High	High
2	14	Medium	Low	Yes	No	Yes	Medium	Low
3	14	Medium	Low	Yes	Yes	Yes	Medium	Medium
4	13	High	Low	Yes	No	Yes	High	Low
5	6	Medium	Low	Yes	No	Yes	Medium	Low
6	6	High	Low	Yes	Yes	Yes	High	High
7	9	High	Medium	Yes	Yes	Yes	Low	High
8	6	High	Low	Yes	No	Yes	High	Low
9	6	Medium	Low	Yes	Yes	Yes	Low	Medium
10	9	High	Low	Yes	No	Yes	High	Low

a. See the introduction to this volume for explanation of priorities.

**Table 22-12. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	1, 2, 3, 7, 9	1, 2, 3, 7	2, 3, 4	2, 3, 7, 9	4, 6	1, 7	2, 3, 7, 9	2, 3, 7, 9
Wildfire	2, 3, 7, 8, 9	2, 3, 7, 8	2, 3, 4	2, 3, 7, 9	4, 6, 8	7	2, 3, 7, 8	2, 3, 4
Drought	2, 3, 7, 9, 10	2, 3, 7	2, 3, 10	2, 3, 7, 9	4	7	2, 3, 5, 7, 9, 10	2, 3, 9, 10
<b>Low-Risk Hazards</b>								
Severe Weather	2, 3, 7	2, 3, 7	2, 3, 4	2, 3	4, 6		2, 3	2, 3, 4
Landslides	2, 3, 7	2, 3, 7	2, 3, 4	2, 3	4, 6		2, 3	2, 3, 4
Sea Level Rise / Climate Change	2, 3, 7, 8, 9, 10	2, 3, 5, 7	2, 3	2, 3, 5, 7, 9	4, 6	5	2, 3, 5, 7, 9, 10	2, 3, 10
Flood	2, 3, 7	2, 3, 7	2, 3, 4	2, 3	4, 6		2, 3	2, 3, 4
<b>Low-Risk Hazards</b>								
Dam Failure	2, 3	2, 3	2, 3, 4		4, 6		2, 3	2, 3, 4
Tsunami	2, 3	2, 3	2, 3, 4		4, 6		2, 3	2, 3, 4

a. See the introduction to this volume for explanation of mitigation types.

## 22.8 PUBLIC OUTREACH

Table 22-13 lists public outreach activities for this jurisdiction.



Table 22-13. Local Public Outreach

Local Outreach Activity	Date	Number of People Involved
Public Hearing & Public Notices Re: Coastside County Water District's 2020 Urban Water Management Plan	April-June 2021	10
Mailings/Social Media Re: Implementation of Stage 1 Water Shortage Advisory	May 2021	4

## 22.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **2020 Coastside County Water District Urban Water Management Plan**—Used to assess capabilities and develop the mitigation action plan
- **FY2020-FY2030 Coastside County Water District Capital Improvement Plan**—Used to assess capabilities and develop the mitigation action plan
- **Coastside County Water District America's Water Infrastructure Act Risk and Resiliency Assessment (June 2021)**—Used to assess capabilities and develop the mitigation action plan

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.





## 23. COLMA FIRE PROTECTION DISTRICT

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### 23.1 LOCAL HAZARD MITIGATION PLANNING TEAM

**Primary Point of Contact**

Geoffrey Balton, Fire Chief  
50 Reiner Street  
Colma, CA 94014  
650-755-5681  
gbalton@colmafd.org

**Alternate Point of Contact**

Herb Cheng, Fire Captain  
50 Reiner Street  
Colma, CA 94014  
650-755-5666  
hcheng@colmafd.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 23-1.

**Table 23-1. Local Mitigation Planning Team Members**

Name	Title
Geoffrey Balton	Fire Chief
Peter Dabai	Director
Gina Sheridan	Director
Maryanne Hazard	Director

### 23.2 JURISDICTION PROFILE

#### 23.2.1 Overview

The Colma Fire Protection District (CFPD) is an independent fire district governed by a three-member board of directors elected at large by the voters of the district. Originally organized by volunteers in 1925, the CFPD became a district in 1937 pursuant to Health and safety Code section 13800-13970.

The Fire Board assumes responsibility for the adoption of this plan, the Fire Chief will oversee its implementation. The District participates in the Public Protection Class Rating System and currently has a rating of 2.

#### 23.2.2 Service Area

The district serves a population of approximately 6,000 people. Its service area covers an area of 2.55 square miles and includes Broadmoor/Garden Village, the Town of Colma, and adjacent unincorporated areas.

The Districts enabling legislation permits the following authorized powers: fire protection services, rescue services, emergency medical services, hazardous materials emergency response services, ambulance services, and

any other services relating to the protection of lives and property. CFPD’s active powers include fire suppression, fire prevention, education and training, rescue services, emergency medical services, hazardous material response services (by joint powers authority) ambulance services (by joint powers authority) and Code Enforcement.

### 23.2.3 Assets

Table 23-2 summarizes the assets of the district and their value.

<b>Asset</b>	<b>Value</b>
<b>Property</b>	
Fire Station 85 Land (3/4 acre)	Unknown
<b>Equipment</b>	
Fire Engine 86	\$480,000
Fire Engine 85	\$350,000
Fire Engine 285	\$350,000
Fire Truck 85	\$800,000
<i>Total:</i>	<i>\$1,980,000</i>
<b>Critical Facilities and Infrastructure</b>	
Headquarters Main Building, 50 Reiner Street, Colma CA 94014	\$3,000,000
Tower, SAA	\$200,000
Barn, SAA	\$300,000
Trailer, SAA	\$420,000
<i>Total:</i>	<i>\$3,920,000</i>

## 23.3 CURRENT TRENDS

Recent service trends have led the Fire Department to add more staffing each day to accommodate a noticeable increase in emergency calls for service. There has been an increase in calls related to homeless persons and people with untreated medical conditions. It appears that the underserved population is being more effected by the COVID-19 pandemic than those in more mainstream lifestyles. The Fire Department has been called on to provide more services, including vaccinations, during this public health emergency. This new level of demand has demonstrated even more definitively that we are essential to the community.

## 23.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 23-3.



- An assessment of fiscal capabilities is presented in Table 23-4.
- An assessment of administrative and technical capabilities is presented in Table 23-5.
- An assessment of education and outreach capabilities is presented in Table 23-6.
- Classifications under various community mitigation programs are presented in Table 23-7.
- The community's adaptive capacity for the impacts of climate change is presented in Table 23-8.

**Table 23-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
San Mateo County Pre-Hospital Emergency Medical Services Group (JPA)	1/1999	As a JPA participant, CFPD serves as the primary storage entity for EMS supplies for north San Mateo County. Resources include but are not limited to perishable medical supplies (replaced by the JPA when expired), durable medical equipment, and an oxygen cylinder refilling truck.
Town of Colma (MOU)	December 12, 2018	The town plan includes an MOU for Emergency Response and Public Works

**Table 23-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	No
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes, California Fire Safe Council Grant Clearinghouse, SRA CAL Fire Prevention Fee Grant, California Office of Traffic Safety
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	Yes, Assistance to Firefighters Grant, Staffing for Adequate Fire and Emergency Response (SAFER), Fire Prevention & Safety
Other	San Mateo County Measure K (Supervisor Canepa)

**Table 23-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	No	Informal agreement for Town of Colma and County resources
Engineers or professionals trained in building or infrastructure construction practices	No	Informal agreement for Town of Colma and County resources
Planners or engineers with an understanding of natural hazards	No	Informal agreement for Town of Colma and County resources
Staff with training in benefit/cost analysis	No	Informal agreement for Town of Colma and County resources
Surveyors	No	Informal agreement for Town of Colma and County resources
Personnel skilled or trained in GIS applications	No	Informal agreement for Town of Colma and County resources
Scientist familiar with natural hazards in local area	No	
Emergency manager	No	Formal coordination with County OES and the town of Colma
Grant writers	No	Informal agreement for Town of Colma and County resources

**Table 23-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	No
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	Yes Current issues are posted as needed.
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	No
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	Yes Fire Commission is made up of elected citizens
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes CPR, and Fire Safety Training for the public.
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes SMCAAlert

**Table 23-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	06-14736	N/A
DUNS#	Yes	968705152	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	Yes	02/2X	April 1, 2017
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A



**Table 23-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment:</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment:</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment:</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment:</i>	Low
Participation in regional groups addressing climate risks <i>Comment: Participated in Stanford University sponsored seminars on climate change affecting fire in California</i>	Low
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Low
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	Low
Identified strategies for adaptation to impacts <i>Comment:</i>	Low
Champions for climate action in local government departments <i>Comment:</i>	Low
Political support for implementing climate change adaptation strategies <i>Comment:</i>	Low
Financial resources devoted to climate change adaptation <i>Comment:</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment: Enforce the California Fire Code; identify adaptation opportunities</i>	Medium
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Residents have knowledge of fire safety in relation to climate change</i>	Medium
Local residents support of adaptation efforts <i>Comment: Very receptive to recommendations and suggestions towards fire safety</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: Fuel reduction and property maintenance on an annual basis</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 23.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 23.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Professional Trainings** – All CFPD fire suppression personnel are certified to the California State Firefighter II level and actively involved in the California Incident Command Certification Program. District staff train to enhance their knowledge in many topics to ensure that they are able to respond to events quickly, safely, and with maximum opportunity for success.
- **Public Education Program** – One of the core elements of CFPD’s increases the preparedness and prevention of fire hazards within the communities it serves. To that end, it has developed a public education program that includes online resources, in person trainings, community events, and more.

### 23.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Public Education and Outreach**—Expand District Preparedness Webpage to include the results of the hazard mitigation plan (HMP) update. Develop a comprehensive public information program that also coordinates hazard mitigation with the other public education initiatives.
- **Continued Integration with Jurisdictional Plans**—CFPD, San Mateo County, and the Town of Colma have all developed numerous plans to facilitate long-term growth, implementation of strategic goals/mission, and increased resiliency. CFPD plays an important role in the Town of Colma and the County as it enhances the safety of many residents in unincorporated Broadmoor Village. This HMP update marks one way in which CFPD will focus on increasing the coordination between District plans, County plans, and the Town of Colma plans to ensure that local governance considers the capabilities and resources of CFPD during a hazard event.

## 23.6 RISK ASSESSMENT

### 23.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 23-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.



**Table 23-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Flood	N/A	1/26/2021	Roadway flooding near I-280 N and Serramonte Blvd.
Fire	DR-4558	8/14/2020 – 9/26/2020	Unknown
Fire	FM-5336	8/20/2020	Unknown
California COVID-19	DR-4482	1/20/2020 continuing	Unknown
California COVID-19	EM-3428	1/20/2020 continuing	Unknown
Flood	N/A	1/16/2020	Roadway flooding at I 280 N at Exit 47
Flood	N/A	11/23/2018	Roadway flooding, vehicle stuck in water
Severe Storm	DR-4308	2/1/2017 – 2/23/2017	Unknown
Severe Storm	DR-4305	1/18/2017 – 1/23/2017	Unknown
Fire	FM-2856	9/10/2010	Provided mutual aid response
Severe Storm	DR-1646	6/5/2006	Provided mutual aid response
Severe Storm	DR-1628	2/3/2006	Provided mutual aid response
Severe Storm	DR-1203	2/9/1998	Provided mutual aid response
Severe Storm	DR-1155	1/4/1997	Provided mutual aid response
Severe Storm	DR-1046	3/12/1995	Provided mutual aid response
Severe Storm	DR-1044	1/10/1995	Provided mutual aid response
Earthquake	DR-845	10/18/1989	Provided mutual aid response

### 23.6.2 Hazard Risk Ranking

Table 23-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 23-10. Hazard Risk Ranking**

Rank	Hazard	Risk Category
1	Landslide/Mass Movements	High
2	Earthquake	High
3	Severe weather	Medium
4	Drought	Low
5	Flood	Low
6	Sea Level Rise / Climate Change	Low
6	Dam Failure	Low
6	Tsunami	Low
6	Wildfire	Low

### 23.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Station 85, at 50 Reiner Street in Colma, serves as the primary fire and medical response headquarters for the Town of Colma and for Broadmoor Village and Garden Village in unincorporated San Mateo County. The main building was built in the 1950s and is extremely vulnerable to the earthquake hazard. This

facility houses all primary response vehicles for the district and is accessible through only a single access point. The district has experienced issues due to poor design, causing delays in response time for sticking doors and inaccessibility. Additionally, storage capacity is segmented on the property, with resources housed in four buildings – a trailer, an historic barn, an old training fire tower, and the main building. Without retrofits, upgrades, and new facilities, Station 85 is likely to partially or fully collapse, rendering CFPD personnel unable to assist their service areas in the event of a major earthquake – leaving approximately 6,000 people without appropriate fire and medical attention during a disaster.

Mitigation actions addressing this issue were prioritized for consideration in the action plan for this annex.

### 23.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 23-11 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action CFPD-1</b> – Develop a standing Master Services MOU with the Town of Colma to formalize existing administrative and technical services relationships.</p> <p><i>Comment: Completed June 2018</i></p>	✓			
<p><b>Action CFPD-2</b>—Develop a Continuity of Operations Plan for the District outlining redundancy priorities and a framework for continuation of district services in case of facility loss or other major service disruption.</p> <p><i>Comment: This will be an ongoing item.</i></p>			✓	CFD-8
<p><b>Action CFPD-3</b>— Conduct an engineering study on requirements for building upgrade and retrofits to provide a recommendation and analysis on the benefit/cost of upgrading/retrofitting current facilities or replacing current facilities.</p> <p><i>Comment: Carried over to new plan. Unable to complete due to staff priorities and COVID.</i></p>			✓	CFD-1
<p><b>Action CFPD-4</b>— If so recommended by a completed engineering study, retrofit and upgrade current facilities to current seismic standards.</p> <p><i>Comment: Carried over to new plan. Unable to compete since 4 wasn't completed.</i></p>			✓	CFD-2
<p><b>Action CFPD-5</b>— If so recommended by a completed engineering study, replace current facility complex with a seismically sound, single facility for consolidating, housing, distributing, and dispatching district and state resources for the district service area and northern San Mateo County.</p> <p><i>Comment: Carried over to new plan. Unable to complete since 3 and 4 were not done.</i></p>			✓	CFD-2
<p><b>Action CFPD-6</b>—Develop a mitigation component to the existing district public outreach program including a mitigation supplement for training and an upgraded website.</p> <p><i>Comment: Completed in 2019.</i></p>	✓			
<p><b>Action CFPD-7</b>—Replace the current facility permanent generator to ensure continued operations in the event of a power outage.</p> <p><i>Comment: Completed June 2017</i></p>	✓			
<p><b>Action CFPD-8</b>—Continue to support the countywide actions identified in this plan.</p> <p><i>Comment: Ongoing with updated plan.</i></p>			✓	CFD-5



Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action CFPD-9</b> —Actively participate in the plan maintenance strategy identified in this plan. <i>Comment: Ongoing with updated plan.</i>			✓	CFD-4
<b>Action CFPD-10</b> —Integrate the hazard mitigation plan into other plans, programs, or resources, that dictate land use or redevelopment. <i>Comment: Ongoing with updated plan.</i>			✓	CFD-2

### 23.8 HAZARD MITIGATION ACTION PLAN

Table 23-12 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 23-13 identifies the priority for each action. Table 23-14 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 23-12. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action CFD-1</b> —Conduct a feasibility study to determine if the current station can be retrofitted or should be replaced with a sustainable facility.						
<i>Hazards Mitigated:</i> Existing	Landslide/Mass Movements, Earthquake, Severe weather, Flood, Climate Change, Dam Failure, Tsunami, Wildfire 6, 7, 9, 13	CFPD	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), District Budget	Short-term
<b>Action CFD-2</b> — Consider implementation of the findings of the feasibility study with retrofits to, or replacement of the current facility complex with a sustainable, single facility for consolidating, housing, distributing, and dispatching district and state resources for the district service area and northern San Mateo County.						
<i>Hazards Mitigated:</i> Existing	Landslide/Mass Movements, Earthquake, Severe weather, Flood, Climate Change, Dam Failure, Tsunami, Wildfire, Sea Level Rise 6, 7, 9, 13	CFPD	N/A	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), District Budget	Long-term
<b>Action CFD-3</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Professional Trainings and Public Education Programs.						
<i>Hazards Mitigated:</i> New & Existing	Landslide/Mass Movements, Earthquake, Severe weather, Drought, Flood, Climate Change, Dam Failure, Tsunami, Wildfire, Sea Level Rise 10, 12	CFPD	N/A	Low	Staff Time, District Budget	Ongoing
<b>Action CFD-4</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> New & Existing	Landslide/Mass Movements, Earthquake, Severe weather, Drought, Flood, Climate Change, Dam Failure, Tsunami, Wildfire, Sea Level Rise 10, 12	CFPD	N/A	Low	Staff Time, District Budget	Short-term
<b>Action CFD-5</b> — Continue to support the countywide actions identified in this plan.						
<i>Hazards Mitigated:</i> New & Existing	Landslide/Mass Movements, Earthquake, Severe weather, Drought, Flood, Climate Change, Dam Failure, Tsunami, Wildfire, Sea Level Rise 10, 12	CFPD	N/A	Low	Staff Time, District Budget	Short-term
<b>Action CFD-6</b> —Identify and pursue strategies to increase adaptive capacity to climate change and Sea Level Rise.						
<i>Hazards Mitigated:</i> New & Existing	Climate Change 7, 14	CFPD	N/A	Low	Staff Time, District Budget	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action CFD-7</b> — Purchase portable generators for critical facilities and infrastructure that lack adequate backup power.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Flood, Dam Failure, Tsunami, Wildfire						
Existing	6, 7	CFPD	N/A	Low	Grant Funding-FEMA HMA (BRIC, FMA and HMGP), District Budget	Short-term
<b>Action CFD-8</b> — Develop a Continuity of Operations Plan for the District outlining redundancy priorities and a framework for continuation of district services in case of facility loss or other major service disruption.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Flood, Dam Failure, Tsunami, Wildfire						
New & Existing	6, 7	CFPD	N/A	Low	District Budget	Short-term
<b>Action CFD-9</b> —Create a facilities master plan.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Flood, Dam Failure, Tsunami, Wildfire						
New & Existing	6, 7	CFPD	N/A	Low	District Budget	Short-term
<b>Action CFD-10</b> — Obtain services from an outside consultant to identify FEMA or other hazard mitigation grant opportunities, apply for grants that can be used to fund the district’s identified Hazard Mitigation Actions and administer any grants received and subsequent audits.						
<u>Hazards Mitigated:</u> Landslide/Mass Movements, Earthquake, Severe weather, Flood, Climate Change, Dam Failure, Tsunami, Wildfire, Sea Level Rise						
New & Existing	2, 8	CFPD	N/A	Low	District Budget	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 23-13. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	4	Medium	Medium	Yes	Yes	Yes	Medium	Medium
2	4	High	High	Yes	Yes	No	Medium	High
3	2	Medium	Low	Yes	No	Yes	High	Low
4	2	Medium	Low	Yes	No	Yes	High	Low
5	2	Medium	Low	Yes	No	Yes	High	Low
6	2	Low	Low	Yes	No	Yes	Low	Low
7	2	High	Low	Yes	Yes	Yes	High	High
8	2	Medium	Low	Yes	No	Yes	High	Low
9	2	Medium	Low	Yes	No	Yes	High	Low
10	2	Medium	Low	Yes	No	Yes	High	Low

a. See the introduction to this volume for explanation of priorities.



**Table 23-14. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Landslide/ Mass Movements		1, 2, 3, 4, 5, 7, 8, 9	3		1, 2, 7, 8	1, 2, 7		1, 3, 10
Earthquake		1, 2, 3, 4, 5, 7, 8, 9	3		1, 2, 7, 8	1, 2, 7		1, 3, 10
<b>Medium-Risk Hazards</b>								
Severe weather		1, 2, 3, 4, 5, 7, 8, 9	3		1, 2, 7, 8	1, 2, 7	1, 2, 3, 4, 5, 6	1, 3, 10
<b>Low-Risk Hazards</b>								
Drought			3				3, 4, 5	
Flood		1, 2, 3, 4, 5, 7, 8, 9	3		1, 2, 7, 8	1, 2, 7	1, 2, 3, 4, 5, 6	1, 3, 10
Sea Level Rise / Climate Change		1, 2, 3, 4, 5	3		1, 2	1, 2	1, 2, 3, 4, 5, 6	1, 3, 10
Dam Failure		1, 2, 3, 4, 5, 7, 8, 9	3		1, 2, 7, 8	1, 2, 7		1, 3, 10
Tsunami		1, 2, 3, 4, 5, 7, 8, 9	3		1, 2, 7, 8	1, 2, 7		1, 3, 10
Wildfire		1, 2, 3, 4, 5, 7, 8, 9	3		1, 2, 7, 8	1, 2, 7	1, 2, 3, 4, 5, 6	1, 3, 10

a. See the introduction to this volume for explanation of mitigation types.

## 23.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **2016 San Mateo County Hazard Mitigation Plan**—The previous plan was referenced for District assets.
- **District Records Management System and Logbooks**—These records were used to compile current trends and service call increases.
- **Department Correspondence**—Emails and letters were reviewed for the MOU with the Town of Colma and for the District’s Public Protection rating.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.





## 24. HIGHLANDS RECREATION DISTRICT

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### 24.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Derek Schweigart, General Manager  
1851 Lexington Ave.  
San Mateo, CA 94402  
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#### Alternate Point of Contact

Andrew Aquino, HRD Board President  
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650-703-9594  
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This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 24-1.

**Table 24-1. Local Mitigation Planning Team Members**

	Title
Derek Schweigart	General Manager
Andrew Aquino	HRD Board President
Brigitte Shearer	Former General Manager, Resident

### 24.2 JURISDICTION PROFILE

#### 24.2.1 Overview

The Highlands Recreation District’s boundaries encompass the approximately 789 homes located in the San Mateo Highlands. The 3000 residents of the District enjoy access to the facility and reduced costs for participating, due to their property tax contributions. Those residing outside District boundaries may also participate in programs, events, and activities by paying non-resident fees for each activity. The District’s activities primarily occur at the Highlands Recreation Center, a 3.45-acre facility which includes a childcare center for infants and toddlers, a year-round swimming pool, a fitness room, 3 tennis courts, a playground, a gymnasium, two meeting rooms, and administrative offices. While all ages are welcome, the typical patrons are families with school-age children. The District also oversees 40 acres of open space on the northern end of the District’s boundaries. No District activities occur there.

The Highlands Recreation District, formed in 1957, operates under the Community Services District law pursuant to government code 61000 et seq, for the purpose of providing recreational services within the District. Services are provided under the leadership and direction of an elected Board of Directors. The Board of Directors is committed to responding to the needs of the community based on timely and fiscally responsible prioritized planning. Financial support for planning, organizing, and conducting all activities is derived from property taxes, program fees and special purpose grants.

The General Manager of the Highlands Recreation District assumes responsibility for the adoption of this plan; the General Manager will oversee its implementation.

### 24.2.2 Service Area

The District serves two populations: those who live within District boundaries, and those who live outside the District. Within District boundaries, there are 789 households and a population of approximately 3,000. Patrons from outside the District’s boundaries number approximately an additional 6,400, mostly from unincorporated San Mateo (Baywood Park), the cities of San Mateo, Belmont, and Burlingame and the Township of Hillsborough. The District boundaries cover 1.88 square miles. Replacement value of the District’s facilities is approximately \$7,700,000. The assessed valuation of all assets in the District, which includes the Recreation Center, and the surrounding homes is approximately \$671,765,407 (SMC Tax Rate Book FY 2020-21). The District’s western boundaries are less than 1 miles from the San Andreas fault.

### 24.2.3 Assets

Table 24-2 summarizes the critical assets of the district and their value.

<b>Asset</b>	<b>Value</b>
<b>Property</b>	
3.45 acres of land	N/A
40 acres (open space land, natural timber) @2,055/acre	\$82,200
<b>Equipment</b>	
Propane and Gas generator	\$1,000
2005 Chevy Van	\$30,000
2005 Chevy Van	\$30,000
1998 Ford Truck	\$15,000
Golf Cart	\$15,000
<b>Total:</b>	<b>\$91,000</b>
<b>Critical Facilities and Infrastructure</b>	
Highlands Recreation District Main Building (Administration, Gym, Social Hall, Restroom)	\$4,500,000
Highlands Recreation District Early Education Center	\$3,200,000
<b>Total:</b>	<b>\$7,700,000</b>

## 24.3 CURRENT TRENDS

The Highlands Recreation District was originally formed in 1957 to provide recreation facilities and programs for residents within the District. The District is made up of approximately 789 residential homes serving nearly 3,000 residents. Patrons from outside the District’s boundaries number approximately an additional 6,400, mostly from unincorporated San Mateo (Baywood Park), cities of San Mateo, Belmont, Burlingame, and Hillsborough. Population in the service area is not projected to change significantly in the next 10 years given current building and zoning codes which limit construction of new residential homes. Adjacent to the Highlands neighborhood is a large, undeveloped parcel of land that is zoned as a Resource Management district by San Mateo County. Many residents of the Highlands feel that the open space surrounding the Highlands is one of the many charms that makes the neighborhood unique and highly valued and do not wish to see further development there. Like many



parts of the Bay Area, home values have increased significantly in recent years. As new and younger families with children locate to the neighborhood, the demand for a diverse offering of recreation services and programs can be expected.

## 24.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 24-3.
- An assessment of fiscal capabilities is presented in Table 24-4.
- An assessment of administrative and technical capabilities is presented in Table 24-5.
- An assessment of education and outreach capabilities is presented in Table 24-6.
- Classifications under various community mitigation programs are presented in Table 24-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 24-8.

**Table 24-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
HRD Emergency Action Plan (EAP 2016)	2019	Plan was updated in 2019
Child Care Center Integrated Pest Management Plan (2015)	2015	The Integrated Pest Management Plan allows the Highlands Recreation District to focus on long-term prevention or suppression of pests through accurate pest identification, monitoring for pest presence, and application of appropriate sanitation, mechanical, and physical controls.
Highlands Recreation District Health Policy (2014)	2019	This is the District’s Injury and Illness Prevention Program and was updated in 2019. This policy ensures that the Highlands Recreation District can maintain a safe atmosphere, diminishing the potential for health-related issues and disease outbreaks.

**Table 24-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	No
Other	No

**Table 24-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Independent Contractor
Engineers or professionals trained in building or infrastructure construction practices	Yes	Independent Contractor
Planners or engineers with an understanding of natural hazards	Yes	Independent Contractor
Staff with training in benefit/cost analysis	Yes	General Manager
Surveyors	Yes	Independent Contractor
Personnel skilled or trained in GIS applications	Yes	Can contract for this service
Scientist familiar with natural hazards in local area	Yes	Independent Contractor
Emergency manager	Yes	General Manager
Grant writers	Yes	Independent Contractor
Other	No	

**Table 24-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes, General Manager
Do you have personnel skilled or trained in website development?	Yes, in-house and contract capability.
Do you have hazard mitigation information available on your website? • If yes, please briefly describe	Yes Linked to County Haz Mitigation plan
Do you use social media for hazard mitigation education and outreach? • If yes, please briefly describe	Yes FB, website, Nextdoor
Do you have any citizen boards or commissions that address issues related to hazard mitigation? • If yes, please briefly specify	Yes Community Emergency Response Team (CERT)
Do you have any other programs already in place that could be used to communicate hazard-related information? • If yes, please briefly describe	Yes Community Emergency Response Team (CERT)
Do you have any established warning systems for hazard events? • If yes, please briefly describe	Yes On site alarms; Participate in San Mateo County Alert system



**Table 24-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes	06081	May 2019
DUNS#	Yes	071878979	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 24-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: District manages open space and routinely conducts fuel reduction activities</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: Potential for District to monitor its open space and climate change impacts but resources needed</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment:</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment:</i>	Low
Participation in regional groups addressing climate risks <i>Comment: General Manager currently participates in regional groups, but this area could be improved</i>	Medium
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: The District Board of Directors has the authority to represent the District in said matters.</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	Low
Identified strategies for adaptation to impacts <i>Comment:</i>	Low
Champions for climate action in local government departments <i>Comment: The District Board of Directors and General Manager could provide this support.</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment: It is in the interest of the District to help reduce climate impacts to the District owned property</i>	Medium
Financial resources devoted to climate change adaptation <i>Comment:</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Low

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Highlands Community Association participates is aware and participates in mitigation efforts.</i>	High
Local residents support of adaptation efforts <i>Comment: Highlands residents are highly engaged and have an active and informed CERT group that serves the community. The District is an active participant.</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: Highlands residents are highly engaged and have an active and informed CERT group that serves the community. The District is an active participant.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 24.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 24.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Child Care Center Integrated Pest Management Plan** – Mitigates infestation and waterborne/vector-borne diseases.
- **Highlands Recreation District Health Policy Injury and Illness Prevention Program** – Mitigates disease outbreaks and pandemics.
- **Emergency Action Plan** – Outlines action plan for continuing operations during a hazard
- **Hazardous Materials Business Plan** – Outlines action plan for attending to Hazardous materials on site
- **Hazardous Communication Plan** – Outlines documentation policy for working with or around hazardous materials, during regular operations and/ or a hazard.
- **Open Space Fuel Reduction Program** – Oversee annual fuel reduction efforts in 40 acres of open space managed by District



## 24.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **CERT** – Community Emergency Response Team – CERT team will assist with resident education and preparedness and expansion/ depth of emergency shelter plan documents and operation and HRD continuing operations plans
- **Capital Improvement Plan/ long term financial projections** – the CIP will more specifically include financing projections
- **Emergency Action Plan** – additional opportunity to integration exists to expand plan for continuing operations in event of a hazard
- **Facility Assessment and Master Plan** – This plan will be developed over the next two fiscal years (FY 2021-22 and 2022-23) which will inform future facility renovations and improvements.
- All other plans listed above can be expanded to more specifically address each type of hazard

## 24.6 RISK ASSESSMENT

### 24.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 24-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 24-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Seneca Ln. Mudslide on Open Space	N/A	2017	\$1.05 million estimate cost paid by County. Storm drainpipe damage as a result of significant mudslide caused by relatively steep slope and deep saturation of ground by a combination of sustained heavy rainfall in the area, concentrated runoff from nearby drainage ditch.
Loma Prieta Earthquake	DR-845	1989	no significant damage within jurisdiction
Wildfire (possible arson, but high fire risk area)	N/A	1988	Smoke damage to residential homes, but no homes lost
Landslide at facility	N/A	1970s	Portion of play yard was lost; Retaining wall built to secure hillside

### 24.6.2 Hazard Risk Ranking

Table 24-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 24-10. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide	49	High
2	Wildfire	45	High
3	Earthquake	36	High
4	Severe Weather	24	Medium
5	Sea level Rise / Climate Change	21	Medium
6	Flood	17	Medium
7	Dam Failure	16	Medium
8	Drought	9	Low
9	Tsunami	2	Low

### 24.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- County drainage system throughout District – streets and open space is aging and vulnerable to severe weather or earthquake movement putting residences at risk.
- 40-acre open space requires ongoing fuel reduction efforts to protect 200 adjacent homes.
- Access for fire crews is limited due to failing roadway in 40-acre open space.
- The District’s Recreation Center does not have a generator to assist with emergency shelter operations or continuity of service. The District houses two childcare programs from infants to grade school age.
- One of the childcare programs operating out of the Methodist Church at 2145 Bunker Hill Drive lacks seismic reinforcement but is critical for our childcare operations.
- SF Water maintains water towers in property adjacent to District property. A threat that would damage either tower would result in hill erosion and impact the District’s facilities or nearby property.
- There is a 90-acre parcel of land adjacent to District property and nearby homes which is under a conservation easement. The property is not maintained and there are erosion and land stability issues which places residences at risk.
- District is surrounded by open space, heavily wooded, steep, and inaccessible. The wildfire threat is significant to the entire District which would put the 800 surrounding homes, 650 student elementary, and District facilities at risk. Some of the property is owned by the SFPUC and receives some fuel mitigation.
- The District’s swimming pool and equipment is old and may be vulnerable during an earthquake or severe weather. Hazardous chemical storage may be vulnerable.
- The District’s main building is in need of major renovation which was originally constructed in 1958. Recent seismic work was completed but the facility’s long term sustainability will need to be addressed.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.



## 24.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 24-11 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 24-11. Status of Previous Plan Actions**

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action #HRD-1</b>—Design and construct new main building to replace existing building ( and implement requisite continuity of operations plan during construction). Existing building (built in 1958) would require significant seismic retrofit, so complete rebuild is planned.</p> <p><i>Comment: Not completed. Facility master plan and funding needed. Seismic retrofit work was completed to main building in 2019-20.</i></p>			✓	HRD-3
<p><b>Action # HRD-2</b>—Continue annual fuel reduction in District open space (40 acres) – through Cal Fire crew work and annual goat grazing</p> <p><i>Comment: Last completed March 2020, next dates June/July 2021</i></p>	✓			
<p><b>Action # HRD-3</b>—Engage San Mateo County to develop fuel reduction plan for 90 acres of Conservation Easement (not currently governed by District)</p> <p><i>Comment: This action is being removed as it is not feasible at this time.</i></p>		✓		
<p><b>Action # HRD-4</b>—Purchase generator to meet District emergency shelter and ongoing operational needs</p> <p><i>Comment: District owns gas/propane generator but limited capacity</i></p>			✓	HRD-2
<p><b>Action # HRD-5</b>—Construct more stable and watertight storage/ protection for swimming pool operating equipment and chemical storage</p> <p><i>Comment: The District's pool mechanical room and chemical storage meets health and safety codes but is primarily wood construction and although secured some chemicals are currently stored in a room with open air construction.</i></p>			✓	HRD-4
<p><b>Action # HRD-6</b>—Assess erosion status/ earth movement mitigation steps in District open space</p> <p><i>Comment: Geotechnical work completed at landslide area, but no other assessment completed</i></p>			✓	HRD-5
<p><b>Action # HRD-7</b>—Assess viability of and possibly implement repairs to 'Old Fire Road' in 40-acre open space to allow continuous access for fire fighting</p> <p><i>Comment: This action is being removed as it is not feasible at this time.</i></p>		✓		
<p><b>Action # HRD-8</b>—Assess erosion status/ earth movement mitigation in Conservation Easement property – adjacent to 500+ District residences (Land not currently governed by District)</p> <p><i>Comment: This action is being removed as it is not feasible at this time.</i></p>		✓		
<p><b>Action # HRD-9</b>—Identify 'model' properties showing proper defensible space preparation</p> <p><i>Comment: Not aware of whether this has been completed in the past 5 years</i></p>			✓	HRD-7
<p><b>Action # HRD-10</b>—Update Emergency Shelter operational guide/ plan</p> <p><i>Comment: District has an agreement with American Red Cross to operate an emergency shelter with District facilities</i></p>	✓			
<p><b>Action # HRD-11</b>—Develop continuity of operations plan for District</p> <p><i>Comment: Has not been completed to date</i></p>			✓	HRD-8
<p><b>Action # HRD-12</b> – Work with CERT group to educate and assist residents with disaster preparation –family disaster plan and supplies</p> <p><i>Comment: District staff continue to work with CERT group on disaster preparedness</i></p>	✓			

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action G-1</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><i>Comment: This action item is ongoing and should be continued into next plan.</i></p>			✓	HRD-9
<p><b>Action G-2</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><i>Comment: This action item is ongoing and should be continued into next plan.</i></p>			✓	HRD-10

## 24.8 HAZARD MITIGATION ACTION PLAN

Table 24-12 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 24-13 identifies the priority for each action. Table 24-14 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 24-12. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action HRD-1</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community.</p> <p><i>Hazards Mitigated:</i> Earthquake, landslide, severe weather, wildfire</p>						
Existing	1, 2, 5, 9, 10, 13, 14	HRD	County	Low	Staff Time, General Funds	Ongoing
<p><b>Action HRD-2</b>— Purchase generators for critical facilities and infrastructure that lack adequate backup power, including for main HRD building and Early Education Center which service childcare centers and serves as an emergency shelter for American Red Cross.</p> <p><i>Hazards Mitigated:</i> Earthquake, landslide, severe weather, wildfire</p>						
Existing	2, 6, 8, 9, 10, 11	HRD	CERT	Low	General Fund, Grants-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<p><b>Action HRD-3</b>— Design and construct new main building to replace existing building ( and implement requisite continuity of operations plan during construction). Existing building (built in 1958) received seismic retrofit work in 2019-20. Facilities master plan and funding needs to be identified to move the project forward.</p> <p><i>Hazards Mitigated:</i> Climate Change, Earthquake</p>						
New to replace Existing	1, 4, 6, 9, 13	HRD	None	High	General Fund, Loans, Bond, Fundraising	Long-term
<p><b>Action HRD-4</b>— Construct more stable and watertight storage/ protection for swimming pool operating equipment and chemical storage.</p> <p><i>Hazards Mitigated:</i> Earthquake, severe weather</p>						
Existing	1, 5, 6,9	HRD	None	Medium	General Fund, Loans, Grants-FEMA HMA (BRIC, FMA and HMGP)	Long-term
<p><b>Action HRD-5</b>— Assess erosion status/ earth movement mitigation steps in District open space.</p> <p><i>Hazards Mitigated:</i> Earthquake, landslide, severe weather</p>						
Existing	1, 5, 6, 7, 13	HRD	None	Medium	Staff Time, General Fund, Grants-FEMA HMA (BRIC, FMA and HMGP)	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action HRD-6</b> — Assess viability of and possibly implement repairs to vulnerable access points in open space areas to allow continuous access for fire-fighting.						
<u>Hazards Mitigated:</u> Earthquake, landslide, severe weather, wildfire						
Existing	1, 2, 5, 6, 7, 9, 13, 14	HRD	Cal Fire County	High	General Fund, Loans, Grants-FEMA HMA (BRIC, FMA and HMGP)	Long Term
<b>Action HRD-7</b> — Identify 'model' properties showing proper defensible space preparation.						
<u>Hazards Mitigated:</u> Severe weather, wildfire						
Existing	1, 2, 5, 6, 7, 8, 9	HRD	Highlands Community Assoc	Low	Staff Time, General Fund	Short-term
<b>Action HRD-8</b> — Develop continuity of operations plan for District.						
<u>Hazards Mitigated:</u> Earthquake, flood, landslide, severe weather, wildfire						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 10, 11	HRD	None	Low	Staff Time, General Fund, Grants-EMPG and HSGP	Short-term
<b>Action HRD-9</b> --- Support the County-wide initiatives identified in Volume 1 of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Landslide, Wildfire, Earthquake, Sever weather, Sea level rise/climate change, flood, dam failure, drought, tsunami						
Existing	1, 2, 3, 5, 6, 7, 8, 9, 10	HRD	None	Medium	Staff Time, General Fund	Ongoing
<b>Action HRD-10</b> — Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Landslide, Wildfire, Earthquake, Sever weather, Sea level rise/climate change, flood, dam failure, drought, tsunami						
Existing	1, 2, 3, 5, 6, 7, 8, 9, 10	HRD	None	Medium	Staff Time, General Fund	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 24-13. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	7	Low	Low	Yes	No	Yes	Medium	Low
2	6	High	Low	Yes	Yes	Yes	High	High
3	6	High	High	Yes	Yes	No	Medium	Low
4	4	Medium	Medium	Yes	Yes	Yes	Medium	Medium
5	5	High	Medium	Yes	Yes	Yes	Medium	High
6	8	High	High	Yes	Yes	No	Medium	High
7	7	Low	Low	Yes	No	Yes	Low	Low
8	10	Medium	Low	Yes	Yes	Yes	High	Medium
9	9	Medium	Medium	Yes	No	No	Medium	Medium
10	9	Medium	Medium	Yes	No	No	Medium	Low

a. See the introduction to this volume for explanation of priorities.

**Table 24-14. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Landslide	1, 4, 5, 9, 10	3,	1,4	4, 5	2, 8		1, 3	2, 4, 8, 9, 10
Wildfire	1, 4, 6, 7, 9, 10	3, 6	1, 4, 7	4	2, 6, 8	6	1, 3	2, 4, 7, 8, 9, 10
Earthquake	1, 5, 9, 10	3,4	1	5	2, 6, 8			2, 8, 9, 10
<b>Medium-Risk Hazards</b>								
Severe weather	1, 4, 5, 7, 9, 10	3, 4, 6	1, 4, 7	4, 5	2, 8		1	2, 4, 7, 8, 9, 10
Sea level Rise / Climate change	1, 4, 9, 10	3,	1,4	4			1, 3	
Flood	1, 5, 9, 10	3, 6	1	4, 5	2,8		1, 3	2, 8, 9, 10
Dam Failure	1, 9, 10		1		8			2, 8, 9, 10
<b>Low-Risk Hazards</b>								
Drought	1, 9, 10	3,	1				1,3	
Tsunami	1, 9, 10	3,	1		2, 8			2, 8, 9, 10

a. See the introduction to this volume for explanation of mitigation types.

## 24.9 PUBLIC OUTREACH

Table 24-15 lists public outreach activities for this jurisdiction.

**Table 24-15. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Nextdoor (social media)	Mar-June 2021	1,000+
Lowdown community newsletter	Mar-June 2021	1,000+

## 24.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **HRD Emergency Action Plan** —The Emergency Action Plan was reviewed for the capability assessment and for identifying opportunities for action plan integration.
- **CERT Action Plan** – The CERT standard operating procedures and action plan was reviewed for the capability assessment and for identifying opportunities for action plan integration.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.



# 25. MENLO PARK FIRE PROTECTION DISTRICT

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## 25.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

E. Andrés Acevedo, CEM  
Emergency Services Specialist  
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### Alternate Point of Contact

Jon Johnston  
Fire Marshal  
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Menlo Park, CA 94025  
650-668-8431  
JonJ@menlofire.org

Development of this annex was carried out by the members of the local mitigation planning team, whose members are listed in Table 25-1.

**Table 25-1. Local Mitigation Planning Team Members**

Name	Title
E. Andrés Acevedo	Emergency Services Specialist
Ryan Zollicoffer	Disaster Response Manager
Jon Johnston	Division Chief/Fire Marshal
Jon Hitchcock	Senior Management Analyst
Long Lam	Senior Accountant

## 25.2 JURISDICTION PROFILE

### 25.2.1 Overview

Founded in 1916, the Menlo Park Fire Protection District (MPFPD or District) is a Special District located on the San Francisco Peninsula in the southernmost part of San Mateo County in the metropolitan bay area. The District serves approximately 29 square miles consisting of 4 square miles of marshland, 8 square miles of the San Francisco Bay, 16.6 square miles of land mass and 1 square mile of Federal Lease Land for the Stanford Linear Accelerator (SLAC) located on Stanford Lands. The District serves approximately 90,000 permanent residents, and is a hub for life science startups, venture capital investment firms, light industrial and corporate campuses like SRI International and Facebook, and Federal campuses such as the Veterans Administration Medical Center. The Fire District independently and directly serves our District residents who reside in the Town of Atherton, City of East Palo Alto, City of Menlo Park, and unincorporated areas of San Mateo County along with contract services to the Stanford Linear Accelerator (SLAC).

The District operates under the authority of the California Health and Safety Code Section 13800 et seq. and is governed by a Board of Directors composed of five community members, duly elected by the citizens of the District and serving staggered four-year terms.

As a Special District, MPFPD provides a full array of fire, rescue, and emergency medical services to the cities of East Palo Alto and Menlo Park, the Town of Atherton, and unincorporated areas of southern San Mateo County. The District employs 148.5 FTEs and responds to over 8,700 calls for service annually. Currently, the District's assessed valuation is \$44.55 billion, with an approved budget for the fiscal year 2020–2021 of \$60 million.

The District provides services from several strategically located fire stations housing seven engine fire companies, two truck/ladder companies, one EMS rescue, one Type 1 Heavy Rescue unit, and several water rescue crafts (airboat, rigid bottom inflatable boat, jet skis). The District provides administrative support from one main administrative building and a secondary located behind the main building. These buildings house the offices of senior administrative staff and the Fire Prevention Bureau. Additionally, MPFPD is the sponsoring agency for FEMA Urban Search and Rescue (USAR) California Task Force #3 and one of the CAL-OES Swift Water Rescue Teams.

The District Board of Directors assumes responsibility for the adoption of this plan; the Fire Chief will oversee its implementation. The District participates in the Public Protection Class Rating System and currently has an ISO rating of 2.

## 25.2.2 Service Area

The District service area covers approximately 29 square miles consisting of 4 square miles of marshland, 8 square miles of the San Francisco Bay, 16.6 square miles of land mass and 1 square mile of Federal Lease Land for the Stanford Linear Accelerator (SLAC) located on Stanford Lands. The District serves approximately 90,000 permanent residents, and is a hub for life science startups, venture capital investment firms, light industrial and corporate campuses like SRI International, Facebook, and Federal campuses such as the Veterans Administration Medical Center.

## 25.2.3 Assets

Table 25-2 summarizes the assets of the District and their value.

**Table 25-2. Special Purpose District Assets**

Asset	Replacement Value
<b>Property</b>	
6.79 acres of land	\$19.8 million (acquisition value)
<b>Equipment</b>	
Ford F350 - 2001	100,000
Pierce Dash - 2002	750,000
Pierce Dash - 2003	750,000
Pierce Dash - 2005	750,000
Nissan Forklift - 1998	15,000
Ford F350 - 2005	50,000
Charmac Community Safety House - 2006	100,000



Asset	Replacement Value
Pierce Pumper -2006 (2 @ \$750,000 each)	1,500,000
Ford Ranger - 1999	40,000
Dodge Caravan - 2000	40,000
Chevy Wagon (suburban) - 2002	40,000
Chevrolet Silverado 3500 HD Utility - 2008	80,000
Chevrolet Silverado Dually - 2008	80,000
International Paystar 5000 Water Truck - 2008	100,000
Lull Reach Forklift - 1996	95,000
Wells Cargo 16' Utility Tri - 1996	15,000
Ford Tractor - 1990	80,000
F1954 Knuckle Boom 6x4 - 1986	100,000
Pierce Velocity Engine - 2009 (2 @ \$750,000 each)	1,500,000
US 36' Trailer command trailer - 1988	60,000
Chevy Suburban - 2009	100,000
Chevy Silverado 1500 - 2011 (4 @ \$35,000 each)	140,000
Chevy Police Tahoe -2013	60,000
Chevrolet Malibu - 2015 (2 @ \$30,000 each)	60,000
Chevrolet Tahoe 4x4 Police Vehicle w/equip - 2015	95,000
Chevrolet Silverado 2500 Crew Cab Pickup 4x4 w/equip - 2015	95,000
Chevrolet Impala w equip- 2014	45,000
Pierce Arrow XT Pumper Engine - 2015	750,000
CONCT - Honor Guard Trailer - 2016	15,000
One Hi-Tech Dodge 5500 4WD Crew Cab Wildland Patrol Pumper - 2016	400,000
Pierce Enforcer Quint - 2017	1,400,000
Chevy Malibu - 2018	30,000
American Airboat - 2018	200,000
Coastline Airboat Trailer - 2018	25,000
Chevy Silverado 2500 4WD - 2017	60,000
Chevy Suburban 4WD 3500 - 2017	120,000
Ford Police Interceptor - 2017 (5 @ \$55,000 each)	275,000
Pierce Arrow XT Engine - 2018 (2 @ \$750,000 each)	1,500,000
RAM 5500 SLT Crew Cab 4X4 Light Rescue - 2017	400,000
Forklift/P70 - 2019	85,000
FireVent training trailer - 2018	100,000
LRAD trailer - 2018	100,000
Pierce Arrow Engine - 2019 (2 @ \$750,000 each)	1,500,000
MEOC/Drone/ Sprinter Van - 2019	375,000
Pierce Heavy Duty Rescue - 2018	1,300,000
Pierce Tiller - 2018	1,400,000
Chevy Silverado 2500 - 2017	100,000
Chevy Silverado 2500 4X4 Double Cab Pickup - 2019	40,000
Chevrolet Express Van - 2018 (2 @ \$35,000 each)	70,000
Training Tiller Spartan TDA - 1992	25,000

Asset	Replacement Value
Generic Stationary Generator (7 @ \$17,000 each)	119,000
Water Truck Fort F750 w/ 2,500-gallon tank - 2020	100,000
10' Utility Trailers (9 @ \$4,000)	36,000
Kawasaki Jet Skis (2@ \$10,000)	20,000
Titan Elite Jet Ski Trailer	5,000
Modtech Modular Trailer (2@\$100,000)	200,000
Zodiac Hurricane 553	70,000
Freightliner Lumber Truck - 2003	120,000
TML-4000 Light Tower - 2004	10,000
Grove 15 Ton Crane - 1990	100,000
Princeton Piggyback PB50 -2013	40,000
CASE 480E Tractor 1986	75,000
<i>Total:</i>	<i>\$18,005,000</i>
<b>Critical Facilities and Infrastructure</b>	
Administration & Fire Prevention Offices -- 170 Middlefield Road, Menlo Park	\$8,500,000
Station 1 -- 300 Middlefield Road, Menlo Park	89,574,118
Station 2 -- 2290 University Ave, East Palo Alto	11,549,349
Station 3 -- 32 Almedral Ave, Atherton	19,328,850
Station 4 -- 3322 Alameda de Las Pulgas, Menlo Park	15,500,000
Station 5 -- 4101 Fair Oaks Ave, Menlo Park	16,756,480
Station 6 -- 700 Oak Grove Ave, Menlo Park	10,085,673
Station 77 -- 1467 Chilco Street, Menlo Park	17,350,200
Station 77 -- Mechanic's Shop, Water Rescue Buildings, and Classroom. 1467 Chilco Street, Menlo Park	2,728,500
USAR Warehouse -- 2470 Pulgas Ave, East Palo Alto	21,385,000
<i>Total:</i>	<i>\$212,758,170</i>

## 25.3 CURRENT TRENDS

Over the last 10 years we have seen a consistent moderate growth in call volume. Until the 2020 pandemic, one of the key trends impacting service was traffic congestion that resulted from the strong regional economy, coupled with road infrastructure that has no through arteries. Much of this congestion is from vehicles traveling to and from the Dumbarton Bridge. Many 1-2 story commercial buildings have been replaced with 3-5 story high density residential, and even multiple high rises. Additionally, there has been strong commercial development in the eastern side of the District, along El Camino Real corridor, and Menlo Park's M-2 development areas. There are some new large-scale multi-unit residential developments along the El Camino Real, with many large-scale developments in the queue for East Palo Alto and unincorporated San Mateo County.

## 25.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.



Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 25-3.
- An assessment of fiscal capabilities is presented in Table 25-4.
- An assessment of administrative and technical capabilities is presented in Table 25-5.
- An assessment of education and outreach capabilities is presented in Table 25-6.
- Classifications under various community mitigation programs are presented in Table 25-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 25-8.

**Table 25-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
California Fire Code 2019	2019	
District Ordinances 43-2019,44-2019, 45-2019, 46-2019	2019	District specific fire code amendments
Weed Abatement Program	2021	Annual program from April - June
Emergency Operations Plan	2014	Cities of Menlo Park & East Palo Alto, Town of Atherton
Community Risk Assessment: Standards of Cover Study	2020	Determine the distribution agency’s resources.
Disaster Response Guide	2021	Menlo Fire Document that is aligned with constituent municipalities EOPs

**Table 25-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes – Must be passed by voters	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	Yes
Other - Inspection Fees	Yes

**Table 25-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	No	
Engineers or professionals trained in building or infrastructure construction practices	Yes	Fire Prevention/ Fire Inspectors
Planners or engineers with an understanding of natural hazards	No	
Staff with training in benefit/cost analysis	Yes	Administration Analyst / Accountant
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	IT
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	OEM/ Disaster Response Manager / Emergency Services Coordinator
Grant writers	Yes	Administration Analyst

**Table 25-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	No
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	Yes Facebook, Nextdoor, Twitter
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	Yes Board of Directors Emergency Preparedness Committee
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes CERT/Red Cross Ready
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes SMC Alert, Zone Haven, Walsh Road Siren, Mobile LRAD System

**Table 25-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	008949729	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	Yes	ISO 2	2016
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A



**Table 25-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Primarily focused on wildfire, flooding, and sea level rise risks</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment: Limited wildfire and flooding risks</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Primarily focused on wildfire, flooding, and sea level rise risks</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Limited to District owned facilities and equipment</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Limited to District owned facilities.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: San Francisquito Creek Joint Powers Authority, Fire Safe San Mateo County</i>	Medium
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: The Board of Directors and staff are aware of these risks and continue to consider them in decision making.</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	No Jurisdiction
Identified strategies for adaptation to impacts <i>Comment:</i>	No Jurisdiction
Champions for climate action in local government departments <i>Comment:</i>	No Jurisdiction
Political support for implementing climate change adaptation strategies <i>Comment: The Board of Directors and staff are aware of these risks and continue to consider them in decision making.</i>	Medium
Financial resources devoted to climate change adaptation <i>Comment:</i>	No Jurisdiction
Local authority over sectors likely to be negative impacted <i>Comment:</i>	No Jurisdiction
<b>Public Capacity</b>	
Local residents' knowledge of and understanding of climate risk <i>Comment:</i>	Unsure
Local residents support of adaptation efforts <i>Comment:</i>	Unsure
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	Unsure
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 25.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 25.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **District Capital Plan**—Capital plan for districted owned facilities
- **Community Risk Assessment: Standard of Coverage Report**—Study quantifies community risks and recommends standards of service
- **Disaster Response Guides**—District SOPs written to align with EOPs

### 25.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **City of Menlo Park General Plan**—The General Plan may be able to consider the capabilities and resources of MPFPD during a hazard event.
- **City of East Palo Alto General Plan**—The General Plan may be able to consider the capabilities and resources of MPFPD during a hazard event.
- **Town of Atherton General Plan**—The General Plan may be able to consider the capabilities and resources of MPFPD during a hazard event.
- **San Mateo County General Plan**—The General Plan may be able to consider the capabilities and resources of MPFPD during a hazard event.

## 25.6 RISK ASSESSMENT

### 25.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 25-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.



**Table 25-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Covid-19 Pandemic	DR-4482	January 20, 2020 - Present	Unknown
Severe Winter Storms, Flooding	DR-4308	February 1-23, 2017	Unknown
Severe Storms, Flooding	DR-4305	January 18-23, 2017	Unknown
Severe Storm, Flooding		December 23, 2012	Unknown
Severe Storms, Flooding	DR-1646	March 29 – April 16, 2006	Unknown
Severe Storms, Flooding	DR-1628	December 17, 2005 – January 3, 2006	Unknown
Severe Storm	DR-1203	February 9, 1998	Unknown
Severe Storm	DR-1155	January 4, 1997	Unknown
Severe Storm	DR-1046	March 12, 1995	Unknown
Severe Storm	DR-1044	January 10, 1995	Unknown
Earthquake	DR-845	October 18, 1989	Unknown
Severe Storm	DR1203	February 9, 1998	Unknown

## 25.6.2 Hazard Risk Ranking

Table 25-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 25-10. Hazard Risk Ranking\***

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea Level Rise / Climate Change	54	High
2	Flood	48	High
3	Earthquake	36	High
4	Severe weather	24	Medium
5	Wildfire	0	Medium**
6	Dam Failure	22	Medium
7	Landslide/Mass Movements	18	Medium
8	Drought	9	Low
9	Tsunami	2	Low

\* The Risk Ranking Score is provided by the County for each individual municipality within the County. The District's Risk Ranking Score in the table above is based on the highest individual score from the District's three constituent municipalities.

\*\* Wildfire was upgraded to the Medium Risk Category as some areas within the District are adjacent to wildfire prone areas.

## 25.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Several District facilities lack emergency backup power systems, while others are insufficient to provide enough power to support full operational capacity during power outages.

- Several District facilities do not meet current essential service building standards, these include District Administrative Offices, Station 1, mechanics shop facility, water rescue team facilities and the Urban Search and Rescue warehouse and offices.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 25.7 HAZARD MITIGATION ACTION PLAN

Table 25-11 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 25-12 identifies the priority for each action. Table 25-13 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 25-11. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MPF-1</b> —Incorporate hazard impact analyses and assessments in District facilities development, upgrade, and significant capital maintenance projects.						
<i>Hazards Mitigated:</i> Earthquake, flooding, climate change, dam failure, severe weather, tsunami, landslide, wildfire, Sea Level Rise						
New & Existing	1, 2, 3, 6, 7, 10, 13, 14	MPFPD	Atherton, East Palo Alto, Menlo Park	Low	General Funds Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	short term
<b>Action MPF-2</b> — Conduct a review of existing district facilities located in 100-year, 500-year flood hazard zones and sea level rise inundation zones to identify buildings and building systems vulnerabilities and recommend mitigation projects that could be completed in the short term to increase the operational resilience of the facility.						
<i>Hazards Mitigated:</i> Flooding and climate change, Sea Level Rise						
New & Existing	1, 2, 6, 7, 9, 13, 14	MPFPD	Atherton, East Palo Alto, Menlo Park	Medium	Staff Time, General Funds Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short term
<b>Action MPF-3</b> —Actively participate with San Mateo County in maintaining the plan as outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, flooding, climate change, dam failure, severe weather, tsunami, landslide, Sea Level Rise						
New & Existing	1, 2, 4, 5, 7, 8, 9,10	MPFPD	San Mateo County	Low	Staff Time, General Funds	Short-term
<b>Action MPF-4</b> —Support the Cities’ and Town’s efforts to maintain good standing and compliance under the National Flood Insurance Program through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:						
<ul style="list-style-type: none"> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public information and education on the local flood zones and risks.</li> </ul>						
<i>Hazards Mitigated:</i> Flooding, climate change, severe weather, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 7, 9	MPFPD	Atherton, East Palo Alto, Menlo Park	Low	Staff Time, General Funds	Ongoing
<b>Action MPF-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including, but not limited to, the following:						
<ul style="list-style-type: none"> <li>• A requirement that new facility projects include climate change adaptive designs and strategies as part of the project planning.</li> </ul>						
<i>Hazards Mitigated:</i> Climate change, Sea Level Rise						
New & Existing	1, 2, 5, 6, 7, 9, 13, 14	MPFPD	Atherton, East Palo Alto, Menlo Park	Low	Staff Time, General Funds	Short term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MPF-6</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power, including USAR warehouse/offices, District administrative offices, and District mechanic shop facilities.						
<u>Hazards Mitigated:</u> Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire						
Existing	6, 7, 11, 13	MPFPD	East Palo Alto, Menlo Park	Medium	General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action MPF-7</b> — Install earthquake warning system in fire station 4.						
<u>Hazards Mitigated:</u> Earthquake						
Existing	7, 11	MPFPD	USGS	Low	General Fund	Short-Term
<b>Action MPF-8</b> —The District has limited onsite diesel fueling and gasoline fueling resources needed to keep emergency equipment operating. Conduct an assessment of post disaster fuel needs, current fueling capabilities, fuel inventory, and recommend ways to address any gaps identified.						
<u>Hazards Mitigated:</u> Earthquake, flooding, severe weather, wildfire						
New & Existing	6, 7, 13	MPFPD	Atherton, East Palo Alto, Menlo Park	Medium	General Fund	Short-Term
<b>Action MPF-9</b> — The District has a warehouse and office facility that does not meet current systemic safety codes as well as being located in a flood plain. Upgrade the facility to meet current seismic code and flooding risk.						
<u>Hazards Mitigated:</u> Earthquake, flooding, climate change						
Existing	6, 7, 8, 13	MPFPD	East Palo Alto	High	General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<b>Action MPF-10</b> — Upgrade the existing outdoor Walsh Road siren located in Atherton by the Bear Gulch reservoir with a Long Range Acoustic Device system that will enable voice as well as tone alerts.						
<u>Hazards Mitigated:</u> Dam failure, wildfire						
Existing	2, 11	MPFPD	Atherton, Cal Water	Medium	General Fund	Short-Term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 25-12. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	8	Medium	Low	Yes	Yes	No	Medium	Medium
2	8	Medium	Medium	Yes	Yes	No	Medium	Medium
3	8	Medium	Low	Yes	No	Yes	High	Low
4	6	Medium	Low	Yes	No	Yes	High	Low
5	8	Low	Low	Yes	No	Yes	High	Low
6	4	High	Medium	Yes	Yes	No	Medium	High
7	2	High	Low	Yes	No	Yes	High	Low
8	3	Medium	Medium	Yes	No	No	Medium	Low
9	4	High	High	Yes	Yes	No	Medium	High
10	2	High	Medium	Yes	No	No	Medium	Low

a. See the introduction to this volume for explanation of priorities.

**Table 25-13. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea Level Rise / Climate Change		MPF-1, 2, 5, 9	MPF-3, 4		MPF-1, 2, 3, 4, 5,9		MPF-1, 2	MPF-3, 4
Flood		MPF-1, 2, 5, 6, 9	MPF-3, 4		MPF-1, 2, 3, 4, 6, 8, 9	MPF-8, 9	MPF-1, 2	MPF-3, 4
Earthquake		MPF-1, 3, 6, 7, 8, 9	MPF-3		MPF-1, 3, 6, 7, 8,9	MPF-8, 9		MPF-3
<b>Medium-Risk Hazards</b>								
Severe/Extreme Weather		MPF-1, 3, 4, 6, 8	MPF-3, 4		MPF-1, 2, 3, 4, 6,8	MPF-8	MPF-1, 2	MPF-3, 4
Wildfire		MPF-1, 3	MPF-3,10		MPF-1, 3, 6, 8, 10	MPF-8	MPF-1	MPF-3
Dam Failure		MPF-1, 3, 5	MPF-3,10		MPF-1, 3, 6, 8, 10			MPF-3,4
Landslide		MPF-1, 3	MPF-3		MPF-1, 3, 6,8	MPF-8		MPF-3
<b>Low-Risk Hazards</b>								
Drought		MPF-1, 3						MPF-3
Tsunami		MPF-1, 3	MPF-3		MPF-1, 3, 4, 6, 7, 8	MPF-8	MPF-1, 2	MPF-3,4

a. See the introduction to this volume for explanation of mitigation types.

## 25.8 PUBLIC OUTREACH

Table 25-14 lists public outreach activities for this jurisdiction.

**Table 25-14. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Email to CERT Mailing List- SMCO Community Survey	6/14/2021	555

## 25.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Community Risk Assessment: Standards of Cover Study 2020**—Determine the distribution agency’s resources.
- **Disaster Response Guide 2021**—Menlo Fire Document that is aligned with constituent municipalities EOPs
- **Menlo Park Fire Protection District Capital Plan**—Identify possible mitigation projects
- **Menlo Park Fire Protection District Emergency Services and Fire Protection Impact Fee Nexus Study**—Used as a basis for the estimated replacement cost of District facilities

The following outside resources and references were reviewed:



- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **Dam Breach Inundation Maps**—California Department of Water Resources Division of Safety of Dams, used to review inundation zones within the District.
- **Flood Smart Website**—FEMA, used to identify District facilities within flood zones.





## 26. MIDPENINSULA REGIONAL OPEN SPACE DISTRICT

### 26.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Brandon Stewart, Land & Facilities Manager  
 330 Distel Circle  
 Los Altos, CA 94022  
 650-772-3777  
 bstewart@openspace.org

#### Alternate Point of Contact

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 330 Distel Circle  
 Los Altos, CA 94022  
 650-625-6507  
 dhirst@openspace.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 26-1.

**Table 26-1. Local Mitigation Planning Team Members**

Name	Title
Brandon Stewart	Land and Facilities Manager
Matt Andersen (Potential)	Visitor Services Manager
Hillary Stevenson (Potential)	General Counsel
Jane Mark (Potential)	Planning Manager
Jason Lin (Potential)	Engineering and Construction Manager
Korrine Skinner (Potential)	Public Affairs Manager

### 26.2 JURISDICTION PROFILE

#### 26.2.1 Overview

The Midpeninsula Regional Open Space District (Midpen) is a regional greenbelt special district in the San Francisco Bay Area created in 1972. It is comprised of 59,687 acres of land in 26 open space preserves protected for recreation, education, and conservation. Midpen is governed by a seven-member elected board of directors. Each board member is elected to serve a four-year term and represents a geographic ward of approximately equal populations. General funding is provided by a small share of the annual total property tax revenues collected within Midpen boundaries, except on the San Mateo County Coastside. The staff currently includes over 175 employees in 11 departments: Budget and Analysis, Engineering and Construction, Finance, Human Resources, Information Systems and Technology, Land and Facilities Services, Natural Resources, Planning, Public Affairs, Real Property, and Visitor Services.

The Midpeninsula Regional Open Space District assumes responsibility for the adoption of this plan; the governing Board of Directors will oversee its implementation.

## 26.2.2 Service Area

The Midpeninsula Regional Open Space District was created by successfully placing a voter initiative, Measure R, on the Santa Clara County ballot in 1972. Four years later in 1976 voters in San Mateo County elected to join the District. In 1992, the District further expanded by adding a small portion of Santa Cruz County. Currently, the District’s boundary extends from the Pacific Ocean in San Mateo County, from the southern borders of Pacifica to the San Mateo-Santa Cruz County line. The service area covers 93.2 square miles, serving a population of 760,000 residents.

## 26.2.3 Assets

Table 26-2 summarizes the assets of the district and their value.

**Table 26-2. Special Purpose District Assets**

Asset	Value
<b>Property</b>	
59,687 acres of land	\$800,000,000
<b>Equipment</b>	
13- Portable Generators	\$19,500
16- Ranger Fire Pumpers	\$300,000
1 -1800 Gallon Water Truck	\$150,000
1- 2000 Gallon Water Truck	\$165,000
2 -John Deere 210 skip loader	\$260,000
4 -Mini Excavators	\$200,000
2 -10 Yard Dump Trucks	\$300,000
2- 6 Yard Dump Trucks	\$200,000
5-3 Yard Dump Trucks	\$90,000
3- Skid Steer Loaders	\$75,000
2-Electric Road Signs	\$34,000
1-Trailer Chipper	\$40,000
1-Large Track Chipper	\$75,000
<b>Total:</b>	<b>\$801,908,500</b>
<b>Critical Facilities and Infrastructure</b>	
Foothill Field Office - 22500 Cristo Rey Drive, Cupertino, CA 95014	\$3,000,000
Skyline Field Office - 21150 Skyline Ranch Road, La Honda, CA 94020	\$2,500,000
Coastal Area Office - 5710 La Honda Road, La Honda, CA 94020	\$200,000
South Area Office - 240 Cristich Lane, Campbell, CA 95008	\$7,000,000
Administration Office – 5050 El Camino Real	\$40,000,000
<b>Total:</b>	<b>\$52,700,000</b>

## 26.3 CURRENT TRENDS

Population growth since 2010 in San Mateo County, Santa Clara County and Santa Cruz County is 5.93%, 7.44%, and 3.35% respectively.



## 26.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 26-3.
- An assessment of fiscal capabilities is presented in Table 26-4.
- An assessment of administrative and technical capabilities is presented in Table 26-5.
- An assessment of education and outreach capabilities is presented in Table 26-6.
- Classifications under various community mitigation programs are presented in Table 26-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 26-8.

**Table 26-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
Emergency Operations Plan	2017	
Wildland Fire Resiliency Plan	2021	
Ordinance for Use of Midpeninsula Regional Open Space Lands	2020	
2014 Vision Plan	2014	

**Table 26-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	Yes

**Table 26-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Planning Department Senior Planner Land & Facilities Department Area Manager
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineering Department Senior Capital Project Manager
Planners or engineers with an understanding of natural hazards	No	N/A
Staff with training in benefit/cost analysis	Yes	Finance Department Accountant
Surveyors	No	N/A
Personnel skilled or trained in GIS applications	Yes	Information Systems Technology Department GIS Program Administrator
Scientist familiar with natural hazards in local area	Yes	Natural Resources Department Senior Resource Management Specialist
Emergency manager	No	N/A
Grant writers	Yes	Finance Department Grants Program Manager

**Table 26-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website?	No
Do you use social media for hazard mitigation education and outreach?	No
Do you have any citizen boards or commissions that address issues related to hazard mitigation?	No
Do you have any other programs already in place that could be used to communicate hazard-related information?	No
Do you have any established warning systems for hazard events?	No

**Table 26-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	009221656	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A



**Table 26-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: None</i>	Low
Jurisdiction-level monitoring of climate change impacts <i>Comment: None</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: None</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: A Climate Action Plan exists and GHG inventory is taken biannually.</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: None</i>	Low
Participation in regional groups addressing climate risks <i>Comment: None</i>	Low
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Climate Change Policy is one of many guiding Resource Management policies applied during the decision making process.</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Strategies identified in Climate Action Plan; new strategies added as they arise.</i>	High
Identified strategies for adaptation to impacts <i>Comment: None</i>	Low
Champions for climate action in local government departments <i>Comment: None</i>	Low
Political support for implementing climate change adaptation strategies <i>Comment: High interest and support from Board of Directors, General Manager's Office</i>	High
Financial resources devoted to climate change adaptation <i>Comment: None</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment: Authority over wildlands/habitat likely to be impacted, but not people.</i>	Medium
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: None</i>	Low
Local residents support of adaptation efforts <i>Comment: Opposition remains to certain mitigating activities e.g., fuel management through fire/conservation grazing.</i>	Medium
Local residents' capacity to adapt to climate impacts <i>Comment: None</i>	Low
Local economy current capacity to adapt to climate impacts <i>Comment: None</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment: Adaptive capacity varies widely by ecosystem/habitat type</i>	Medium

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 26.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 26.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Emergency Operations Plan (EOP)**— The EOP encompasses a broad range of major emergencies. Such incidents include earthquakes, flooding, winter storms, hazardous materials incidents, wildfires, and animal & human-caused events. Also included are procedures for emergencies that may or may not require the full or partial activation of the District’s Emergency Operations Center (EOC), which will coordinate with other local jurisdiction’s EOCs.

### 26.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **New Business Continuity Plan**—A cross-departmental plan to ensure continuity business of essential business operations in the event of a natural or man-made disaster.

## 26.6 RISK ASSESSMENT

### 26.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 26-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

### 26.6.2 Hazard Risk Ranking

Table 26-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.



**Table 26-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
California Severe Winter Storms and Flooding	DR-1203-CA	Feb 2,1998-Apr 30, 1998	\$37,880
			\$122,870
			\$28,820
			\$26,119.33
			\$7,753.42
			\$10,327
			\$103,484
			\$2,692.91
California Severe Winter Storms and Flooding	DR-1646-CA	Mar 29, 2006-Apr 16, 2006	\$27,376.78

**Table 26-10. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Wildfire	78	High
2	Earthquake	84	High
3	Landslide	117	High
4	Sea Level Rise / Climate Change	99	High
5	Flood	117	Medium
6	Severe Weather	24	Medium
7	Drought	9	Low

\* The majority of the District aligns with Unincorporated San Mateo County; therefore, risk ranking is based on that data which reflects District knowledge of wildfire, earthquake, landslide, and flood risk.

\*\* Tsunami and Dam Failure are not included because these hazards pose little to no threat to District lands.

### 26.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Most of the land owned by Midpeninsula Regional Open Space District is within the WUI and has a California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity Zone rating of “High” or “Very High.”
- Potential for isolation of rural communities during a large disaster (i.e., an earthquake, tsunami, wildfire, or major storm). There are limited means of access to both the mid-coast communities and rural communities located adjacent to Midpeninsula Regional Open Space District lands. These roads could be damaged, blocked, or made impassable during a disaster.
- District buildings including both field offices (Skyline Field Office and Coastal Field Office) lack seismic reinforcement. The field offices are critical to emergency response actions to surrounding preserves.
- Water tanks on District property serve as critical supply reservoirs in case of an emergency. A hazard that would damage this infrastructure could significantly affect fire-fighting capabilities in the area.
- The Coastal Area Office does not have a generator to assist with emergency response operations.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 26.7 HAZARD MITIGATION ACTION PLAN

Table 26-11 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 26-12 identifies the priority for each action. Table 26-13 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 26-11. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action OSD-1</b> — Continue the District’s effort to enhance hazards mitigation planning by updating plans such as Emergency Operations Plan, and the Emergency/Disaster Preparedness and Recovery Plan.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide, Climate Change, Flooding, Severe Weather, Drought						
New and Existing	1, 2, 3, 4, 5, 10	Midpen	None	Medium	Staff Time, General Funds, Grant Funding-EMPG and HSGP	Ongoing
<b>Action OSD-2</b> —Engage in ongoing preparedness and emergency response training.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide, Climate Change, Flooding, Severe Weather, Drought						
Existing	2, 8, 10	Midpen	Cal fire, San Mateo County Fire Safe Council	Medium	Staff Time, General Funds, Grant Funding-EMPG and HSGP	Ongoing
<b>Action OSD-3</b> —Incorporate the Local Hazard Mitigation Plan into the District’s Capital Improvement and Action Plan in response to evolving hazards and mitigation strategies.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide, Climate Change, Flooding, Severe Weather, Drought						
New and Existing	7, 8	Midpen	None	Medium	Staff Time, General Funds	Short-term
<b>Action OSD-4</b> — Incorporate mitigation principles into local event management during Incident Command Post and Department Operations Center Action Planning.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide, Climate Change, Flooding, Severe Weather, Drought						
Existing	7, 8	Midpen	None	Low	Staff Time, General Funds	Short term
<b>Action OSD-5</b> —Update and enhance the GIS data systems and mapping for all hazards in the District.						
<i>Hazards Mitigated:</i> Earthquake, Landslide, Wildfire						
New and Existing	1, 5	Midpen	None	Medium	Staff Time, General funds	Short-term
<b>Action OSD-6</b> —Continue to acquire lands to protect, preserve and prevent development due to, slope, fire risk and other hazards. Integrate the District’s mitigation plan into current capital improvement plans to ensure that development does not encroach on known hazard areas.						
<i>Hazards Mitigated:</i> Wildfire, Earthquake, Landslide, Climate Change, Flooding, Severe Weather, Drought						
New and Existing	1, 5, 7	Midpen	Peninsula Open Space Trust, Sempervirens Fund	High	Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action OSD-7</b> — District staff, in conjunction with Local and County Agencies, will continue to support vegetation management strategies and programs to address the potential vegetation management needs within the District.						
<i>Hazards Mitigated:</i> Landslides, Wildfire						
New and Existing	6, 7, 8, 9	Midpen	San Mateo County Fire Safe Council, San Mateo Resource Conservation District	Medium	Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA, FMAG and HMGP)	Short-term
<b>Action OSD-8</b> — Implement trail and road assessment recommendations to reinforce District infrastructure from flooding and erosion through protection activities, including elevating the roads/bridges, installing/widening culverts, or upgrading storm drains by use of District Details and Specifications standards.						
<i>Hazards Mitigated:</i> Earthquake, Landslide, Flooding, Severe Weather, Sea Level Rise						
New and Existing	6, 7, 9, 13	Midpen	San Mateo Resource Conservation District	High	Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action OSD-9</b> — Study the feasibility of conducting an inventory of existing residential structures for seismic upgrades.						
<u>Hazards Mitigated:</u> Earthquake						
Existing	1, 5, 7	Midpen	None	Medium	Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action OSD-10</b> Encourage and develop water conservation plans.						
<u>Hazards Mitigated:</u> Drought						
New and Existing	6, 7	Midpen	San Mateo Resource Conservation District	Low	Staff Time, General Funds	Ongoing
<b>Action OSD-11</b> — Implement the District Wildland Fire Resiliency Program targeting high priority areas for vegetation management, ecosystem resiliency, invasive species management, and other fire mitigation activities.						
<u>Hazards Mitigated:</u> Wildfire, climate change, drought, Sea Level Rise						
New and Existing	1, 2, 3, 4, 6, 9	Midpen	San Mateo County Fire Safe Council, San Mateo Resource Conservation District, San Mateo County Office of Sustainability	High	Cal Fire, WCB, SCC, Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA, FMAG and HMGP)	Ongoing
<b>Action OSD-12</b> — Carry out a public education program to increase awareness of fire risks and promote implementation of fire safe practices in wildland fire areas, such as, but not limited to, vegetation management, fire resistant construction, onsite water storage, adequate access, and other fire prevention measures						
<u>Hazards Mitigated:</u> Wildfire, drought, climate change						
Existing	1, 6, 7, 9, 10, 12, 13	Midpen	San Mateo County Fire Safe Council, San Mateo Resource Conservation District, San Mateo County Office of Sustainability	Medium	Staff Time, General Funds	Ongoing
<b>Action OSD-13</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Wildfire, Earthquake, Landslide, Climate Change, Flooding, Severe Weather, Drought, Sea Level Rise						
New & Existing	1, 6	Midpen	None	Low	Staff Time, General Funds	Short-term
<b>Action OSD-14</b> —Identify and pursue strategies to increase adaptive capacity to climate change.						
<u>Hazards Mitigated:</u> Climate Change, Severe Weather, Wildfire, Sea Level Rise						
New & Existing	1, 5, 6, 7, 8, 9	Midpen	San Mateo County Fire Safe Council, San Mateo Resource Conservation District, San Mateo County Office of Sustainability	High	Staff Time, General Funds, Grant Funding-BRIC (C&CB)	Short-term
<b>Action OSD-15</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power.						
<u>Hazards Mitigated:</u> Earthquake, Flooding, Landslide, Severe Weather, Wildfire						
Existing	1, 6	Midpen	None	High	Staff Time, General Funds, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 26-12. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	6	Medium	Medium	Yes	Yes	Yes	High	High	High
2	3	Medium	Medium	Yes	Yes	Yes	High	High	High
3	2	Medium	Medium	Yes	No	Yes	High	Low	Medium
4	2	Low	Low	Yes	No	Yes	High	Low	Medium
5	2	Medium	Medium	Yes	No	Yes	High	Low	Low
6	3	High	High	Yes	Yes	Yes	High	High	Medium
7	4	High	Medium	Yes	Yes	Yes	High	High	High
8	4	High	High	Yes	Yes	Yes	High	High	Low
9	3	Medium	Medium	Yes	Yes	No	Medium	Medium	Low
10	2	Medium	Low	Yes	Yes	No	Medium	Medium	Low
11	6	High	High	Yes	Yes	Yes	High	High	High
12	7	Medium	Medium	Yes	Yes	Yes	High	Medium	High
13	2	Low	Low	Yes	No	Yes	High	Low	Low
14	6	High	High	Yes	Yes	Yes	High	High	High
15	2	High	High	Yes	Yes	No	Medium	High	Low

a. See the introduction to this volume for explanation of priorities.

**Table 26-13. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Wildfire	3, 5, 6, 7, 11	3,7	11,12	13	1, 2, 4,15		11, 12, 14	1, 2, 4, 6, 11, 12,13,15
Earthquake	3, 5, 6	3,			1, 2, 4,15	9		1, 2, 4, 6, 9,13
Landslide	3, 5, 6	3, 7,		8	1, 2, 4,15			1, 2, 4, 6, 13
Sea Level Rise / Climate Change	3,6	3	11,12	10,14	1, 2, 4,15		11, 12, 14	1, 2, 4,13
<b>Medium-Risk Hazards</b>								
Flood	3,6	3		8	1, 2, 4,15	8		1, 2, 4,13
Severe Weather	3,6	3,		8,14	1, 2, 4,15	8		1, 2, 4,13
<b>Low-Risk Hazards</b>								
Drought	3,6	3	11,12	8,10	1, 2, 3,15		11, 12, 14	1, 2, 4, 10, 13

a. See the introduction to this volume for explanation of mitigation types.



## 26.8 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Wildland Fire Resiliency Program Environmental Impact Report**—The Wildland Fire Resiliency Program EIR was used to clearly identify an implementation plan to address fuels management in high severity zones, and the development of the mitigation action plan.
- **Emergency Operations Plan (EOP)**—The EOP was used to identify emergency preparedness actions, prepare an implementation plan, and the development of the mitigation action plan.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.





## 27. MID-PENINSULA WATER DISTRICT

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### 27.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Mr. Rene A. Ramirez, Operations Manager  
3 Dairy Lane  
Belmont, CA 94002  
650-591-8941  
rramirez@midpeninsulawater.org

#### Alternate Point of Contact

Ms. Jeanette Kalabolas, Management Analyst  
3 Dairy Lane  
Belmont, CA 94002  
650-591-8941  
jeanettek@midpeninsulawater.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 27-1.

**Table 27-1. Local Mitigation Planning Team Members**

Name	Title
Tammy Rudock	General Manager
Rene Ramirez	Operations Manager
Candy Pina	Administrative Services Manager
Brent Chester	Operations Supervisor
Michael Anderson	Operations Supervisor
Jeanette Kalabolas	Management Analyst

### 27.2 JURISDICTION PROFILE

#### 27.2.1 Overview

The Mid-Peninsula Water District is a special purpose district created in 1929 to provide potable water service to the City of Belmont receiving the water pre-treated from San Francisco Public Utilities Commission. The District's designated service area expanded throughout the years to include a small area of the City of San Carlos, City of Redwood City, and the City of San Mateo. A five-member elected Board of Directors governs the District. Funding comes primarily through rates.

The Board of Directors assumes responsibility for the adaption of this plan; the General Manager will oversee its implementation.

#### 27.2.2 Service Area

As of December 2020, the District serves 8,116 water connections with a staff of 19.5. The District services an area of approximately 4.63 square miles with a population of 27,560 (2019 ABAG estimate, City of Belmont).

## 27.2.3 Assets

Table 27-2 summarizes the assets of the District and their value.

Table 27-2. Special Purpose District Assets	
Asset	Value
<b>Property</b>	
11.5 acres of land	\$6,000,000
<b>Equipment</b>	
Emergency Power Generator Stations (9 – at each Pump Station & Dairy Lane Corp Yard)	\$868,000
Fuel Dispensing Station (Gasoline and Diesel)	\$50,000
Shop Equipment, SCADA, and Tools	\$815,000
Office Equipment, Furniture and Computers	\$200,00
2-5CY Dump Trucks, 1-Boom Truck, 1- Backhoe, 1-Front Loader, 1-Mini Excavator	\$750,000
3-Utility Body Trucks, 6-Pickup Trucks, 1-minivan, 4-passenger cars	\$500,000
<b>Total:</b>	<b>\$3,183,000</b>
<b>Critical Facilities and Infrastructure</b>	
105 miles of water pipelines (\$1.32 million per mile)	\$198,000,000
Dairy Lane Admin Bldg. and Corp Yard (3 Dairy Lane, Belmont, CA)	\$2,750,000
Folger Drive Bldg. and Corp Yard (1510 Folger Drive, Belmont, CA)	\$1,800,000
7 - Intertie Stations (throughout distribution system)	\$75,000
13 – Pressure Regulating Stations (throughout distribution system)	\$1,000,000
Buckland Tanks (2 tanks w/0.2MG cap.), Pump Station w/Bldg. and Hydro-Pneumatic Tank (next to 930 Buckland Avenue, San Carlos, CA)	\$3,235,000
Dekoven Tanks (2 tanks w/1.7MG cap.), Pump Station w/Bldg. and Hydro-Pneumatic Tank (2520 Dekoven Avenue, Belmont, CA)	\$3,790,000
Exbourne Tanks (2 tanks w/2.5MG cap.) and Pump Station (next to 136 Exbourne Avenue, San Carlos, CA)	\$2,890,000
Hallmark Tanks (2 tanks w/5.0MG cap.), Pump Station, Pump Station Building and Storage Building (tanks behind 2565 Hallmark Drive & Pump Station north of 2839 Hallmark Drive)_	\$4,666,000
Hersom Tank (1 tank w/1.5MG cap.) and Pump Station (next to 1908 Lyons Avenue, Belmont, CA)_	\$1,739,700
West Belmont Tanks (2 tanks w/1.58MG cap.) , Pump Station, Pump Station Building and Storage Building (south of Ralston Avenue and west of Cipriani Blvd, Belmont, CA)	\$2,264,100
Tunnels Pump Station (40 Canada Road, Woodside, CA)	\$1,100,000
Hannibal Pump Station and Building (1410 Ralston Avenue, Belmont, CA)	\$914,700
<b>Total:</b>	<b>\$224,224,500</b>

## 27.3 CURRENT TRENDS

The majority of Mid-Peninsula Water District service area is currently built out including the preservation of open space, any undeveloped land available for development is limited. Most development over the next 20 years will most likely occur on currently vacant sites or come from expanded development of sites with existing structures both residential and commercial as reviewed by the City of Belmont.



## 27.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 27-3.
- An assessment of fiscal capabilities is presented in Table 27-4.
- An assessment of administrative and technical capabilities is presented in Table 27-5.
- An assessment of education and outreach capabilities is presented in Table 27-6.
- Classifications under various community mitigation programs are presented in Table 27-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 27-8.

**Table 27-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
Urban Water Management Plan and Water Shortage Contingency Plan, 2010	2015 (the 2020 update is underway)	This plan focuses on the Mid-Peninsula Water District's ability to meet water demand in a reliable and high quality manner, based on past and current water use. Part of the plan considers water shortage contingencies and water supply emergency response.
Water Service Ordinance No. 103 (amended by Ord. No. 112 in April 2015 and by Ord. No. 121)	2015	Water ordinance number 103 establishes, updates, and recodifies rules, regulations, and fees for water service.
City of Belmont 2035 General Plan	2017	The General Plan governs city actions related to physical development and is mandated by California Government Code Section 65300
Debt Management Policy	2018	The District funds capital and meets financing needs through a combination of operating revenue, reserves, outside funding and debt. The policy documents the goals and guidelines for debt issuance and use of debt.
Cash Reserve Policy	2018	The District's cash reserves ensure fiscal responsibility, and the policy demonstrates the District's commitment to maintaining long-term fiscal strength.

**Table 27-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes – Water Only
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Federal Grant Programs	Yes
Other	Yes - Operating Cash Reserves

**Table 27-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	MPWD General Manager, Tammy Rudock and MPWD Operations Manager, Rene Ramirez and Pakpour Consulting Group, Inc. 5776 Stoneridge Mall Road, Suite 320 Pleasanton, CA 94588
Engineers or professionals trained in building or infrastructure construction practices	Yes	MPWD Operations Manager, Rene Ramirez and Pakpour Consulting Group, Inc. 5776 Stoneridge Mall Road, Suite 320 Pleasanton, CA 94588
Planners or engineers with an understanding of natural hazards	Yes	Pakpour Consulting Group, Inc. 5776 Stoneridge Mall Road, Suite 320 Pleasanton, CA 94588
Staff with training in benefit/cost analysis	Yes	MPWD General Manager, Tammy Rudock and MPWD Operations Manager, Rene Ramirez and Pakpour Consulting Group, Inc. 5776 Stoneridge Mall Road, Suite 320 Pleasanton, CA 94588
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	MPWD Field Operations Supervisor, Brent Chester and Pakpour Consulting Group, Inc. 5776 Stoneridge Mall Road, Suite 320 Pleasanton, CA 94588
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	MPWD Lead Operator, Jonathan Anderson and MPWD Operations Manager, Rene Ramirez
Grant writers	Yes/No	MPWD General Manager, Tammy Rudock
Other – State certified water distribution and water treatment operators	Yes	Rene Ramirez, Operations Manager Brent Chester, Field Supervisor Michael Anderson, Field Supervisor Jonathan Anderson, Lead Operator Stan Olsen, Lead Operator Chris Michaelis, Water System Operator Ron Leithner, Water System Operator Ryan Gomes, Water System Operator



**Table 27-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes/ MPWD General Manager, Tammy Rudock or MPWD Operations Manager, Rene Ramirez
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	Yes Water Conservation Measures
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	No
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	No
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes Community Outreach Programs (Field Trips, Poster Contests, etc.).
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes Emergency Response Plan – Spill Prevention

**Table 27-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	103417598	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 27-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: It is discussed in our 2015 Urban Water Management Plan, which is being updated now. The Urban Water Management Plan update includes an update to our Water Shortage Contingency Plan too..</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: District participates and follows climate change discussion and planning in the region</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: District takes climate change into account for fiscal and capital planning</i>	High
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: District would seek assistance</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: See comment above</i>	High
Participation in regional groups addressing climate risks <i>Comment: See comment above</i>	High

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Staff's role is to consider and make recommendations to Board</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Solar panels, waste reduction and the District is a Green Business</i>	Medium
Identified strategies for adaptation to impacts <i>Comment: Explore other energy conservation measures and possible collaboration(s) with other regional organizations</i>	Medium
Champions for climate action in local government departments <i>Comment: Fleet operates several hybrid vehicles and improvements consider actions to reduce greenhouse gases</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: Board and staff support strategies that would reduce climate change impacts</i>	High
Financial resources devoted to climate change adaptation <i>Comment: District budget and capital plans</i>	High
Local authority over sectors likely to be negative impacted <i>Comment: District does not have land use authority</i>	Low
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: District believes the community has a high level understanding of climate change/risk</i>	High
Local residents support of adaptation efforts <i>Comment: District believes community supports adaptation to reduce impacts of climate change</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: District believes customers can adapt when provided with relevant information</i>	High
Local economy current capacity to adapt to climate impacts <i>Comment: District believes extreme events could prove costly to the local economy making it more challenging to navigate climate impacts</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment: District believes the local ecosystems capacity to adapt to climate change could prove to be limited</i>	Low

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 27.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 27.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:



- **Emergency Response Plan, Vulnerability Assessment** – The information from the Vulnerability Assessment on the Mid-Peninsula Water District Facilities has been integrated into the Emergency Response Plan as applicable to address vulnerable areas.
- **Urban Water Management Plan** – Information in the plan already includes emergency response plans and conservation measures for dealing with water shortages, which are linked as secondary hazard events to many disasters.
- **Risk and Resiliency Assessment**—In 2018, America’s Water Infrastructure Act was enacted. It requires community water systems serving more than 3,300 persons assess the risks to and resilience of its water system. The MPWD’s America’s Water Infrastructure Act certification is due July 1, 2021 and is on target.
- **MWD Capital Improvement Program FY19-20 Update** — a long term strategic plan to review and assess the water system infrastructure and facilities, and develop a comprehensive, prioritized capital improvement program with a functional hydraulic model. The capital improvement program is updated every five years.
- **Board Strategic Plan (2021-22)** — The Board of Directors adopted a strategic plan several years ago and updates its strategic plan every two years. Their strategic plan defines the District’s mission, long-term goals, and basic measures for success (objectives) to achieve their goals

## 27.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Public Outreach** – The Mid-Peninsula Water District recognizes that there are currently public information opportunities available to facilitate public engagement regarding hazard mitigation. The District will look into developing a more robust and targeted program that involves using current capabilities to expand and enhance outreach to local customers. Available resources to accomplish this task may include but is not limited to:
  - The District’s annual Consumer Confidence Report (CCR) regarding the water quality serviced to its customers each year before July 1 for the previous year.
  - The District’s an annual newsletter “Waterline” that is distributed to all customers.
  - The District’s website is a plethora of information about the District, the services it provides, financial information, cost of service information, water conservation information, a customer portal, the Board’s Agendas, the District’s capital plan, a tool to troubleshoot your water quality questions, among much other useful information about the District.

## 27.6 RISK ASSESSMENT

### 27.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 27-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 27-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Wildfires	DR-4558	Aug. 14-Sep 26, 2020	Site Assessments
COVID-19 Pandemic	DR-4482	Jan. 20, 2020-Present	Still Counting Costs – loss of productivity
Severe Winter Storm	DR-4308	Feb 1-23, 2017	Site Assessments
Severe Winter Storm	DR-4305	Jan 18-23, 2017	Site Assessments
Freezing	DR-894	February 11, 1991	Frozen service lines, damaged pump facility, site assessments
Earthquake	DR-845	October 18, 1989	Leak in Tank, Site Assessments

### 27.6.2 Hazard Risk Ranking

Table 27-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 27-10. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea level Rise / Climate Change	75	High
2	Landslide/Mass Movements	73	High
3	Flood	68	High
4	Wildfire	57	High
5	Earthquake	56	High
6	Dam Failure	34	High
7	Drought	30 (same as 2016 LHMP)	Medium
8	Extreme Weather	24	Medium
9	Tsunami	10	Low

### 27.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Climate change is affecting normal weather patterns and leading to more drought.
- A current capital project will replace the District’s oldest water storage tanks (circa 1952) at the Dekoven Tank site that are seismically deficient, but the largest tanks at Hallmark Tank site constructed in 1968 remain vulnerable to seismic events.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 27.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 27-11 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.



**Table 27-11. Status of Previous Plan Actions**

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
MPWD 1 – Vulnerability of critical facilities and infrastructure, assess and address (replacement schedule) through the Capital Improvement Plan. Promote planning and implementation of work coordinating with other agencies. <i>Comment: Meet regularly with City of Belmont staff to coordinate capital projects and cooperate in general</i>	✓			
MPWD 2 – Seismic retro fit or replace water tanks (reservoirs) to withstand impacts of earthquakes and to meet State and/or Federal requirements. <i>Comment: Capital project 08-1621-CP to start construction in CY2021</i>	✓			
MPWD 3 – Work together with local fire authorities to assess available water and infrastructure for wildfire areas. <i>Comment: Communicate with local fire authority when there is a change in system affecting water availability for fire protection</i>	✓			
MPWD 4 – Research, review and implement measures to strengthen water infrastructure in areas prone to flooding and liquefaction, work with other agencies and utility providers. <i>Comment: Constantly seeking ways and funding to improve water system.</i>			✓	MPW-6
MPWD 5 – Continue with Water Conservation Program to promote water saving measures and re-use of water during times of drought and from the effects of global warming <i>Comment: Water conservation is an ongoing way of life that evolves.</i>			✓	MPW-5
MPWD 6 – Reinforce and retain slopes on MPWD property to reduce the impact to buildings and critical facilities that could result in loss of water service. <i>Comment: Ongoing process typically tied to capital funding improvements.</i>			✓	MPW-1
MPWD 7 – Rebuild interties and replace outdated flow meters to improve emergency water supply to neighboring water agencies and support Continuity of Operations Plan <i>Comment: This project has not been addressed to date, just general maintenance on the 7 intertie sites.</i>			✓	MPW-6
Action G-1— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan. <i>Comment: Support those initiatives within our service territory</i>			✓	MPW-3
Action G-2— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan. <i>Comment: Support the maintenance protocols within our service territory</i>			✓	MPW-3

## 27.8 HAZARD MITIGATION ACTION PLAN

Table 27-12 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 27-13 identifies the priority for each action. Table 27-14 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 27-12. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MPW-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures, and stabilization of natural features located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Earthquake, Flooding, Wildfire						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14	MPWD	N/A	High	HMGP, BRIC, FMA	Short-term
<b>Action MPW-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including Urban Water Management Plan, Emergency Response Plan						
<i>Hazards Mitigated:</i> Climate Change, Landslide, Flood, Wildfire, Earthquake, Drought, Extreme Weather, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	MPWD	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action MPW-3</b> —Actively participate in the plan maintenance protocols and support County-wide initiatives outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Climate Change, Landslide, Flood, Wildfire, Earthquake, Drought, Extreme Weather, Tsunami, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	MPWD	N/A	Low	Staff Time, General Funds	Short-term
<b>Action MPW-4</b> —Identify and pursue strategies to increase adaptive capacity to climate change.						
<i>Hazards Mitigated:</i> Climate Change, Landslide, Flood, Wildfire, Earthquake, Drought, Extreme Weather, Tsunami, Sea Level Rise						
New & Existing	1, 5, 6, 7, 8, 9, 10, 11, 13, 14	MPWD	N/A	Medium	Staff Time, General Funds	Ongoing
<b>Action MPW-5</b> — Continue Water Conservation Program to promote water saving measures and re-use of water during times of drought and from the effects of global warming						
<i>Hazards Mitigated:</i> Drought						
Existing	1, 2, 3, 4, 8, 10, 11, 12, 14	MPWD	N/A	\$100,000	Operating Revenue	Ongoing
<b>Action MPW-6</b> —Assess and address the vulnerability of critical facilities and infrastructure through capital improvement plan process, and coordinate work with other agencies						
<i>Hazards Mitigated:</i> Earthquake						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 13, 14	MPWD	City of Belmont	High	Operating Capital and Debt	Ongoing
<b>Action MPW-7</b> — Seek opportunities to augment water supply beyond that only provided by the SFPUC Regional Water System						
<i>Hazards Mitigated:</i> Drought						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	MPWD	SFPUC, BAWSCA and neighboring communities, if applicable	High	Operating Revenue, Debt, State Funding or Grant	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.



**Table 27-13. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
MPW-1	13	High	High	Yes	Yes	No	Medium	High
MPW-2	14	Low	High	No	No	No	Low	Low
MPW-3	9	Medium	High	No	No	No	Low	Low
MPW-4	10	Low	High	No	No	No	Low	Low
MPW-5	9	Medium	Low	Yes	No	Yes	High	Low
MPW-6	12	Medium	High	No	No	No	Low	Low
MPW-7	14	Medium	High	No	No	No	Low	Low

a. See the introduction to this volume for explanation of priorities.

**Table 27-14. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea Level Rise / Climate Change	MPW-3, 5, 6	MPW-1, 3, 6	MPW-2, 3, 5, 6, 7	MPW-3, 5, 6, 7	MPW-2, 3	MPW-1, 3	MPW-1, 3, 4, 5, 6, 7	MPW-2, 3, 5, 6, 7
Landslide	MPW-3	MPW-1, 3	MPW-3	MPW-3	MPW-3	MPW-1	MPW-3, 4	MPW-3
Flood	MPW-3	MPW-1, 3	MPW-3	MPW-3	MPW-3	MPW-1, 3	MPW-1, 3, 4	MPW-3
Wildfire	MPW-3, 6	MPW-1, 3, 6	MPW-3, 6	MPW-3, 6	MPW-2, 3	MPW-1, 3	MPW-1, 3, 4, 6	MPW-3, 6
Earthquake	MPW-3, 6	MPW-1, 3, 6	MPW-3	MPW-3, 6	MPW-2, 3	MPW-1, 3, 6	MPW-3	MPW-3, 6
Dam Failure	MPW-3	MPW-3	MPW-3	MPW-3	MPW-3	MPW-3	MPW-3	MPW-3
<b>Medium-Risk Hazards</b>								
Drought	MPW-3, 5, 7	MPW-3, 7	MPW-2, 3, 5, 7	MPW-3, 5, 7	MPW-2, 3	MPW-3	MPW-3, 4, 5, 7	MPW-2, 3, 5, 7
Extreme Weather	MPW-3, 6	MPW-1, 3, 6	MPW-3, 6	MPW-3, 6	MPW-2, 3	MPW-1, 3	MPW-1, 3, 4, 6	MPW-3, 6
<b>Low-Risk Hazards</b>								
Tsunami	MPW-3	MPW-3	MPW-3	MPW-3	MPW-3	MPW-3	MPW-3	MPW-3

a. See the introduction to this volume for explanation of mitigation types.

## 27.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- MPWD has joined as a participant of Potable Reuse Exploratory Project PREP with adjacent water purveyors, Silicon Valley Clean Water, the SFPUC and BAWSCA in an effort to address Action MPW-7 augment District water supply

- Draft report on local and near-term groundwater opportunities in an effort to address Action MPW-7 augment District water supply
- Draft 2020 Urban Water Management Plan and Water Shortage Contingency Plan were used to assess and address Actions MPW-2 (integration into other plans), MPW-4 (adapt to climate change), MPW-5 (promote water conservation), MPW-6 (assess and address critical facilities), and MPW-7 (augment water supply)
- Water Service Ordinance No. 103 describes how we deliver service and addresses Action MPW-5 (water conservation)
- Debt Management Policy, 2018 describes how the Board manages District debt and addresses Actions MPW-1 (asset protection in risky areas), MPW-2 (plan integration with land use decisions), MPW-3 (those county-wide protocols related to District operations/service), MPW-4 (strategies to adapt to climate change), MPW-5 (District water conservation program), MPW-6 (District capital improvements to facilities), and MPW-7 (augmenting water supply)
- Cash Reserve Policy, 2018 describes how District manages its cash reserves to address Actions MPW-1 (asset protection in risky areas), MPW-6 (District capital improvements to facilities), and MPW-7 (augmenting water supply)
- City of Belmont 2035 General Plan was used to assess and address Actions MPW-2 (plan integration into other plans and land use decisions), MPW-3 (those county-wide protocols related to District operations/service), and MPW-4 (strategies to adapt to climate change)

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.



# 28. MONTARA WATER & SANITARY DISTRICT

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## 28.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Clemens Heldmaier, District Manager  
P.O. Box 370131  
Montara, CA 94037  
650-728-3358  
cheldmaier@coastside.net

### Alternate Point of Contact

Tanya Yurovsky, District Engineer  
8888 Cabrillo Highway  
Montara, CA 94037  
925-518-9986  
tanya@srtconsultants.com

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 28-1.

**Table 28-1. Local Mitigation Planning Team Members**

Name	Title
Clemens Heldmaier	MWSD General Manager
Julian Martinez	Superintendent of Operations
Tanya Yurovsky	MWSD District Engineer
Kishen Prathivadi	SAM General Manager

## 28.2 JURISDICTION PROFILE

### 28.2.1 Overview

The Montara Water and Sanitary District (MWSD) is a special district formed in 1958 to provide sewer service. In 1992, the District, through special State legislation, was granted the powers of a county water district. On August 1, 2003, the district acquired and began operating the water system. A five-member elected Board of Directors governs the District. The Board assumes responsibility for the adoption of this plan; the General Manager will oversee its implementation. The District currently employs a staff of eight employees (8). Funding comes primarily through water and sewer rates and revenue bonds.

MWSD is a member of the Sewer Authority Mid-Coastside (SAM) that provides wastewater treatment services and contract collection maintenance services for a population of approximately 27,000 in the following areas: City of Half Moon Bay, El Granada, Miramar, Montara, Moss Beach, and Princeton by the Sea. SAM is participating in the MWSD annex as a stakeholder.

### 28.2.2 Service Area

The Montara Water and Sanitary District was formed to serve the communities of Montara and Moss Beach. In January 2015, the service area expanded to serve the Pillar Ridge community. The District service area covers seven

(7) square miles, serving an estimated population of 6,012 through 1,943 sewer connections, 1,658 active water connections, and 151 private fire protection connections.

### 28.2.3 Assets

Table 28-2 summarizes the critical assets of the district and their value.

Table 28-2. Special Purpose District Assets	
Asset	Value
<b>Property</b>	
20 acres of land	\$5.5 million
<b>Equipment</b>	
Five (5) Diesel-Powered Generators	\$640,000
Nine (9) PRV stations	\$2.5 million
Booster Pump Station	\$3.3 million
3 Vehicles	\$118,000
13 Lift Stations	\$25 million
<i>Total:</i>	<b>\$37 million</b>
<b>Critical Facilities and Infrastructure</b>	
Office – 8888 Cabrillo Highway, Montara	\$500,000
Alta Vista Water Treatment Plant (37.5484°N, -122.498°W)	\$3.3 million
Pillar Ridge Water Treatment Plant - 164 Culebra St, Moss Beach	\$2.3 million
Groundwater Wells (Coordinates as necessary)	\$3.5 million
Schoolhouse Booster Pumps	\$3.3 million
Alta Vista Well	\$1.0 million
Wagner Well	\$250,000
Drake Well	\$150,000
North Airport Well	\$550,000
South Airport Well	\$150,000
Airport Well #3	\$550,000
Portola Well #1	\$250,000
Portola Well #3	\$250,000
Portola Well #4	\$250,000
Retiro Well	\$250,000
Corona Well	\$250,000
Culebra Well	\$250,000
Alta Vista Tank I	\$3.0 million
Alta Vista Tank II	\$5.0 million
Schoolhouse East Tank	\$750,000
Schoolhouse West Tank	\$750,000
Portola Tank	\$750,000
Pillar Ridge Tank I	\$750,000
Pillar Ridge Tank II	\$750,000
27 miles of water mains	\$35.6 million
28 miles of sewer mains	\$37.5 million



Asset	Value
<i>MWSD Total:</i>	<i>\$102 million</i>
Wet Weather Flow Management Facility	2.5 million
Pump Stations	\$13 million
Intertie Pipeline System	\$50 million
Real Property	\$2 million
Wastewater Treatment Plant Facilities	\$200 million
Wet Weather Storage Tank	\$5 million
Administration Building	\$2 million
<i>Total:</i>	<i>\$270 million</i>

### 28.3 CURRENT TRENDS

Available water supply may be utilized to serve existing development that is within the Local Coastal Program (LCP) urban area that is currently served by private wells, or it may be utilized to provide new service connections to development that has been authorized pursuant to the County’s LCP, including the LCP’s growth limitation, which is currently 1% each year. Population in the service area is not projected to change significantly over the next 10 years.

### 28.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 28-3.
- An assessment of fiscal capabilities is presented in Table 28-4.
- An assessment of administrative and technical capabilities is presented in Table 28-5.
- An assessment of education and outreach capabilities is presented in Table 28-6.
- Classifications under various community mitigation programs are presented in Table 28-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 28-8.

**Table 28-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
Water and Sanitary Code	2017	
Public Works Plan	2013	
Sewer System Management Plan	2014	
Water System Master Plan	2017	
MWSD Emergency Response Plan	2021	
SAM Emergency Response Plan	2019	

**Table 28-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Federal Grant Programs	Yes
Other	No

**Table 28-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	District Engineer
Engineers or professionals trained in building or infrastructure construction practices	Yes	District Engineer
Planners or engineers with an understanding of natural hazards	Yes	District Engineer
Staff with training in benefit/cost analysis	Yes	District Engineer
Surveyors	Yes	District Engineer
Personnel skilled or trained in GIS applications	Yes	District Engineer
Scientist familiar with natural hazards in local area	Yes	District Engineer
Emergency manager	Yes	MWSD General Manager
Grant writers	Yes	District Engineer
Other	Yes	Superintendent of Operations



**Table 28-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	No
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	No
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	Yes MWSD Board of Directors, SAM Board of Directors
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes posting at post offices; local businesses
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes Tsunami warning

**Table 28-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	078489735	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 28-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: MWSD is located on the CA coast and are keenly aware of climate change, including sea level rise, drought, reduced coastal fog, increased coastal erosion, voluntary GHG emission reduction programs are in place. The respective Boards are being appraised and planning for the impacts is ongoing.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: Rainfall gauging, infrastructure observations, water quality sampling, groundwater monitoring.</i>	High
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: MWSD engage qualified professionals to assist with strategy development</i>	High
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Voluntary GHG emission reduction programs are in place; various measures for reduction are being implemented</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Capital planning includes elements to address climate impacts, current, and potential – both MWSD</i>	High
Participation in regional groups addressing climate risks <i>Comment: MWSD participate in Coastside One Water group to address climate risks; MWSD coordinates with Coastside Fire District to address increased fire risks.</i>	Medium

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	Low
Identified strategies for adaptation to impacts <i>Comment:</i>	Low
Champions for climate action in local government departments <i>Comment:</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment:</i>	Medium
Financial resources devoted to climate change adaptation <i>Comment:</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i>	High
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment:</i>	High
Local residents support of adaptation efforts <i>Comment:</i>	Medium
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	High
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Medium
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Medium

a. High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 28.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 28.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **San Mateo County Local Coastal Program**



- **Emergency Cooperative Agreements with other local agencies**

## 28.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Increased participation in cooperative aid agreements with neighboring agencies**

## 28.6 RISK ASSESSMENT

### 28.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 28-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 28-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Drought	N/A	4/2021 - present	
Coastal Flood	N/A	12/14/2020	
High Surf	N/A	Winters 2010 to 2021	
Wildfires	DR-4558	8/14/2020 – 9/26/2020	
COVID-19 Pandemic	DR-4482	1/20/2020 - present	
High Wind	N/A	1/2010 – 1/2019	
Severe Winter Storms, Flooding, and Mudslides	DR-4308, DR-4305	Winter 2017	
Excessive Heat	N/A	9/1/2017	
Lightning	N/A	9/11/2017	
Hail	N/A	1/22/2017- 4/8/2017	
Drought	N/A	2012-2016	
Tsunami	N/A	3/11/2011	
Heavy Rain	N/A	10/13/2009	
Flash Flood	N/A	1/25/2008	
Drought	N/A	2007-2009	
Severe Storms, Flooding, Landslides, and Mudslides	DR-1646, DR-1628	12/2005 – 4/2006	Severe mudslide causing damage to Pillar Ridge Water Treatment Plant
Severe Winter Storms and Flooding	DR-1203	2/2/1998 – 4/30/1998	
Severe Storms, Flooding, Mud, and Landslides	DR-1155	12/28/1996 – 4/1/1997	
Severe Winter Storms, Flooding, Landslides, Mud Flows	DR-1046, DR-1044	Winter 1995	
Severe Freeze	DR-894	12/19/1990 – 1/3/1991	
Loma Prieta Earthquake	DR-845	1989	
Landslide		1982	

## 28.6.2 Hazard Risk Ranking

Table 28-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 28-10. Hazard Risk Ranking (Social Equity Lens Applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	54	High
2	Landslide/Mass Movements	75	High
3	Flood	48	High
4	Drought	9	High
5	Wildfire	36	High
6	Sea Level Rise / Climate Change	35	High
7	Tsunami	24	Medium
8	Severe weather	24	Medium
9	Dam Failure	23	Low

The Risk Ranking Scores were calculated using the standard Loss Matrix developed for all jurisdictions. The risk ranking scores used for MWSD are averaged of Half Moon Bay and Pacifica because they are both nearby coastal towns and are representative of the MWSD service areas. The ranking order and risk categories were adjusted to account for the increased risk of drought for a water service supplier.

## 28.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Critical trunk main supplying water to the MWSD system is aging and seismically vulnerable, without an intertie for backup for fire or emergency supply.
- A potable water storage tank is located in a landslide zone, where a historic landslide has occurred.
- Critical assets for water supply, including pumps and wells, are without backup power in the event that power is interrupted due to a hazard event.
- Major critical assets including one of the District’s treatment plants lies in a fault line where erosion and separation have occurred.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 28.7 HAZARD MITIGATION ACTION PLAN

Table 28-11 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 28-12 identifies the priority for each action. Table 28-13 summarizes the mitigation actions by hazard of concern and mitigation type.



**Table 28-11. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action MWS-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<u>Hazards Mitigated:</u> Earthquake, flooding, landslide, wildfire, drought, severe weather, tsunami, climate change, Sea Level Rise						
Existing	6, 7, 8, 9, 10, 13	MWSD	N/A	High	HMGP, BRIC, FMA	Short-term
<b>Action MWS-2</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Earthquake, flooding, landslide, wildfire, drought, severe weather, tsunami, climate change, Sea Level Rise						
New & Existing	1, 2, 3, 4, 5, 8, 10	MWSD	N/A	Low	Staff Time, General Funds, HMGP, BRIC	Short-term
<b>Action MWS-3</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: <ul style="list-style-type: none"> <li>Increased participation in cooperative aid agreements with neighboring agencies</li> </ul>						
<u>Hazards Mitigated:</u> Earthquake, flooding, landslide, wildfire, drought, severe weather, tsunami, climate change, Sea Level Rise						
New & Existing	1, 2, 4, 8, 9, 10	MWSD	N/A	Low	Staff Time, General Funds, HMGP, BRIC	Ongoing
<b>Action MWS-4</b> —Purchase stationary generators for critical facilities and infrastructure that lack adequate backup power, including supply wells, pumps, and water treatment facilities. Build adequate equipment and fuel storage for generators.						
<u>Hazards Mitigated:</u> Earthquake, flooding, landslide, wildfire, drought, severe weather, tsunami, climate change, Sea Level Rise						
Existing	1, 4, 6, 7, 8, 9, 10, 13	MWSD	N/A	High	Staff Time, General Funds, HMGP, BRIC	Short-term
<b>Action MWS-5</b> —Construct an intertie along critical trunk line to allow alternative supply to the system during repairs or main failure.						
<u>Hazards Mitigated:</u> Earthquake, flooding, landslide, wildfire, drought, severe weather, tsunami, climate change, Sea Level Rise						
New & Existing	1, 4, 6, 7, 8, 9, 10, 13	MWSD	N/A	High	Staff Time, General Funds, HMGP, BRIC	Short-term
<b>Action MWS-6</b> —Replacement of Alta Vista Tank No. 1, Portola Tank, and two Pillar Ridge tanks. Investigate potential tank relocation or seismic retrofiting.						
<u>Hazards Mitigated:</u> Earthquake, flooding, landslide, wildfire, drought, severe weather, tsunami, climate change						
New & Existing	1, 4, 6, 7, 8, 9, 10, 13	MWSD	N/A	High	Staff Time, General Funds, HMGP, BRIC	Short-term
<b>Action MWS-7</b> —Replace aging fire hydrants.						
<u>Hazards Mitigated:</u> Earthquake, wildfire, drought, severe weather, climate change						
New & Existing	1, 4, 6, 7, 8, 9, 10, 13	MWSD	N/A	High	Staff Time, General Funds, HMGP, BRIC	Ongoing
<b>Action MWS-8</b> —Replace aging water supply mains, prioritizing seismically vulnerable mains and critical supply mains.						
<u>Hazards Mitigated:</u> Earthquake, flooding, landslide, wildfire, drought, severe weather, tsunami, climate change, Sea Level Rise						
New & Existing	1, 4, 6, 7, 8, 9, 10, 13	MWSD	N/A	High	Staff Time, General Funds, HMGP, BRIC	Ongoing
<b>Action MWS-9</b> —Evaluate alternatives and construction of retrofit of Pillar Ridge Water Treatment Plant, including seismic strengthening.						
<u>Hazards Mitigated:</u> Earthquake, flooding, landslide, wildfire, drought, severe weather, tsunami, climate change, Sea Level Rise						
Existing	1, 4, 6, 7, 8, 9, 10, 13	MWSD	N/A	High	Staff Time, General Funds, HMGP, BRIC	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 28-12. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible For Outside Funding?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	6	High	High	Yes	Yes	No	Medium	High	Medium
2	7	Medium	Low	Yes	Yes	No	Medium	High	Medium
3	6	Medium	Low	Yes	Yes	No	Medium	High	Medium
4	8	High	High	Yes	Yes	No	Medium	High	Medium
5	8	High	High	Yes	Yes	No	Medium	High	Medium
6	8	High	High	Yes	Yes	No	Medium	High	Medium
7	8	High	High	Yes	Yes	No	Medium	High	Medium
8	8	High	High	Yes	Yes	No	Medium	High	Medium
9	8	High	High	Yes	Yes	No	Medium	High	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 28-13. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	MWS-3	MWS-1, 3, 4, 5, 6, 7, 8, 9	MWS-2		MWS-2, 3, 4, 5, 6, 7, 8, 9	MWS-1, 2, 4, 5, 6, 8, 9	MWS-2, 3, 6, 7, 8, 9	MWS-2, 3, 5, 6, 7, 8, 9
Landslide/ Mass Movements	MWS-3	MWS-1, 3, 4, 5, 6, 8, 9	MWS-2		MWS-2, 3, 4, 5, 6, 8, 9	MWS-1, 2, 4, 5, 6, 8, 9	MWS-2, 3, 6, 8, 9	MWS-2, 3, 5, 6, 8, 9
Flood	MWS-3	MWS-1, 3, 4, 5, 6, 8, 9	MWS-2		MWS-2, 3, 4, 5, 6, 8, 9	MWS-1, 2, 4, 5, 6, 8, 9	MWS-2, 3, 6, 8, 9	MWS-2, 3, 5, 6, 8, 9
Drought	MWS-3	MWS-1, 3, 4, 5, 6, 7, 8, 9	MWS-2		MWS-2, 3, 4, 5, 6, 7, 8, 9	MWS-1, 2, 4, 5, 6, 8, 9	MWS-2, 3, 6, 7, 8, 9	MWS-2, 3, 5, 6, 7, 8, 9
Wildfire	MWS-3	MWS-1, 3, 4, 5, 6, 7, 8, 9	MWS-2		MWS-2, 3, 4, 5, 6, 7, 8, 9	MWS-1, 2, 4, 5, 6, 8, 9	MWS-2, 3, 6, 7, 8, 9	MWS-2, 3, 5, 6, 7, 8, 9
Sea Level Rise / Climate Change	MWS-3	MWS-1, 3, 4, 5, 6, 7, 8, 9	MWS-2		MWS-2, 3, 4, 5, 6, 7, 8, 9	MWS-1, 2, 4, 5, 6, 8, 9	MWS-2, 3, 6, 7, 8, 9	MWS-2, 3, 5, 6, 7, 8, 9
<b>Medium-Risk Hazards</b>								
Tsunami	MWS-3	MWS-1, 3, 4, 5, 6, 8, 9	MWS-2		MWS-2, 3, 4, 5, 6, 8, 9	MWS-1, 2, 4, 5, 6, 8, 9	MWS-2, 3, 6, 8, 9	MWS-2, 3, 5, 6, 8, 9
Severe weather	MWS-3	MWS-1, 3, 4, 5, 6, 7, 8, 9	MWS-2		MWS-2, 3, 4, 5, 6, 7, 8, 9	MWS-1, 2, 4, 5, 6, 8, 9	MWS-2, 3, 6, 7, 8, 9	MWS-2, 3, 5, 6, 7, 8, 9
<b>Low-Risk Hazards</b>								
Dam Failure								

a. See the introduction to this volume for explanation of mitigation types.



## 28.8 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **MWSD Water System Capital Improvement Program Update FY2021/22 – FY2025-26** – This document was used to identify projects that are planned for the improvement of the District’s water system.
- **MWSD Risk and Resilience Assessment** – This document was used as a reference to identify District assets that may be impacted by natural hazards.
- **SAM Capital Improvement Program FY2021-FY2025** – This document was used to determine if any projects should be included in the Plan.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.





## 29. NORTH COAST COUNTY WATER DISTRICT

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### 29.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Adrienne Carr, General Manager  
2400 Francisco Blvd.  
Pacifica, CA 94044  
650-355-3462  
acarr@nccwd.com

#### Alternate Point of Contact

Scott Dalton, Asst. General Manager - Operations  
2400 Francisco Blvd.  
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650-355-3462  
sdalton@nccwd.com

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 29-1.

**Table 29-1. Local Mitigation Planning Team Members**

Name	Title
Adrienne Carr	General Manager
Scott Dalton	Asst. General Manager - Operations
Mary McLoughlin	Management Analyst
Stephanie Dalton	Management Analyst
Norm Regnart	Plant Supervisor

### 29.2 JURISDICTION PROFILE

#### 29.2.1 Overview

The North Coast County Water District is a special district created in 1944 to provide potable water service to the coastal area south of the City of Daly City, west of the City of South San Francisco and City of San Bruno, and north of the City of Montara. The District began with the acceptance, from the County of San Mateo, of the assets and operation of Salada Beach Public Utility District; the District's designated service area expanded throughout the years with the acquisition of Vallemar County Water District, San Pedro Water System, and the Sharp Park Sanitary District. The District also acquired land by purchase or otherwise acquiring the land from private landowners. Later, in 1957, the City of Pacifica incorporated 9 unincorporated communities which coincided primarily with the North Coast County Water District's service area.

Presently, the District is one of the San Francisco Public Utilities Commission's twenty-seven wholesale customers and receives approximately 2,700 acre-feet of water deliveries annually, or 2.4 million gallons per day. This water is conveyed through a distribution system containing approximately 132 miles of pipelines ranging from 2-inches to 24-inches in diameter. The District operates 5 pump stations, 12 storage tanks, and 61 pressure

regulating stations separating, but linking together, the 31 pressure zones. Pursuant to 22 CCR 64413.3 and the Water Supply Permit, the District is classified as a D4 distribution system.

The North Coast County Water District also operates a small, recycled water system with 1 pump station, 1 tank and 7 service connections (e.g., City of Pacifica, Jefferson Union High School District, Pacifica School District, Caltrans). The District has opened a Residential Recycled Water Fill Station for residents to fill up to a 55-gallon container with recycled water for watering their gardens.

A five-member elected Board of Directors governs the District. The district currently employs a staff of 20.

The Board of Directors assumes responsibility for the adoption of this plan; the General Manager will oversee its implementation.

## 29.2.2 Service Area

The District serves a population of 38,331. Its service area covers 8,019 acres in City of Pacifica plus 606 acres of unincorporated land south of the City, extending up the slope of San Pedro Mountain.

The current total service area is 8,625 acres. As of January 1, 2021, the district serves 12,261 water connections.

## 29.2.3 Assets

Table 29-2 summarizes the assets of the district and their value.

**Table 29-2. Special Purpose District Assets**

Asset	Value
<b>Property</b>	
San Pedro Valley Park (Watershed)—513+/- Acres	\$26,500,000
2400 Francisco Blvd: APN: 016-322-230—0.79 Acres	\$316,000
Milagra Site: APN: 016-460-0030—17.83 Acres	\$7,132,000
Sharp Park Tank Site: APN: 017-470120—0.30 Acres	\$120,000
Gypsy Hill Tank Site: APN: 016-442-03—3.10 Acres	\$1,240,000
Royce Tank Site: APN: 022-150-370—3.09 Acres	\$1,236,000
Vallemar Tank Site: APN: 018-160-020—0.24 Acres	\$96,000
Christen Hill Tank Site: APN: 009-610-060—1.00 Acres	\$400,000
Hickey Tank Site: APN: 009-570-440—0.25 Acres	\$100,000
Park Pacifica Site: APN: 023-622-440—0.82 Acres	\$328,000
Sheila Tank Site APN: 023-110-010—1.00 Acres	\$400,000
Tapis Tank Site: APN: 023-110-050—0.40 Acres	\$160,000
Fassler Tank Site APN: 022-330-070—0.50 Acres	\$200,000
Skyline Intertie: APN: 009-320-170—0.25 Acres	\$100,000
<b>Total:</b>	<b>\$38,328,000</b>
<b>Critical Infrastructure and Equipment</b>	
Milagra Tank (5MG)	\$5,000,000
Sharp Park Tank (.5MG)	\$600,000
Gypsy Hill Tank Site (3MG)	\$2,500,000



Asset	Value
Royce Tank Site (3MG, 5MG, .75MG)	\$8,750,000
Vallemar Tank Site (.2MG)	\$400,000
Christen Hill Tank Site (3.8MG)	\$3,000,000
Hickey Tank Site (.6MG)	\$750,000
Park Pacifica Tank Site (1MG)	\$1,200,000
Sheila Tank (.1MG)	\$350,000
Tapis Tank (.4MG)	\$500,000
Fassler Tank (.5MG)	\$600,000
<b>Total:</b>	<b>\$23,650,000</b>
<b>Critical Facilities</b>	
Main Pump Station located at the SFPUC Harry Tracy Treatment Plant	\$1,250,000
Milagra Pump Station	\$650,000
Royce Pump Station	\$500,000
Park Pacifica Pump Station	\$450,000
District Office	\$2,500,000
<b>Total:</b>	<b>\$5,350,000</b>

### 29.3 CURRENT TRENDS

Total customers have remained relatively constant since 2010. Population in the service area is projected to grow by approximately 3 percent over the next 10 years.

### 29.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 29-3.
- An assessment of fiscal capabilities is presented in Table 29-4.
- An assessment of administrative and technical capabilities is presented in Table 29-5.
- An assessment of education and outreach capabilities is presented in Table 29-6.
- Classifications under various community mitigation programs are presented in Table 29-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 29-8.

**Table 29-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
Capital Improvement Plan	Updated and Approved Annually	20 year master plan approved in 2016
Emergency Operations Plan	2018	
State Building Code	2020	
Standard Specifications and Construction Details	2013	
SWRCB Sanitary Survey	2018	

**Table 29-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	Yes
Federal Grant Programs	Yes
Other	No

**Table 29-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Contract Support
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contract Support
Planners or engineers with an understanding of natural hazards	Yes	Contract Support
Staff with training in benefit/cost analysis	Yes	Contract Support
Surveyors	Yes	Contract Support
Personnel skilled or trained in GIS applications	Yes	Field Operations/GIS Technician
Scientist familiar with natural hazards in local area	Yes	General Manager
Emergency manager	Yes	Assistant General Manager
Grant writers	Yes	Contract Support
Other	No	



**Table 29-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	No
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	No
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	No
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	No
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes Genasys Mass Notifications – contacts customers via text, phone, and email
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes Genasys Mass Notifications/Website

**Table 29-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	050380039	Unknown
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 29-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: The District's 2020 Urban Water Management Plan discusses climate and climate change considerations. Changing climate affects both water use and supplies. Extreme and higher temperatures lead to increased water use and severe and prolonged droughts could lead to less water available.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: District participates in and follows climate change discussion and planning in the region.</i>	High
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Contract Support</i>	High
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Contract Support</i>	High
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Contract Support</i>	High
Participation in regional groups addressing climate risks <i>Comment: NCCWD is a member of the Bay Area Water Supply &amp; Conservation Agency (BAWSCA)</i>	Low

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: NCCWD is governed by an elected five-member board, which is mandated to consider climate change impacts in documents such as the Urban Water Management Plan. Staff may make recommendations to Board.</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	Medium
Identified strategies for adaptation to impacts <i>Comment: Explore other energy conservation measures and possible collaboration(s) with other regional organizations</i>	Medium
Champions for climate action in local government departments <i>Comment: Fleet operates several hybrid vehicles</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment: Board and staff support strategies that would reduce climate change impacts</i>	High
Financial resources devoted to climate change adaptation <i>Comment: District budget and capital plans</i>	High
Local authority over sectors likely to be negatively impacted <i>Comment: District does not have authority over other sectors</i>	Low
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment:</i>	Unsure
Local residents support of adaptation efforts <i>Comment:</i>	Unsure
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	Unsure
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Unsure

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure = Not enough information is known to assign a rating.

## 29.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 29.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:



- **Capital Improvement Plan** - The capital improvement plan includes projects that can help mitigate potential hazards. The District will act to ensure consistency between the hazard mitigation plan and the current and future capital improvement plans. The hazard mitigation plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.
- **Emergency Operations Plan**—The results of the risk assessment were used in the development of the emergency operations plan.

## 29.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Post-Disaster Recovery Plan**—The District does not have a recovery plan and intends to develop one as a mitigation planning action during the next five years. The plan will build on the mitigation goals and objectives identified in the mitigation plan.

## 29.6 RISK ASSESSMENT

### 29.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 29-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 29-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Tsunami (Warning)	N/A	2011	Not Available. The 8.9 earthquake in Japan set off a Tsunami warning for the West Coast of California. Staff was called in to move vehicles and equipment to higher ground since the corporation yard is at sea level. No damage to facilities or infrastructure.
Landslide	N/A	1997	Not Available. Mudslide in the Pedro Point Area of Pacifica washed out a road leading to a water tank site.
Landslide	N/A	1993	Not Available. Landslide in the Vallemar Area of Pacifica caused water piping to separate. Piping was repaired and a flexible expansion joint fitting installed.
Severe Weather	N/A	1991	Not Available. Freezing caused service lines to fail.
Loma Prieta Earthquake	DR-845	1989	Not Available. Damage occurred to one water tank's piping connection. Pipe cracked; a repair clamp was installed.

### 29.6.2 Hazard Risk Ranking

Table 29-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 29-10. Hazard Risk Ranking (Social Equity Lens added)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Landslide/Mass Movements	63	High
2	Sea Level Rise / Climate Change	45	High
3	Flood	45	High
4	Earthquake	42	High
5	Severe Weather	24	Medium
6	Tsunami	21	Medium
7	Drought	9	Low
8	Dam Failure	0	Low
9	Wildfire	0	Low

### 29.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Coastal areas with cliffs, such as NCCWD’s service area, are highly susceptible to landslides, from either intense precipitation and/or earthquakes. This poses a threat to some District assets.
- All of the NCCWD’s service area is in a seismic hazard zone, at various risk levels, which poses a threat to some assets.
- Tsunamis are rare events, but NCCWD’s service area does contain tsunami hazard areas.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

### 29.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 29-11 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 29-11. Status of Previous Plan Actions**

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
NCCWD-1 Seismically Retrofit Water Storage Tanks and storage tank piping connections, including anchoring to foundation and flexible expansion joints to allow for movement. <i>Comment: Ongoing</i>			✓	NCW-1
NCCWD-2 Increase existing storage capacity. <i>Comment: In progress</i>			✓	NCW-2
NCCWD-3 Improve and add additional interconnections with neighboring agencies. <i>Comment: Has not been initiated</i>			✓	NCW-4



Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
NCCWD-4 Piping upgrades to include strengthening vulnerable piping crossing and running in the close vicinity to known faults as well as improving piping to increase flow capacities. <i>Comment: Ongoing</i>			✓	NCW-3
NCCWD-5 Develop and implement a program to capture perishable data after significant events within the District’s GIS program to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan. <i>Comment: Ongoing</i>			✓	NCW-5
NCCWD-6 Integrate the hazard mitigation plan into other plans and programs that support infrastructure investment choices, such as the capital improvement program and the 20 Year Master Plan. <i>Comment: Initiated, in progress</i>			✓	NCW-6
CCWD-7 Develop a long term plan and execute the plan for the District’s Corporation Yard and offices. <i>Comment: Initiated, in progress – completion forthcoming</i>	✓			
NCCWD-8 Re-establishing existing and/or establishing new sources for supplemental potable water. <i>Comment: Initiated, in progress – completion forthcoming</i>	✓			
Action G-1— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan. <i>Comment: Ongoing</i>			✓	NCW-7
Action G-2— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan. <i>Comment: Ongoing</i>			✓	NCW-7

## 29.8 HAZARD MITIGATION ACTION PLAN

Table 29-12 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 29-13 identifies the priority for each action. Table 29-14 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 29-12. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action NCW-1—</b> Seismically retrofit Water Storage Tanks and storage tank piping connections, including anchoring to foundation and flexible expansion joints to allow for movement.						
<i>Hazards Mitigated:</i> Earthquake						
Existing	1, 4, 7, 9, 13, 14	NCCWD	N/A	Medium	Staff Time, General Funds, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short term
<b>Action NCW-2—</b> Increase existing storage capacity at targeted sites.						
<i>Hazards Mitigated:</i> Earthquake, landslide, wildfire, drought						
New & Existing	1, 4, 6, 7, 9,14	NCCWD	N/A	High	Staff Time, General Funds	Long term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action NCW-3</b> — Piping upgrades to include strengthening vulnerable piping crossing and running in the close vicinity to known faults as well as improving piping to increase flow capacities..						
<i>Hazards Mitigated:</i> Earthquake, fire, drought, climate change						
New & Existing	1, 4, 7, 13, 14	NCCWD	N/A	High	Staff Time, General Funds, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Long term
<b>Action NCW-4</b> — Improve and add additional interconnections with neighboring agencies.						
<i>Hazards Mitigated:</i> Earthquake, landslide, severe weather, wildfire, dam failure, drought, climate change, Sea Level Rise						
New & Existing	1, 2, 7, 8, 10	NCCWD	N/A	High	Staff Time, General Funds between neighboring agencies	Long-Term
<b>Action NCW-5</b> — Develop and implement a program to capture perishable data after significant events within the District’s GIS program to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Landslide, climate change, flood, earthquake, severe weather, tsunami, drought, Sea Level Rise						
New & Existing	1, 4, 6,7	NCCWD	N/A	Low	Staff Time, General Funds	Short term
<b>Action NCW-6</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Urban Water Management Plan, 5 year capital improvement plan, and 20 year master plan.						
<i>Hazards Mitigated:</i> Earthquake, flood, landslide, climate change, severe weather, tsunami, drought, Sea Level Rise						
Existing	1, 4, 5, 6, 7, 12, 14	NCCWD	N/A	Low	Staff Time, General Funds	Short term
<b>Action NCW-7</b> — Actively participate in the County-wide initiatives and plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan						
<i>Hazards Mitigated:</i> Earthquake, flood, wildfire, climate change, tsunami, drought, landslide, dam failure, Sea Level Rise						
New & Existing	1, 7, 9, 13, 14	NCCWD	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action NCW-8</b> — Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: development of alternative water supplies, increase recycled water usage.						
<i>Hazards Mitigated:</i> Earthquake, Landslide, wildfire, flooding, drought, Sea Level Rise						
New & Existing	1, 2, 5, 6, 7, 9, 10, 14	NCCWD	N/A	High	Staff Time, General Funds, Grant Funding	Long term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 29-13. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
NCW-1	6	High	Medium	Yes	Yes	Yes	High	High
NCW-2	6	High	High	Yes	No	No	Medium	Low
NCW-3	5	High	High	Yes	Yes	Yes	High	Medium
NCW-4	5	High	High	Yes	No	No	Low	Low
NCW-5	4	Low	Low	Yes	No	Yes	Medium	Low
NCW-6	7	Medium	Low	Yes	No	Yes	High	Low
NCW-7	5	Medium	Low	Yes	No	Yes	High	Low
NCW-8	8	High	High	Yes	Yes	No	Medium	High

a. See the introduction to this volume for explanation of priorities.



**Table 29-14. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Landslide/Mass Movements	NCW-5,6	NCW-4	NCW-6			NCW-2,4	NCW-2,6	NCW-4,6
Sea level Rise / Climate Change	NCW-5, 6, 8		NCW-6,8			NCW-8	NCW-8	NCW-8
Flood	NCW-5,6		NCW-6					
Earthquake	NCW-6	NCW-1, 3, 4	NCW-6			NCW-2, 3, 4		NCW-4,7
<b>Medium-Risk Hazards</b>								
Severe Weather	NCW-5,6	NCW-4	NCW-6			NCW-4		NCW-4
Tsunami	NCW-5,6		NCW-6					
<b>Low-Risk Hazards</b>								
Drought	NCW-6,8		NCW-6,8	NCW-8		NCW-2,8	NCW-2	NCW-8

a. See the introduction to this volume for explanation of mitigation types.

## 29.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **NCCWD 2020 Urban Water Management Plan**-This plan was used as a planning document for water supply and system planning
- **NCCWD 2021 Risk and Resilience Assessment Report**-This report was used to assess risk from various natural hazards and threats.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## 29.10 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Classes available for Public Agencies from FEMA designed to help the Agencies better understand risk and vulnerability in their specific location. Perhaps these classes can also help agencies who are interested in mitigation planning to apply for grants.





# 30. SAN MATEO COMMUNITY COLLEGE DISTRICT

## 30.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Ben'Zara Minkin, Emergency Manager  
 1700 West Hillsdale Blvd  
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 San Mateo, CA 94402  
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### Alternate Point of Contact

Vince Garcia, Emergency Management Coordinator  
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 garciav@smccd.edu

Development of this annex was carried out by the members of the local mitigation planning team, whose members are listed in Table 30-1.

**Table 30-1. Local Mitigation Planning Team Members**

Name	Title
Ben'Zara Minkin	Emergency Manager
Vince Garcia	Emergency Management Coordinator
Jose Nunez	Vice Chancellor of Public Safety, Facilities, Sustainability
Brian Tupper	Chief of Public Safety
Michele Rudovsky	Director of Facilities
Joseph Fullerton	Energy and Sustainability Manager

## 30.2 JURISDICTION PROFILE

### 30.2.1 Overview

San Mateo Community College District (SMCCD) serves approximately 40,000 people throughout San Mateo County at its three college campuses. Its academic and vocational program offerings vary widely in order to meet the educational needs of the community. These programs include transfer programs to the University of California and California State Universities, over 80 vocational degree and certificate programs, advanced professional training, and developmental education to prepare students for college studies. The following is a summary of key information about SMCCD and its history.

SMCCD is located in San Mateo County, CA, and operates three college campuses:

- Cañada College in Redwood City, CA – opened in 1968
- College of San Mateo (CSM) in San Mateo, CA – opened in 1963

- Skyline College in San Bruno, CA – opened in 1969

SMCCD opened in 1922 with 35 students at its Baldwin campus in downtown San Mateo. SMCCD originally consisted of only the area within the San Mateo Union High School District; however, Jefferson Union and Half Moon Bay high school districts were added in 1937. Sequoia Union High School and South San Francisco Unified School Districts joined in the 1960s, and La Honda-Pescadero Unified School District joined in 1976.

In 1957, the Board of Trustees submitted a \$5.9 million bond request to voters that was approved by a three-to-one margin. The funding from this initiative allowed SMCCD to acquire the CSM campus and Skyline campus. Cañada College’s location was purchased in 1962. A second bond issue, approved in 1964, funded a significant portion of the construction of the facilities for the Cañada and Skyline campuses.

SMCCD maintains boundary lines matching those of San Mateo County. The District Board of Trustees operates independently of the County government and consists of five members elected by County voters every four years and one student member elected by students for a one-year term. Day-to-day operations are managed by the Board-appointed chancellor. Additionally, each college is fully accredited by the Western Association of Schools and Colleges, the recognized local accrediting agency for the western United States, affiliated with the Federation of Regional Accrediting Commissions of Higher Education.

The SMCCD Chancellor assumes responsibility for the adoption of this plan; Department of Emergency Management will oversee its implementation.

### 30.2.2 Service Area

SMCCD serves a population of approximately 40,000 students and almost 1000 employees. Its primary service area is San Mateo County, California, and the District manages funds of \$119.2 million.

### 30.2.3 Assets

Table 30-2 summarizes the assets of the district and their value.

Asset	Value
<b>Property</b>	
560 acres of land	\$12,874,918
<ul style="list-style-type: none"> <li>• Cañada College 124 acres</li> <li>• College of San Mateo 150 acres</li> <li>• Skyline College 102 acres</li> <li>• Purisima Creek/ CA Hwy 1 184 acres</li> </ul>	
<b>Equipment</b>	
College of San Mateo	\$15,931,600
Cañada College	\$13,430,100
Skyline College	\$19,571,300
District Office	\$5,521,000
Satellite Locations	\$2,000,000
<b>Total:</b>	<b>\$56,454,000</b>



Asset	Value
<b>Critical Facilities and Infrastructure</b>	
College of San Mateo: 1700 W. Hillsdale Blvd., San Mateo, 94402	\$337,648,163.00
Cañada College: 4200 Farmhill Blvd. Redwood City, 94061	\$525,647,320.00
Skyline College: 3300 College Drive, San Bruno, 94066	\$257,507,839
District Office: 3401 CSM Drive, San Mateo, 94402	\$6,482,350
Satellite Locations:	\$44,169,574
Menlo Park O'Brien Center, 1200 O'Brien, Menlo Park, 94025	
Purisima Creek/ CA Hwy 1	
Half Moon Bay Center: 225 South Cabrillo Highway	
<b>Total:</b>	<b>\$1,227,919,300</b>

### 30.3 CURRENT TRENDS

CIP1 - In November 2001, voters in San Mateo County voted to approve Measure C, a \$207 million bond measure that allows the District to move towards completion of the modernization/construction/reconstruction projects as envisioned in the 2001 Facilities Master Plan Amendment. Total value of CIP1 = \$331M

CIP2 - In November 2005, voters in San Mateo County voted to approve Measure A, a \$468 million bond measure that allows the District to move towards completion of the modernization/construction/reconstruction projects as envisioned in the 2006 Facilities Master Plan Amendment. Total value of CIP1 = \$534M

CIP3 - In November 2014, voters in San Mateo County voted to approve Measure H, a \$388 million bond measure that allows the District to move towards completion of the modernization/construction/reconstruction projects as envisioned in the 2015 Facilities Master Plan Amendment. Total value of CIP1 = projected \$556M

### 30.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The "Analysis of Mitigation Actions" table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 30-3.
- An assessment of fiscal capabilities is presented in Table 30-4.
- An assessment of administrative and technical capabilities is presented in Table 30-5.
- An assessment of education and outreach capabilities is presented in Table 30-6.
- Classifications under various community mitigation programs are presented in Table 30-7.
- The community's adaptive capacity for the impacts of climate change is presented in Table 30-8.

**Table 30-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update
<b>SMCCD Board Policies (BP) and Administrative Procedures (AP)</b>	
BP 2.55 Emergency Response Plan	March 2018
AP 2.55.1 Emergency Response Plan	July 2013
BP 8.28 Hazardous Materials	November 2010
BP 8.40 Risk Management	October 2012
AP 8.40.1 Risk Management Insurance	December 2012
<b>SMCCD-wide Plans</b>	
Facilities Master Plan, All Campuses	2011
District Hazardous Materials Business Plan	2019
San Mateo Community College District Emergency Operations Plan (EOP)	October 2014
San Mateo Community College District Strategic Plan	September 2015
SMCCD Fact Book	2014
Strategic Plan for Information Technology	2012-2016
2015 Amendment to Facilities Master Plan	2015
Other Plans Available at: <a href="http://collegeofsanmateo.edu/prie/smCCdplanningdocs.asp">http://collegeofsanmateo.edu/prie/smCCdplanningdocs.asp</a>	
<b>Cañada College Plans</b>	
Cañada College EOP	October 2014
Cañada Sustainability Plan	June 2013-2016
Educational Master Plan, Cañada College	2012-2017
Other Plans Available at: <a href="http://www.canadacollege.edu/plans/index.php">http://www.canadacollege.edu/plans/index.php</a>	
<b>CSM Plans</b>	
College of San Mateo EOP	October 2014
Educational Master Plan Update	2012
CSM Sustainability Plan	June 2013 - 2016
Other Plans Available at: <a href="http://collegeofsanmateo.edu/prie/planningdocs.asp">http://collegeofsanmateo.edu/prie/planningdocs.asp</a>	
<b>Skyline College Plans</b>	
Business and Marketing Plan	
Charter and Bylaws, Skyline College Institutional Planning Committee	2005
Skyline College EOP	October 2014
Strategic Plan	2012-2017
Skyline Sustainability Plan	June 2013 - 2016
Educational Master Plan Update	2013-2019
Other Plans Available at: <a href="http://www.skylinecollege.edu/prie/planning.php">http://www.skylinecollege.edu/prie/planning.php</a>	



**Table 30-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes, Capital Outlay Projects
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes, Parcel tax for operations
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	Unknown
Enrollment Fees	Yes
Non-Resident Tuition	Yes
Other Student Fees	Yes

**Table 30-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Facilities Department
Engineers or professionals trained in building or infrastructure construction practices	Yes	Facilities Department
Planners or engineers with an understanding of natural hazards	Yes	Public Safety Department, Facilities Department
Staff with training in benefit/cost analysis	Yes	Financial Services
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Geography Department (Academics)
Scientist familiar with natural hazards in local area	Yes	Geography Department (Academics)
Emergency manager	Yes	Vice Chancellor, Facilities Planning, Maintenance & Operations
Grant writers	Yes	Financial Services and through Foundation
Other	Yes	Subject matter experts (various), Academic Departments (i.e., professors), Information Technology (IT) services

**Table 30-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes, Marketing, Communications, and Public Relations Office, District Director of Community and Government Relations
Do you have personnel skilled or trained in website development?	Yes, Marketing, Communications, and Public Relations Office and IT Support
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	No  Safety brochures and tips (not focuses on hazard mitigation, however) are available online.
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	Yes (Partial)  Each college campus has its own Facebook page, Twitter Account, LinkedIn, and Instagram account. Accounts are not targeted for hazard mitigation education and outreach but can be used to disseminate such information.
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	Yes  Safety Committee
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes  Emergency Preparedness Webpage, Public Safety Department Websites (for each campus)
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes  AlertU (Emergency Text Notifications) and SMC Alert

**Table 30-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	038857603	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A



**Table 30-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
<b>Jurisdiction-level understanding of potential climate change impacts</b>	Medium
<i>Comment:</i> Executive level action to address the climate crisis has not been taken yet. An internal decarbonization strategy, developed by staff, has been completed but a distinct plan to address decarbonization opportunities and funding to support implementation of both mitigation and adaptation measures has not been identified. Additionally, greenhouse gas emissions have not been comprehensively categorized at the campus or District level. A climate action plan and strategic energy planning process are now in the early stages and are designed to address operational gaps in building and campus decarbonization, climate mitigation and resilience measure prioritization..	
<b>Jurisdiction-level monitoring of climate change impacts</b>	Low
<i>Comment:</i> There is not a process, system nor clear guidance on comprehensively monitoring climate change impacts. Once complete, the climate action plan and strategic energy plan will combine to set priorities and a stepwise process for mitigation and resilience. Part of this process will be to establish a measurement and verification process for climate action and resilience measure impacts.	
<b>Technical resources to assess proposed strategies for feasibility and externalities</b>	Medium
<i>Comment:</i> There are sustainability staff and dedicated resources to assist in the research and development of climate action and adaptation strategies. The decarbonization strategy outlines clear mitigation processes and other studies and feasibility work provide a foundation for resilience and adaptation measure implementation.	
<b>Jurisdiction-level capacity for development of greenhouse gas emissions inventory</b>	Medium
<i>Comment:</i> There are sustainability staff and dedicated resources to assist in the development of a greenhouse gas emissions inventory.	
<b>Capital planning and land use decisions informed by potential climate impacts</b>	Medium
<i>Comment:</i> There are sustainability staff engaged in the capital planning process and working internally to address climate change impacts.	
<b>Participation in regional groups addressing climate risks</b>	Low
<i>Comment:</i> Some middle level staff are engaged in conversations and regional groups like the Regional Integrated Climate Action Planning Suite (RICAPS) but SMCCD is not a signatory or partnership sponsor.	
<b>Implementation Capacity</b>	
<b>Clear authority/mandate to consider climate change impacts during public decision-making processes</b>	Low
<i>Comment:</i> There is no organizational mandate to make decisions or address impacts of climate change at this time.	
<b>Identified strategies for greenhouse gas mitigation efforts</b>	High
<i>Comment:</i> Measures have been identified and prioritized.	
<b>Identified strategies for adaptation to impacts</b>	Medium
<i>Comment:</i> Some specific steps have been made and some planning has been conducted to improve organizational resilience to climate change.	
<b>Champions for climate action in local government departments</b>	High
<i>Comment:</i> There are sustainability staff engaged and empowered to bring awareness to and identify measures for climate action and adaptation.	
<b>Political support for implementing climate change adaptation strategies</b>	Low
<i>Comment:</i>	
<b>Financial resources devoted to climate change adaptation</b>	Low
<i>Comment:</i>	
<b>Local authority over sectors likely to be negative impacted</b>	High
<i>Comment:</i> The Facilities Planning, Maintenance and Operations and Public Safety departments have staff and resources that are motivated and dedicated to address the impacts and influences of the climate crisis.	

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Some stakeholders within the organization are very knowledgeable and others are not. A range of efforts is underway to improve climate and sustainability literacy.</i>	Medium
Local residents support of adaptation efforts <i>Comment: Stakeholders within the District and in the broader community seem aware and alert about the dangers of the climate crisis. Recent impacts from fires in the state, as well as regional planning processes have engaged the public in this process effectively in many circumstances.</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: Certain adaptation measures are clear and necessary. Other present challenges that range in complexity and degree of impact on various populations. This presents logistical, technical, financial, political, and other barriers to adoption of measures and the capacity to make necessary changes for climate impacts.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment: N/A</i>	Medium
Local ecosystems capacity to adapt to climate impacts <i>Comment: N/A</i>	Medium

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 30.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 30.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- Campus and District EOPs**—SMCCD maintains EOPs for both the entire San Mateo Community College District (i.e., comprehensive to all locations) and its individual campuses. However, at the current time, the SMCCD Office of Emergency Management is rewriting the EOP into a consolidated document that applies to the District as a whole. The plan will be stored and updated with VEOCI, a virtual EOC, and plan clearinghouse. The documents are designed to be compliant with the National Incident Management System (NIMS), Incident Command Structure (ICS), and the Standardized Emergency Management System (SEMS) while addressing needs unique to the higher education environment. The EOPs provide an overview of operational concepts and aid the planned response to emergencies associated with large and complex human-caused events, natural hazards, and technological hazards. They consider responsibilities for response within the campus and coordination with outside, local entities. The documents reference and integrate with Federal and State regulations and policies, as well as remain consistent with other District policies.



- **Educational Master Plan**—The Educational Master Plan provides a College direction on implementing its strategy for educational goals and instruction. The planning process for such a document includes the Instructional Planning Council, Student Services Planning Council, Administrative Planning Council, College Planning Council, Academic Senate, and Classified Senate to ensure comprehensive input. It is designed to integrate with other College and District plans and is similar to the Strategic Plan except focused more specifically on educational goals.
- **Facilities Master Plan**—SMCCD maintains a Facilities Master Plan for each of its college campuses. Each college is addressed individually; however, the full document contains the proposed projects for all three campuses to ensure comprehensive planning and tactical development. The Facilities Master Plan is similar to a jurisdictional Capital Improvements Plan (CIP), and the projects identified within are designed to address changing educational needs, maintenance and upgrade of existing structures, and expansion of college services throughout the region. The Facilities Master Plan integrates with each college’s Educational Master Plan and contains strategic review, option development, solution development, and various documentations. The document contains a few projects which tie into hazard mitigation, specifically, with managing transportation accidents and hazardous materials.
- **Strategic Plan**—The San Mateo Community College District Strategic Plan serves as the colleges’ vehicle to implement its mission and goals while acknowledging current (external and internal) community trends and needs. The Strategic Plan integrates with each College’s Educational Master Plan and resource allocation, and it provides the District a way to demonstrate accountability to stakeholders, taxpayers, and students. Some of the data trends investigated for their impact on SMCCD’s ability to achieve its long-term goals include demographic trends, workforce trends, housing trends, community college trends, state education policy trends, and new educational paradigms.
- **Strategic Plan for Information Technology**—This guidance document provides SMCCD a resource to ensure that its technology resources and services remain consistent with District and campus needs. It complies with other educational plans and considers the impact of hazard events and disasters. The Strategic Plan for Information Technology contains information on the Disaster Recovery Center and the District’s processes for business continuity as it relates to technology.
- **Sustainability Plan**—Cañada College, CSM, and Skyline have each developed a sustainability plan. These documents contain information on the College’s history of sustainability efforts, goals for sustainability planning, and possible projects and goals. The Sustainability Plan ties in well with hazard mitigation as many of these projects have the potential to reduce vulnerability to certain hazards and to increase overall resilience. Sustainability Plans specifically consider projects for onsite generation, renewable energy, power storage, and system integration (which could enhance power redundancy during disasters); transportation; water, wastewater, and landscaping; and solid waste reduction and management. Originally developed in 2013 the campus plans are currently being updated.

### 30.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Unique Needs Planning for Higher Education**—Consider evaluating and integrating the unique needs of a higher education environment into both the District’s and local governmental emergency planning processes. While many of these unique needs are implicitly considered in planning documents, they are not necessarily directly noted. Examples include the following:

- SMCCD Colleges maintain no on-campus housing. The District, therefore, is not responsible for any residential needs or sheltering (other than shelter-in-place scenarios). SMCCD, however, may have difficulty in locating students post-event due to various residential locations.
- SMCCD Colleges do offer international/study abroad programs. International students, while not living on campus (see point above) may require additional resources and aid during a hazard event due to language barriers, financial impacts, and healthcare access needs.
- The higher education atmosphere, particularly when there is no resident population, has rotating levels of vulnerability. During peak periods (Monday through Friday, 7 a.m. to 9:30 p.m.), the Colleges will have a higher density population, increasing risk and potential impacts to certain hazards. In contrast, during non-peak time periods (weekends, evenings), the campus population will be much lower. While this decreases risk to certain hazards, it may increase communication and response difficulties as well. Additionally, population density not only varies throughout the week but also the season as fall and spring semesters have higher attendance rates than summer and winter.
- In addition to constantly changing population densities on campuses, students, faculty, and staff also are not located in the same office or classroom while the campuses are open. The District does not currently have a way to track real-time attendance, and during a hazard event, it may be difficult to immediately determine whether anyone is missing. Although class rosters can serve as a tentative resource for identifying students, this resource would not account for students not in class or students that may be in a non-classroom setting, e.g., the library, computer labs, student center, etc.
- **Public Outreach**—SMCCD and its Colleges have many platforms and capabilities to disseminate emergency and preparedness information to students, staff, and faculty. The District maintains emergency notification capabilities through Rave (FedRAMP-authorized mass notification system), emergency website, crisis hotline, and a District-wide emergency alert system which delivers audible warnings through indoor and outdoor speakers. These alert systems allow SMCCD to educate a large number of students, staff, and faculty on campus resilience initiatives, what individuals can do to prepare, and where to gain more information.
- **Greater Hazard Mitigation/Disaster Planning Integration in College Plans**—SMCCD has developed numerous plans, both for individual colleges and for the District as a whole. While these plans integrate with each other to ensure consistency in higher education goals and implementation, many of them do not consider hazard mitigation or disaster planning even at a basic level. The District will begin to integrate the findings from its hazard mitigation annex and the County HMP update into future plans and updates to ensure that the schools have a thorough approach to all aspects of campus life, including safety and resilience.
- **Greater Integration with Jurisdictional Plans**—SMCCD, San Mateo County, and the cities within San Mateo County have all developed numerous plans to facilitate long-term growth, implementation of strategic goals, increased resiliency, etc. SMCCD plays a unique role in the County as it is a major stakeholder for the County, provides services to many residents, and is tied to the County through governance and funding. This HMP update marks one way in which SMCCD, both as a District and with each College, will focus on increasing the coordination between District/College plans, County plans, and City plans to ensure that local governance considers the unique needs and capabilities of SMCCD during a hazard event.



## 30.6 RISK ASSESSMENT

### 30.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 30-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 30-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
COVID-19	DR-4482-CA	January 20, 2020 and continuing	Unknown monetary loss at this time. COVID-19 halted all business and instruction District wide for two weeks and disrupted normal operating procedures until the present.
Fire (Complex)	FM-5336-CA	August 20, 2020	Unknown monetary loss. Poor air quality ceased in person instruction, and essential service work for several days District wide
Fire (Camp)	FM-5278-CA	November, 2018	\$14 Million in losses with a cessation of instruction at both CSM and CAN for 7 days due to poor air quality.
Fire	N/A	January 2015	Pacifica 6-Alarm Canyon Wildfire, operational impact to Skyline Campus.
Severe Storms/Flooding	N/A	December 2014	CSM Campus served as a mass care shelter for 100 as a result of flooding in Belmont, Redwood City, and South San Francisco. Operational costs for the shelter were \$45,000.
Fire	FM-2856	September 10, 2010	Skyline Campus experienced an operational impact as a result of the San Bruno pipeline explosion.
Earthquake	DR-845	October 18, 1989	All properties experienced an operational impact during the Loma Prieta earthquake event. Damage estimates are unknown.

### 30.6.2 Hazard Risk Ranking

Table 30-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings. The SMCCD's risk-ranking methodology is based on the aggregate of hazards facing proximal and surrounding cities, and considerations of social equity. The District also conducts an internal Threat and Hazard Identification and Risk Assessment (THIRA) every three years.

**Table 30-10. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	36	High
2	Wildfire	24	Medium
3	Landslide/Mass Movements	24	Medium
4	Sea Level Rise/Climate Change	20	Medium
5	Severe Weather	18	Medium
6	Drought	3	Low
7	Dam Failure	0	No impact/exposure
7	Flood	0	No impact/exposure
7	Tsunami	0	No impact/exposure

### 30.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Severe weather – Higher velocity winds are experienced on all campuses as a result of higher elevation of facilities along hillside. SMCCD expressed concerns on the effect of these winds on older facilities, specifically as it relates to roofing failure. High winds also impact power to Skyline College and have caused numerous power outages in the last three years.
- Wildfire fuel – All three campuses are adjacent to privately-owned property that contains unkempt wildfire fuel.
- Landslides – All three campuses are exposed to some degree of landslides, mudslides, or slumping from above or below facilities.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

### 30.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 30-11 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 30-11. Status of Previous Plan Actions**

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMCCD-1</b>—Continue to plan for and increase the frequency of discussions- and operations-based exercises for Emergency Operations Center (EOC) Activations within each college campus and with District Executives to expand capacity and consistency in plans and procedures for emergencies associated with large and complex human-caused events, natural hazards, and technological incidents.</p> <p><i>Comment: Safety Committees are now EOC training, and the EOC is being completed in CSM B1</i></p>	✓			
<p><b>Action SMCCD-2</b>—Review and update 2011 versions of Emergency Procedures (AKA: Waterfall Document) maintained in every room, on the property of the District, and within each college campus to ensure consistency in planned procedures to emergencies associated with large and complex human-caused events, natural hazards, and technological incidents.</p> <p><i>Comment: Emergency Posters have been completed and will be posted in next 6 months</i></p>	✓			
<p><b>Action SMCCD-3</b>—Review and update 2014 versions of Emergency Operations Plan (EOP) for the District to ensure consistency in plans for emergencies associated with large and complex human-caused events, natural hazards, and technological incidents.</p> <p><i>Comment: EOP will be stored and utilized through VEOCI</i></p>			✓	SMCCD-1
<p><b>Action SMCCD-4</b>—Review and update 2014 Injury and Illness Prevention Program-based Evacuation Plans, Exterior Assembly Points, and Safety Zones.</p> <p><i>Comment: All evacuation signs and Exterior Assembly points have been established</i></p>	✓			
<p><b>Action SMCCD-5</b>—Review and update, as needed, Conditional Site Use Permit with the Pacific Gas and Electric Company for Emergency Base Camps and Staging Areas.</p> <p><i>Comment: PG&amp;E has not offered a current MOU. Not signed by PG&amp;E</i></p>			✓	SMCCD-2



Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMCCD-6</b>—Annually review Memorandum of Understanding (MOU) with the San Mateo County Sheriff’s Area Office of Emergency Services to provide emergency shelters for disaster-displaced community members, emergency medical treatment/inoculations sites, access to KCSM radio, and logistic staging areas for emergency response and recovery efforts.</p> <p><i>Comment: MOUs have been completed.</i></p>	✓			
<p><b>Action SMCCD-7</b>—Review and annually update Facility Use Agreements with the American Red Cross to provide space for Public Emergency Shelters and Emergency Evacuation Centers.</p> <p><i>Comment: MOU needs to be updated. Site has been visited by ARC</i></p>			✓	SMCCD-3
<p><b>Action SMCCD-8</b>—Develop and maintain a series of Public Safety Video Program to disseminate information about safety services and emergency preparedness relative to hazards, particularly seasonal hazards, to students, faculty, and staff, and present materials on a regular and a routine basis (e.g., monthly, quarterly, etc.).</p> <p><i>Comment: Completed three safety videos in 2020</i></p>	✓			
<p><b>Action SMCCD-9</b>—Develop a District-wide multi-year Emergency Management-based Training and Exercise Program (TEP) as a living document to be updated, refined, and expanded annually. The multi-year TEP will identify the training and exercises that will help the organization build and sustain the core capabilities needed to address training and exercise program priorities in planning for emergencies in the higher education environment. (Note: Actions SMCCD-1 and SMCCD-10 should integrate into this action).</p> <p><i>Comment: TEP still needs to be written</i></p>			✓	SMCCD-4
<p><b>Action SMCCD-10</b>—Develop an Emergency Management Academy In-service Training Program to cultivate an ongoing, cost-effective training initiative for college faculty and staff that is complementary to the required FEMA basic, intermediate, and advanced levels of emergency management training. The SMCCD Training Program will bridge practicum gaps between the theoretical FEMA emergency management subject matter and local application.</p> <p><i>Comment: Building Captain Plan and EM Training is complete (2019)</i></p>	✓			
<p><b>Action SMCCD-11</b>—Develop a District multi-year Hazardous Materials (HAZMAT)-based TEP that will identify the training help the organization build and sustain a culture of safety needed to address priorities in mitigating HAZMAT storage, handling, exposure, and spill emergencies in the higher education environment.</p> <p><i>Comment: HAZ MAT is included in Building Captain Training &amp; Safe Colleges Platform</i></p>	✓			
<p><b>Action SMCCD-12</b>—Develop a Continuity of Operations Plan (COOP) for, at a minimum, District-wide health and safety facilities, utilities, operational facilities, hazardous materials facilities, and vital economic sustainability infrastructure.</p> <p><i>Comment: Plan still needs to be written</i></p>			✓	SMCCD-5
<p><b>Action SMCCD-13</b>—Continue to evaluate and assess the value of critical infrastructure and assets, with a focus on those assets whose replacement values are currently unknown.</p> <p><i>Comment: Action item still needs to be completed</i></p>			✓	SMCCD-6

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>Action SMCCD-14</b>—Continue to strengthen the relationship between SMCCD, San Mateo County Sheriff’s Area Office of Emergency Services, and the three municipalities where the campuses are housed (unincorporated San Mateo County for Cañada, San Mateo for CSM, and San Bruno for Skyline) and first responder organizations for each campus, to promote an integrated emergency management and planning process, where the local governments consider the unique needs and capabilities of SMCCD and where SMCCD coordinates response plans that are accurate to County/City capabilities. (Note: Action SMCCD-10 should integrate into this action).</p> <p><i>Comment: SMCCD OEM is strengthening ALL HAZARDS relationships</i></p>	✓			
<p><b>Action SMCCD-15</b>—Enhance emergency notification procedures to consider the campuses’ more vulnerable populations, most notably, international students and students with access and functional needs.</p> <p><i>Comment: New notification software, new Disability Annex</i></p>	✓			
<p><b>Action SMCCD-16</b>—Review existing non-emergency management/disaster preparedness plans and procedures (e.g., Educational Master Plans, Sustainability Plans, Facilities Master Plans) to integrate hazard mitigation and preparedness, where possible.</p> <p><i>Comment: District planning now incorporates hazard mitigation</i></p>	✓			
<p><b>Action SMCCD-17</b>—Encourage the review of planned infrastructure and strategic growth to ensure that new buildings will be developed outside of hazard-prone areas or constructed to be hazard-proof (earthquake resistant, fire resistant, etc.)</p> <p><i>Comment: This is standard for District practice</i></p>	✓			
<p><b>Action SMCCD-18</b>—Conduct an assessment on buildings, infrastructure, and open space on each campus to determine current vulnerability to hazards. Renovate or implement resilience projects to alleviate these concerns, as funding allows.</p> <p><i>Comment: THIRA completed (2021)</i></p>	✓			
<p><b>Action SMCCD-19</b>—Encourage a Whole Community approach, including the involvement of relevant academic and administrative departments, with plan revisions, and utilize SMCCD’s unique knowledge sources to enhance data collection.</p> <p><i>Comment: Safety committees fulfill this Action Item</i></p>	✓			
<p><b>Action SMCCD-20</b>—ITS and Emergency Response System Upgrades: Upgrade Communications and information technology systems to provide for more resilience, greater redundancy, expanded and faster response time, and integration of systems infrastructure where appropriate. This includes the following: distributed Antenna and Emergency responder system upgrades; emergency alert system coverage and infrastructure upgrades; and UPS system upgrades</p> <p><i>Comment: UPS systems have been upgraded and communication drills are taking place regularly</i></p>	✓			
<p><b>Action SMCCD-21</b>—CSM Project: Trees-Fire Mitigation and Safety Project: Removal of eucalyptus trees on and around campus to reduce the likelihood and effect of urban/wild area interface fire issues and adverse impacts from severe weather.</p> <p><i>Comment: Action item completed (2019)</i></p>	✓			
<p><b>Action SMCCD-22</b>—CSM Project: Water Distribution System Analysis and potential upgrade.</p> <p><i>Comment: Water systems control panel has been replaced, and tank is in process of replacement</i></p>			✓	SMCCD-7
<p><b>Action SMCCD-23</b>—CSM Project: Integrated Solar and Energy Storage: Installation of 300KW of solar and 300 KW of energy storage with energy management software.</p> <p><i>Comment: Action Item not feasible, but RFP exists for contingencies</i></p>		✓		



Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action SMCCD-24</b> —District-wide Project: Waste Management Services Contract: Provide range of waste management services to operations at all three campuses including hauling for FEMA/CAL OES qualifying events. <i>Comment: Action Item Completed (2017)</i>	✓			
<b>Action SMCCD-25</b> —Develop and regularly maintain SMCCD real property/land value estimates. Information maintained should include parcel numbers, physical address/location, acreage, common name, Assessor’s Valuation (Ca. Proposition 13), and Owner’s Valuation. <i>Comment: Committee needs to be created with this Action Item. Facilities and Admin Services will launch this project in a couple of months.</i>			✓	SMCCD-8
<b>Action G-1</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan. <i>Comment: Will continue to participate</i>			✓	SMCCD-9
<b>Action G-2</b> — Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan. <i>Comment: Will continue to participate</i>			✓	SMCCD-10

### 30.8 HAZARD MITIGATION ACTION PLAN

Table 30-12 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 30-13 identifies the priority for each action. Table 30-14 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 30-12. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SMCCD-1</b> — Continue to update the 2014 versions of Emergency Operations Plan (EOP) for the District and each college campus to ensure consistency in plans for emergencies associated with large and complex human-caused events, natural hazards, and technological incidents. Configure VEOCI with new EOP. <i>Hazards Mitigated:</i> Earthquake, Wildfire, Landslide/Mass Movements, Climate Change, Severe Weather, Drought						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9 10, 11, 12, 14	SMCCD OEM	SMCCD District Facilities Planning & Operations Department	Medium/Low	District/Campus Budgets, FEMA, and DHS Grants(EMPG and HSGP)	Short-term
<b>Action SMCCD-2</b> Review and update, as needed, Conditional Site Use Permit with the Pacific Gas and Electric Company for Emergency Base Camps and Staging Areas. <i>Hazards Mitigated:</i> Earthquake, Wildfire, Landslide/Mass Movements, Climate Change, Severe Weather, Drought						
Existing	1, 2, 3, 4, 5, 8, 9, 10, 11, 12	SMCCD OEM	SMCCD District Facilities Planning & Operations Department	Low	District/Campus Budgets	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SMCCD-3</b> — Review and annually update Facility Use Agreements with the American Red Cross to provide space for Public Emergency Shelters and Emergency Evacuation Centers.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Landslide/Mass Movements, Climate Change, Severe Weather, Drought						
Existing	1, 2, 3, 4, 5, 8, 9, 10, 12	SMCCD OEM	SMCCD District Facilities Planning & Operations Department	Low	District/Campus Budgets	Ongoing
<b>Action SMCCD-4</b> — Develop a District-wide multi-year Emergency Management-based Training and Exercise Program as a living document to be updated, refined, and expanded annually. The multi-year TEP will identify the training and exercises that will help the organization build and sustain the core capabilities needed to address training and exercise program priorities in planning for emergencies in the higher education environment.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Landslide/Mass Movements, Climate Change, Severe Weather, Drought						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	SMCCD OEM	SMCCD District Facilities Planning & Operations Department	Low	District/Campus Budgets	Long-term
<b>Action SMCCD-5</b> —Develop a Continuity of Operations Plan (COOP) for, at a minimum, District-wide health and safety facilities, utilities, operational facilities, hazardous materials facilities, and vital economic sustainability infrastructure.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Landslide/Mass Movements, Sea Level Rise/Climate Change, Severe Weather, Drought						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	SMCCD OEM	SMCCD District Facilities Planning & Operations Department and Campus Administrations	Low	District/Campus Budgets, FEMA, and DHS Grants(EMPG and HSGP)	Short-term
<b>Action SMCCD-6</b> —Continue to evaluate and assess the value of critical infrastructure and assets, with a focus on those assets whose replacement values are currently unknown.						
<i>Hazards Mitigated:</i> Earthquake, Landslide/Mass Movements						
Existing	1, 2, 3, 4, 5, 6, 12	SMCCD OEM	SMCCD District Facilities Planning & Operations Department and Campus Administrations	Low	Capital Outlay Funds, District/Campus Budgets	Ongoing
<b>Action SMCCD-7</b> — CSM Project: Water Distribution System Analysis and potential upgrade.						
<i>Hazards Mitigated:</i> Drought						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14	SMCCD District Office Administration and SMCCD District Facilities Planning & Operations Department	SMCCD OEM	High	District/Campus Budgets, FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action SMCCD-8</b> — Develop and regularly maintain SMCCD real property/land value estimates. Information maintained should include parcel numbers, physical address/location, acreage, common name, Assessor’s Valuation(Ca. Proposition 13), and Owner’s Valuation.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Landslide/Mass Movements, Sea Level Rise/Climate Change, Severe weather, Drought						
Existing	1, 3, 4, 5, 6, 7, 8, 10, 12	SMCCD District Facilities Planning & Operations Department	SMCCD OEM	Low	Capital Outlay Funds, District/Campus Budgets	Ongoing
<b>Action SMCCD-9</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Landslide/Mass Movements, Sea Level Rise/Climate Change, Severe weather, Drought						
New and Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Jurisdictions	SMCCD OEM	Low	General Fund	Short- and Long-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SMCCD-10</b> — Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Earthquake, Wildfire, Landslide/Mass Movements, Sea Level Rise/Climate Change, Severe weather, Drought						
New and Existing	1, 4	Jurisdictions	SMCCD OEM	Low	Staff Time, General Funds	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 30-13. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible For Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
SMCCD-1	8	Medium	Low	Yes	Yes	Yes	High	Low	High
SMCCD-2	5	Medium	Low	Yes	No	Yes	Medium	Low	Low
SMCCD-3	6	Medium	Low	Yes	No	Yes	Medium	Low	Medium
SMCCD-4	6	High	Low	Yes	No	Partial	High	High	High
SMCCD-5	8	High	Low	Yes	Yes	Yes	High	Medium	High
SMCCD-6	4	Low	Low	Yes	No	Yes	Low	Low	Low
SMCCD-7	6	High	High	Yes	Yes	Yes	High	Medium	Low
SMCCD-8	4	Low	Low	Yes	No	Yes	Low	Low	Low
SMCCD-9	11	Low	Low	Yes	No	Yes	High	Low	High
SMCCD-10	2	Low	Low	Yes	No	Yes	High	Low	High

a. See the introduction to this volume for explanation of priorities.

**Table 30-14. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	1, 2, 3, 4, 5, 6, 8	1, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 8	1, 5, 6, 8	1, 2, 3, 4, 5	7	1, 2, 3, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 8
<b>Medium-Risk Hazards</b>								
Wildfire	1, 2, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 8	1, 2, 3, 5, 7	1, 2, 3, 4, 5, 6, 7, 8	7	1, 2, 3, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 8
Landslide	1, 2, 3, 4, 5, 6, 8	1, 2, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 8	1, 5, 6, 8	1, 2, 3, 4, 5, 6, 7, 8	7	1, 2, 3, 5, 6, 7, 8	1, 2, 3, 5, 6, 8
Severe Weather	1, 2, 3, 4, 5, 6, 8	1, 2, 3, 4, 5, 6, 8	1, 2, 3, 4, 5, 6, 8	1, 6, 5, 6, 8	1, 2, 3, 4, 5, 6, 8	7	1, 2, 3, 5, 6, 7, 8	1, 2, 3, 5, 6, 8
Sea Level Rise/Climate Change	1, 2, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 8	1, 2, 3, 4, 5, 6, 7, 8,	1, 2, 3, 4, 5, 6, 7, 8,	7	1, 2, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 8,

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>Low-Risk Hazards</b>								
Drought	1, 4, 5, 6, 7, 8	1, 4, 5	1, 4, 5	8	1, 4	7	1, 7	1, 4

a. See the introduction to this volume for explanation of mitigation types.

### 30.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **San Mateo Community College District Emergency Operations Plan (EOP)**—The EOP was reviewed for the capability assessment and for identifying opportunities for action plan integration.
- **Facilities Master Plan, All Campuses**—The Master Plan was reviewed for the capability assessment and for identifying opportunities for action plan integration.
- **San Mateo Community College District Strategic Plan**—The Strategic Plan was reviewed for the capability assessment and for identifying opportunities for action plan integration.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

### 30.10 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

- Risk/Vulnerability Management, Environmental Health and Safety, and Continuity of Operations are historically managed within various District silos. The COVID-19 response has illuminated the need for centralizing college resources for better collaboration and work efficiency for standardization of safety operations. Organization remodeling and expansion may need to occur to strengthen District personnel resources to better understand and mitigate risk/vulnerability.

### 30.11 ADDITIONAL COMMENTS

- The SMCCD employees two full-time employees within the Office of Emergency Management (OEM)
- The SMCCD-OEM was created in 2019
- SMCCD completed an internal THIRA in 2019, and is in the process of completing the 2021 THIRA

# 31. SAN MATEO COUNTY FLOOD & SEA LEVEL RISE RESILIENCY DISTRICT

## 31.1 HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

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This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 31-1.

**Table 31-1. Local Mitigation Planning Team Members**

Name	Title
Len Materman	Chief Executive Officer, San Mateo County Flood and Sea Level Rise Resiliency District
Makena Wong	Associate Project Manager, San Mateo County Flood and Sea Level Rise Resiliency District
Colin Martorana	Associate Project Manager, San Mateo County Flood and Sea Level Rise Resiliency District
Michael Barber	Legislative Aide, Office of Supervisor Dave Pine
Mark Chow	Principal Civil Engineer, County of San Mateo Department of Public Works

## 31.2 JURISDICTION PROFILE

### 31.2.1 Overview

In 2016, the City/County Association of Governments of San Mateo County (C/CAG) Water Coordination Committee began to explore alternatives to form a countywide agency to address sea level rise, flooding, coastal erosion, and regional stormwater infrastructure. Over the next two years, several studies concluded that San Mateo County has more people, homes, and assets vulnerable to the first three feet of sea level rise (SLR) than any other county in California. Threats to community assets and infrastructure beyond current rates of flooding and erosion were quantified, highlighting the impacts to schools, hospitals, water treatment plants, power plants, rails, highways, major corporations, beaches, parks, and wetlands throughout the county.

Alarmed by, and armed with, that information, the Water Coordination Committee and C/CAG decided to pursue State legislation to expand the mission, geographic reach, and governing Board of the long-standing San Mateo County Flood Control District. This legislation, Assembly Bill 825 (Mullin), was signed into law in September



2019, and on January 1, 2020, the San Mateo County Flood and Sea Level Rise Resiliency District (FSLRRD), also known as OneShoreline, was established as an independent government agency.

As its shorthand name “OneShoreline” suggests, FSLRRD takes the approach that when it comes to the transformative challenges brought by climate change, we’re all in this together. It works across jurisdictional boundaries to secure and leverage public and private resources for the long-term resilience of San Mateo County and is the first government agency solely focused on water-related impacts of climate change west of the Mississippi River. FSLRRD expands the traditional goals of local government agencies to plan, design, and build projects that take a holistic approach to the:

- Threat, by addressing impacts from sea level rise, coastal erosion, and storms made more extreme by climate change
- Objectives, by implementing multi-benefit solutions that address these threats, and enhance the environment, recreational opportunities, and quality of life within surrounding communities; and
- Geography, by achieving these objectives through projects that align and connect neighboring jurisdictions, as well as leverage partnerships with public and private entities.

Although it does not participate in the Community Rating System (CRS) itself, a key component of FSLRRD’s role is to partner with municipalities to remove properties from the FEMA floodplain and improve the CRS ratings of municipalities in the County. FSLRRD currently employs a staff of four and is governed by a seven-member Board of Directors. Two Board members serve on the San Mateo County Board of Supervisors, and five serve on different city or town councils that govern municipalities throughout the county. During FSLRRD’s start-up phase, operational funding comes from the County and all twenty cities within it, as well as property tax revenue in discreet flood zones. The FSLRRD Board assumes responsibility for the adoption of this Hazard Mitigation Plan, and the Chief Executive Officer will oversee its implementation.

### **31.2.2 Service Area**

FSLRRD’s service area is the entirety of San Mateo County, covering an area of 554 square miles and serving a population of approximately 773,000. Often, issues of flooding are discussed in terms of two distinct regions in the county: watersheds draining from the Santa Cruz Mountains to San Francisco Bay (Bayside) and watersheds draining from those Mountains to the Pacific Coast (Coastside). The majority of the county population is located in suburban areas of the Bayside, while the Coastside is largely characterized by rural areas and small beach communities. There are disadvantaged communities on both sides of the county.

The service area includes four tax-collecting flood zones that FSLRRD inherited from its predecessor agency, the San Mateo County Flood Control District. These flood zones – which were created to address flooding issues adjacent to Colma Creek, San Bruno Creek, San Francisquito Creek, and Ravenswood Slough – comprise almost 10% of land in the county and include only a small percentage of shoreline along San Francisco Bay and none along the Pacific Ocean. Therefore, while FSLRRD actively enhances and implements the current program of projects financed by these zones, it also acts beyond these zones to implement multi-jurisdictional projects throughout the county that address historic flooding, future climate-driven flooding from fluvial sources and sea level rise, and erosion.

### **31.2.3 Assets**

Table 31-2 summarizes the assets of the district and their value.

**Table 31-2. Special Purpose District Assets**

Asset	Value
<b>Property</b>	
0.07 acres of land (APN 093-330-020/030)	\$703k
Easement: APN 015-115-350	\$19.7k
Easement: Spruce to San Mateo Channel Improvement	\$72.7k
Restated and Amended Easement Agreement with Cargill, Inc. for the Bayfront Canal and Atherton Channel Flood Management and Restoration Project	\$100k
Drainage Easement Agreement with Cargill, Inc. for the Bayfront Canal and Atherton Channel Flood Management and Restoration Project	\$100k
<b>Total:</b>	<b>\$995.4k</b>
<b>Equipment</b>	
Colma Creek Open Channel Capital Improvements	\$16.6M
Colma Creek Culvert/Pipeline Capital Improvements	\$10.1M
Bayfront Canal & Atherton Channel Flood Management and Restoration Project	\$8.6M
7 stream gages (3 permanent and 4 temporary)	\$36k
Stream gage base station receiver/decoder	\$11k
<b>Total:</b>	<b>\$35.3M</b>
<b>Critical Facilities and Infrastructure</b>	
Walnut Pump Station (San Bruno Creek Flood Control Zone)	\$6M
Angus Pump Station (San Bruno Creek Flood Control Zone)	\$5M
San Bruno Creek Tide Gate Structure (San Bruno Creek Flood Control Zone)	\$3M
<b>Total:</b>	<b>\$14M</b>

### 31.3 CURRENT TRENDS

While population numbers in the county have slightly decreased in 2020 due primarily to impacts of the COVID-19 pandemic, San Mateo County’s population is expected to grow in the coming years; calculations made by the Association of Bay Area Governments (ABAG) and Plan Bay Area project an 11% increase by 2030 (853,260) and 19% increase by 2040 (916,590). The convergence of this population growth with the increasing impacts of climate change only exacerbates existing exposure and vulnerability in San Mateo County. These factors are expected to increase demands for FSLRRD’s services and will continue define its work in seeking to achieve climate resilience.

### 31.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 31-3.

- An assessment of fiscal capabilities is presented in Table 31-4.
- An assessment of administrative and technical capabilities is presented in Table 31-5.
- An assessment of education and outreach capabilities is presented in Table 31-6.
- Classifications under various community mitigation programs are presented in Table 31-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 31-8.

**Table 31-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
<b>Programs Relevant to FSLRRD’s Services</b>		
Environmental Protection	N/A	FSLRRD’s projects will seek to provide environmental enhancements where possible. In addition, FSLRRD reviews projects regarding their impact on the environment through the regulations of the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA).
Climate Change	N/A	FSLRRD was established to address flooding impacts related to climate change in San Mateo County, including inland flooding, sea level rise, coastal erosion, and regional stormwater. In addition, SB 97 requires that California Environmental Quality Act (CEQA) Guidelines address greenhouse gas emissions.
Flood Damage Prevention	N/A	FSLRRD was established specifically to protect people and property from flooding in four tax-collecting flood zones as well as the entire County.
Stormwater Management	N/A	This will be done by FSLRRD in conjunction with the San Mateo County City and County Association of Governments (C/CAG) stormwater management team.
Emergency Management	N/A	In addition to administering its countywide early flood warning system, FSLRRD has also planned to develop Emergency Action Plans for key watersheds prone to flooding in the County.
<b>Plans/Studies/Programs Inherited from San Mateo County Department of Public Works</b>		
Colma Creek Hydrology and Hydraulic Modeling Analysis	2021	This report summarizes the latest update to the hydrology and hydraulic models of the Colma Creek watershed and channel to support flood protection planning and design in the Colma Creek Flood Zone.
Navigable Slough Flood Management Study	2019	This study develops and applies hydraulic modeling to examine flooding hazards and assesses flood management measures for Navigable Slough.
Bayfront Canal & Atherton Channel Watershed Flood Management Plan	2019	The plan identifies and prioritizes regional, multi-benefit improvement projects that can attenuate flood flow peaks and/or reduce downstream flood risks to the Bayfront Canal-Atherton Channel watershed.
Belmont Creek Watershed Management Plan	2019	This report serves as a decision-making tool to help prioritize the preliminary alternatives to build flood resiliency in the Belmont Creek watershed.
San Bruno Creek Tide Gates Certification Feasibility Study	2016	This report evaluates the feasibility for the FEMA certification of the San Bruno Creek tide gate structure at the mouth of San Bruno Creek.
Walnut and Angus Stormwater Pumping Stations Preliminary Design Report	2012	This report evaluates the feasibility of rehabilitation of the existing stormwater pumping stations versus new pumping stations in the San Bruno Flood Zone.
<b>Plans/Studies/Programs Developed by FSLRRD</b>		
Flood Emergency Action Plans	Planned for 2021-2022	FSLRRD will lead the development of three site-specific Flood Emergency Action Plans to better define and coordinate emergency related responsibilities before, during, and after flood events for the watersheds draining to the Bayfront Canal/Atherton Channel, Belmont Creek, and Navigable Slough/lower Colma Creek/ lower San Bruno Creek region.



Plan, Study or Program	Date of Most Recent Update	Comment
Countywide Flood Early Warning System	2021	FSLRRD is upgrading and expanding the region's flood warning system for emergency responders and the general public, as well as administering a publicly-accessible flood monitoring webpage.
Flood Management for lower Colma Creek, Navigable Slough, and lower San Bruno Creek: Thoughts on a Multi-benefit Approach	2020	Memo provides high-level thoughts on nature-based multi-benefit flood management concepts for the tidal portions of Colma Creek, Navigable Slough, and San Bruno Creek.
Colma Creek Adaptation Planning	2020	A continuation of work done by Hassell and San Mateo County for the Resilient by Design Bay Area Challenge, this study explores the design options and feasibility of adaptation along Colma Creek using publicly-owned land.

**Table 31-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	Yes
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	Partially – will obtain eligibility for FEMA grant programs through this LHMP Update

**Table 31-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	FSLRRD staff engineers, contracted San Mateo County engineers/planners, and other contracted engineers/consultants.
Engineers or professionals trained in building or infrastructure construction practices	Yes	FSLRRD staff engineers, contracted San Mateo County engineers, and other contracted engineers/consultants.
Planners or engineers with an understanding of natural hazards	Yes	FSLRRD staff engineers, contracted San Mateo County engineers/planners, and other contracted engineers/consultants.
Staff with training in benefit/cost analysis	Yes	FSLRRD staff engineers and contracted engineers/ consultants.
Surveyors	No	Contracted as needed
Personnel skilled or trained in GIS applications	Yes	FSLRRD staff engineers and contracted engineers/ consultants.
Scientist familiar with natural hazards in local area	Yes	Contracted as needed
Emergency manager	Yes	FSLRRD staff engineers, contracted San Mateo County staff, and other contracted consultants.
Grant writers	Yes	FSLRRD staff engineers and contracted engineers/ consultants.
Other	N/A	

**Table 31-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes, FSLRRD staff engineers, contracted San Mateo County staff, and other contracted consultants.
Do you have personnel skilled or trained in website development?	Yes, contracted
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	Yes FSLRRD's website (oneshoreline.org) was developed as a hazard mitigation resource for County residents. It includes a countywide flood early warning webpage, as well as updates to FSLRRD's current flood mitigation projects.
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	Yes FSLRRD currently has Twitter, YouTube, and LinkedIn accounts, and plans to expand and more actively manage its social media presence.
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	Yes Colma Creek Citizens Advisory Committee
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes FSLRRD sends out a quarterly newsletter that features hazard-related updates and upcoming events.
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes FSLRRD has expanded and upgraded a network of stream monitoring stations throughout the County, as well as developed a countywide flood early warning system on its website. Alerts to residents will be developed in coordination with San Mateo County emergency services through SMCAAlert (San Mateo County Alert System).

**Table 31-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	117368138	April 2020
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 31-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: FSLRRD was formed specifically to address climate change impacts on flooding and coastal erosion.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: FSLRRD was formed to track and respond to climate change impacts – particularly those related to flooding and sea level rise – and ensures that these considerations are incorporated into all its projects. FSLRRD also administers a countywide early flood warning system and is looking to expand this system and notification network in the coming years.</i>	High
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: FSLRRD has staff and contracts outside entities experienced in climate vulnerability assessment and mitigation planning.</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment:</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: FSLRRD has the capability for capital planning and land use decisions as it pertains to its right-of-way, but also collaborates with the cities, San Mateo County, and private landowners for land use decisions as it relates to the utilization of lands</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: FSLRRD participates in as many regional groups as possible with its limited staffing.</i>	Medium
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Low
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	Low
Identified strategies for adaptation to impacts <i>Comment:</i>	Low
Champions for climate action in local government departments <i>Comment:</i>	Low
Political support for implementing climate change adaptation strategies <i>Comment:</i>	Low
Financial resources devoted to climate change adaptation <i>Comment: During FSLRRD's start-up phase, operational funding comes from the County and all twenty cities within it, as well as property tax revenue in discreet flood zones. Beyond this phase, FSLRRD is looking to secure long-term funding for its operations and projects.</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Low
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment:</i>	Low
Local residents support of adaptation efforts <i>Comment:</i>	Low
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	Low
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Low

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.



## 31.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 31.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans, programs, and projects:

#### Municipalities/Project Partners

- **Development and Screening Burlingame Shoreline Adaptation Strategies** — prepared by the City of Burlingame with the support of a grant from the San Mateo County Office of Sustainability to better understand and prepare for the risks of sea level rise in the City of Burlingame
- **Millbrae Sea Level Rise Adaptation Assessment** — prepared by the City of Millbrae with the support of a grant from the San Mateo County Office of Sustainability to better understand and prepare for the risks of sea level rise in the City of Millbrae
- **San Bruno Creek/Colma Creek Resiliency Study Final Report** — prepared by San Francisco International Airport with support of a grant from the State Coastal Conservancy to assess the vulnerability of assets within the lower reaches of the Colma Creek and San Bruno Creek to flooding and develop conceptual adaptation strategies
- **San Francisco International Airport Shoreline Protection Program** — a contiguous system of concrete-capped steel sheet pile walls and steel king pile walls along the 8 miles of the Airport’s shoreline to protect the Airport’s assets and operations from flooding from a 100-year storm surge and future sea level rise due to climate change
- **South San Francisco General Plan Update** — the City of South San Francisco is undergoing an update to its General Plan, which provides long-range guidance for land use, growth, development, including visioning for better incorporating Colma Creek into City community spaces
- **South San Francisco Department of Public Works: Colma Creek Channel Maintenance Agreement** — FSLRRD and the City of South San Francisco have established an agreement to support the collaborative maintenance of portions of Colma Creek Channel within the City, which contributes to the routine consideration and management of hazard risk in the Channel.
- **South San Francisco Orange Memorial Park Stormwater Capture and Water Reuse Project** — this project is the first regional stormwater project in the County and will improve water quality, and provide safe, clean water for irrigation and much-needed groundwater replenishment
- **Colma Department of Public Works: Colma Creek Channel Maintenance Agreement** — FSLRRD and the Town of Colma have established an agreement to support the collaborative maintenance of portions of Colma Creek Channel within the Town, which contributes to the routine consideration and management of hazard risk in the Channel.

- **Town of Colma Department of Public Works: Old Colma Creek Maintenance Agreement** — FSLRRD and the Town of Colma have established an agreement to support the collaborative maintenance of portions of Old Colma Creek within the Town, which contributes to the routine consideration and management of hazard risk ultimately impacting the Channel.
- **San Francisquito Creek Joint Powers Authority SAFER Bay Project** — The Strategy to Advance Flood protection, Ecosystems and Recreation along the San Francisco Bay (SAFER Bay) Project will protect people, property, and infrastructure from flooding from Bay tides and projected sea level rise along the Bay shoreline from the Redwood City- Menlo Park border on the north to the Palo Alto-Mountain View border on the south
- **Pacifica Beach Boulevard Infrastructure Resiliency Project** — aims to replace the current seawall and outdated infrastructure, and provide recreation and other benefits to a critical yet vulnerable segment of the City of Pacifica’s shoreline
- **San Carlos Climate Mitigation and Adaptation Plan** — The City of San Carlos is actively developing a new Climate Mitigation and Adaptation Plan, which will include strategies to adapt to sea level rise and flooding that are consistent with FSLRRD’s regional approach.

### **Countywide/Unincorporated County**

- **Sea Change San Mateo County** — the outputs of the Sea Change SMC initiative, particularly the San Mateo County Sea Level Rise Vulnerability Assessment, have been instrumental in understanding how sea level rise will affect San Mateo County residents, businesses, community services, and infrastructure
- **San Mateo Countywide Water Pollution Prevention Program/San Mateo County Stormwater Resource Plan** — a partnership of the City/County Association of Governments (C/CAG), each incorporated city and town in the county, and the County of San Mateo that was established to reduce the pollution carried by stormwater into local creeks, the San Francisco Bay, and the Pacific Ocean
- **SamTrans Adaptation and Resilience Plan** — this vulnerability assessment evaluated the impacts of SLR on SamTrans’ facilities and associated services, including the SamTrans South Base Facility in Redwood Shores
- **Plan Princeton** — San Mateo County is leading an effort to update land use policies to provide a sustainable direction for future development along the Princeton shoreline
- **Princeton Task Force** — task force consisting of various San Mateo County officials and enforcement agencies to actively manage issues that arise in the harbor community at Princeton
- **US Army Corps of Engineers Continuing Authorities Program, Section 111 Detailed Project Report and Draft Environmental Assessment** — USACE conducted a study to determine the feasibility of a project to mitigate the impacts of the Pillar Point Harbor breakwaters, including renourishment of Surfers Beach, and ultimately concluded that such a project does not have a federal interest
- **San Mateo County Harbor District West Trail Living Shoreline Project** — effort led by the Harbor District that stabilizes the popular recreational trail that serves as access to Mavericks Beach and the harbor’s west breakwater
- **San Mateo County Harbor District Surfers Beach Restoration Pilot Project** — effort led by the Harbor District that involves a one-time placement of sand that has been trapped inside the Pillar Point Harbor breakwaters

## **Regional San Francisco Bay Area**

- **San Francisco Estuary Institute San Francisco Bay Shoreline Adaptation Atlas** — Report developed by San Francisco Estuary Institute that proposes the Operational Landscape Units framework for developing adaptation strategies that are appropriate for the diverse shoreline of the Bay and that take advantage of natural processes
- **San Francisco Bay Conservation and Development Commission Bay Adapt Initiative** — Facilitated by Bay Conservation Development Commission in partnership with a broad range of Bay Area organizations, Bay Adapt is an initiative to establish guiding principles and a Joint Platform that will facilitate a regionally collaborative response to a rising San Francisco Bay
- **North Central California Coast Sediment Coordination Committee** — composed of resource and regulatory agency representatives with sediment and coastal management expertise to support coastal resilience through consensus-driven recommendations that address sediment imbalances along the coast of Sonoma, Marin, San Francisco, and San Mateo counties
- **Federal Emergency Management Agency Region IX 2014 Bay Area Coastal-South Flood Hazard Study** — FEMA’s latest coastal engineering study of the San Francisco Bay focused on the portion of San Mateo County south of the San Mateo –Hayward Bridge

### **31.5.2 Opportunities for Future Integration**

The capability assessment presented in this annex identified the following plans, programs, and projects that FSLRRD is not currently active in and therefore, may not integrate FSLRRD’s long-term protection standards against sea level rise and storms at this time, but provide opportunities for future integration:

#### **Municipalities/Project Partners**

- **Future City General Plan Updates** — as other cities work to update their General Plans, FSLRRD plans to collaborate with city staff to determine how sea level rise and flooding considerations can be incorporated into planning for land use, growth, and development; this includes Redwood City’s 2021 update to its Housing Element
- **Brisbane Baylands** — expansive re-development project on former landfill and railyard site on private property primarily owned by Baylands Development Inc. along the City of Brisbane’s Bay shoreline
- **Baywinds Park Shoreline** — park in City of Foster City that is a world-class windsurfing and kiteboarding destination in need of erosion and recreation protection from sea level rise, as well as wetlands restoration
- **US Army Corps of Engineers Continuing Authorities Program, Section 103 Study for Lower Colma Creek** — USACE is undergoing a study to determine feasibility of a shoreline flood protection project adjacent to the San Francisco Bay on Colma Creek, particularly to protect the South San Francisco/San Bruno Water Quality Control Plant
- **Vista Grande Drainage Basin Improvement Project** — project led by the City of Daly City to address storm-related flooding in the Vista Grande Drainage Basin while providing the additional benefit of augmenting the water level of Lake Merced
- **Foster City Levee Improvements Project** — the City of Foster City is currently undergoing construction on a levee project projecting Foster City from storms and high tides to avoid being designated a flood zone



### **Countywide/Unincorporated County**

- **Sea Change San Mateo County** — the to-be-released South Coast Sea Level Rise Study will inform FSLRRD’s work along this reach of the Pacific coastline in the County
- **San Mateo County Resource Conservation District** — serves as a focal point for local conservation efforts and collaborates with private and public landowners, land managers, public agencies, interest groups, and others to protect, conserve, and restore natural resources
- **Sheriff’s Office of Emergency Services** — FSLRRD plans to coordinate alerts to residents from its countywide early flood warning system through SMCAAlert and Emergency Services Emergency Operations Center
- **Mirada Road Pedestrian Bridge Replacement and Bank Stabilization Project** — San Mateo County Department of Public Works is currently designing a project along Mirada Road in an unincorporated community of Miramar and in the City of Half Moon Bay that will replace the deteriorating pedestrian/bicycle bridge over Arroyo de en Medio in its current location and reinforce the banks adjacent to the bridge

### **Regional San Francisco Bay Area**

- **Dumbarton Bridge (West Approach + Adjacent Communities) Resilience Study Technical Report** — prepared by the Metropolitan Transportation Commission to develop a phased approach to near-term and long-term flood protection strategies that integrates stakeholder and public input and is consistent with previously completed planning and design efforts in the project area
- **Caltrans District 4 Adaptation Priorities Report** — report prioritizes the order in which Caltrans assets found to be exposed to climate hazards will undergo detailed asset-level climate assessments
- **San Francisco Estuary Institute Sediment for Survival: A Strategy for the Resilience of Bay Wetlands in the Lower San Francisco Estuary** — this report analyses current data and climate projections to determine how much natural sediment may be available for tidal marshes and mudflats and how much supplemental sediment may be needed under different future scenarios
- **San Francisco Estuary Institute Shallow Groundwater Response to Sea Level Rise Study** — San Francisco Estuary Institute is currently leading a study of emergent groundwater hotspots throughout the Bay Area, funded by the CA Resilience Challenge, and is collaborating with San Mateo County to have the County as its first case study

## **31.6 RISK ASSESSMENT**

### **31.6.1 Jurisdiction-Specific Natural Hazard Event History**

Table 31-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 31-9. Past Natural Hazard Events

Type of Event	FEMA Disaster #	Date	Damage Assessment
Wildfire Flare-ups	N/A	January 2021	Not Available
PG&E Power Shutoff	N/A	September-October 2020	Not Available
Wildfires	DR-4558	August 16-September 22, 2020	Not Available
COVID-19 Pandemic	DR-4482	January 20, 2020-Present	Not Available
PG&E Power Shutoff	N/A	September-November 2019	Not Available
PG&E Power Shutoff	N/A	October 2018	Not Available
Severe Winter Storms, Flooding, Mudslides	DR-4308	February 1-23, 2017	Not Available
Severe Winter Storms, Flooding, Mudslides	DR-4305	January 18-23, 2017	Not Available
Coastal Erosion	N/A	2016	Not Available
Windstorms	N/A	October-November 2014	Not Available
Windstorms	N/A	February 2014	Not Available
Drought	N/A	January 17, 2014-April 7, 2017	Not Available
Windstorms	N/A	April 2013	\$25,500
Flooding	N/A	December 2012	\$4,500,000
Severe Storms, Landslides	N/A	March 2012	\$64,000
Tsunami, Seiche	DR-1968	March 11, 2011	\$89,500
Windstorms	N/A	March 2011	\$25,000
Windstorms	N/A	February 2011	\$62,917
Windstorms	N/A	November 2010	\$166,667
Explosion, Fire	FM-2856	September 10, 2010	Not Available
Severe Storms, Flooding, Wind	N/A	January 2010	\$1,167,917
Severe Storms, Flooding, Wind	N/A	October 2009	\$1,131,333
Windstorms	N/A	April 2009	\$43,714
Windstorms	N/A	January 2009	\$20,883
Coastal Erosion	N/A	2009-2011	Not Available
Windstorms	N/A	October 2008	\$50,000
Flooding	N/A	January 2008	\$200,000
Flooding, Mudslides	N/A	May 10, 2006	Not Available
Severe Storms, Flooding, Landslides, Mudslides	DR-1646	March 29-April 16, 2006	\$4,350,000
Flooding, Mudslides	N/A	February 3-April 1, 2006	Not Available
Severe Storms, Flooding, Mudslides, Landslides	DR-1628	December 17, 2005-January 3, 2006	\$10,000,000
Severe Winter Storms, Flooding	DR-1203	February 2-April 30, 1998	\$1,835,000
Coastal Erosion	N/A	1998	Not Available
Severe Storms, Flooding, Mudslides, Landslides	DR-1155	December 28, 1996-April 1, 1997	Not Available
Severe Winter Storms, Flooding, Landslides, Mudflows	DR-1046	February 13-April 19, 1995	Not Available
Severe Winter Storms, Flooding, Landslides, Mudflows	DR-1044	January 3-February 10, 1995	Not Available
Severe Freeze	DR-894	December 19, 1990-January 3, 1991	Not Available
Loma Prieta Earthquake	DR-845	October 17-December 18, 1989	Not Available
Flooding	N/A	February 1988	Not Available
Severe Storms, Flooding	DR-758	February 12-March 10, 1986	Not Available
Coastal Storms, Flooding, Slides, Tornadoes	DR-677	January 21-March 30, 1983	Not Available
Severe Storms, Flooding, Mudslides, High Tide	DR-651	December 19, 1981-January 8, 1983	Not Available

Type of Event	FEMA Disaster #	Date	Damage Assessment
Drought	EM-3023	January 20, 1977	Not Available
Flooding	N/A	January-February 1973	Not Available
Flooding	N/A	October-November 1972	Not Available
Flooding	DR-145	February 25, 1963	Not Available
Severe Storms	DR-138	October 24, 1962	Not Available
Flooding	DR-122	March 6, 1962	Not Available
Flooding	DR-82	April 4, 1958	Not Available
Wildfires	DR-65	December 29, 1956	Not Available
Flooding	DR-47	December 23, 1955	Not Available
Flooding	DR-15	February 5, 1954	Not Available
Flooding	N/A	1861-1862	Not Available

### 31.6.2 Hazard Risk Ranking

Table 31-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 31-10. Hazard Risk Ranking (Social Equity Lens applied)**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea Level Rise / Climate Change	126	High
2	Flood	123	High
3	Landslide/Mass Movements	123	High
4	Dam Failure	84	High
5	Earthquake	84	High
6	Wildfire	63	High
7	Tsunami	36	High
8	Severe weather	24	Medium
9	Drought	9	Low

### 31.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- San Mateo County has more people and property value at risk from sea level rise than any other county in the state.
- When population projections are taken into account, the County is one of six counties in the nation (and the only one on the west coast) with over 100,000 people living in an area affected by 3 feet of sea level rise
- The assessed value of parcels flooded on the Bayshore and on the Coastside north of Half Moon Bay exceeds \$1 billion for near-term (present-day) flooding and totals roughly \$39.1 billion for long-term flooding (in the next 50–100 years).



- Based on a high-level scenario (6.6 feet of sea level rise and a 1% annual chance storm) modeled in the SMC 2018 SLR Vulnerability Assessment, vulnerable natural and built assets include:
  - Over 7,000 acres of wetlands (more than 80% of all wetlands on the Bayshore and on the Coastside north of Half Moon Bay)
  - 183 hazardous material sites (nearly 50%), including 4 Superfund sites
  - 2 power plants and 19 electric substations
  - 25 miles of rail (25%) and over 350 miles (18%) of local roads
  - 45 schools (18%)
  - 7 wastewater treatment plants (over 75%)
- In many areas in the County, the FEMA flood insurance rate maps do not accurately show current flood risk.
- Some levees in the County are no longer accredited by FEMA.
- Many flood-prone watersheds in the County lack instrumentation that would allow timely notification and emergency response to address flood hazards.
- Funding sources are currently insufficient to fund long-term FSLRRD operations and projects, and outside funding sources will need to be pursued.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

### 31.7 HAZARD MITIGATION ACTION PLAN

Table 31-11 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 31-12 identifies the priority for each action. Table 31-13 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 31-11. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action FSLR-1</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.						
<i>Hazards Mitigated:</i> Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe weather, Wildfire, Drought, Tsunami, Sea Level Rise						
New & Existing	1, 2, 3, 5, 7,8	FSLRRD	N/A	Low	General Fund	Ongoing
<b>Action FSLR-2</b> — Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe weather, Wildfire, Drought, Tsunami, Sea Level Rise						
New & Existing	1, 2, 3, 5, 7,8	FSLRRD	N/A	Low	General Fund	Ongoing
<b>Action FSLR-3</b> — Identify and pursue strategies to incorporate dam failure, earthquake, tsunami and wildfire hazards into project planning, design, and implementation.						
<i>Hazards Mitigated:</i> Earthquake, Dam Failure, Wildfire, Tsunami						
New & Existing	1, 5, 6, 7, 8	FSLRRD	County	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action FSLR-4</b>— Update and enhance existing water-related climate hazard mapping (including flood, sea level rise, coastal erosion, stormwater, and groundwater emergence) to better reflect current conditions and most current long-term future conditions.</p> <p><u>Hazards Mitigated:</u> Climate Change, Landslide/Mass Movements, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	1, 5, 6, 7, 8,9	FSLRRD	County, City/County Association of Governments (C/CAG)	Low	General Fund	Ongoing
<p><b>Action FSLR-5</b>— Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos, event mapping) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Tsunami, Sea Level Rise</p>						
New & Existing	1, 5, 6, 7, 8	FSLRRD	County, All municipalities	Medium	General Fund	Short-term
<p><b>Action FSLR-6</b>— Incorporate consideration of the FEMA 100-year tide and sea level rise, and climate change-driven extreme storms, into land use planning and shoreline development. This includes new policies by local jurisdictions, and County and City actions regarding their General Plans, Climate-related Plans, and the development applications.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	1, 2, 5, 6, 7, 8, 9, 13,14	FSLRRD	County, All municipalities	Low	General Fund, Private Developers, City Capital Project Funding	Ongoing
<p><b>Action FSLR-7</b>— Update the County’s Sea Level Rise Policy for County-owned assets and operations to include all climate change impacts and share with cities as a template.</p> <p><u>Hazards Mitigated:</u> Climate Change, Sea Level Rise</p>						
New & Existing	1, 5, 6, 7, 8,13	County	FSLRRD	Low	General Fund	Short-term
<p><b>Action FSLR-8</b>— To the extent possible based on available resources, provide coordination and technical assistance in grant funding applications - including assistance in benefit versus cost analysis - and complete required grant management/close-out activities.</p> <p><u>Hazards Mitigated:</u> Climate Change, Landslide/Mass Movements, Earthquake, Dam Failure, Flood, Severe weather, Wildfire, Drought, Tsunami, Sea Level Rise</p>						
New & Existing	2, 7, 8,12	FSLRRD	N/A	Low	General Fund	Ongoing
<p><b>Action FSLR-9</b>— Continue to identify and plan upgrades of utility systems, equipment, and critical facilities, including pump stations, generators, tide gates, stream gages, open channel and culvert/pipeline infrastructure.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	2, 6, 7,8	FSLRRD	County, All municipalities, San Mateo Resource Conservation District	Medium	Tax-Funded Flood Zones, Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<p><b>Action FSLR-10</b>— Support green infrastructure projects that enhance resiliency to natural disasters and incorporate green design elements into hazard mitigation projects where feasible.</p> <p><u>Hazards Mitigated:</u> Climate Change, Landslide/Mass Movements, Flood, Severe weather, Drought, Sea Level Rise</p>						
New & Existing	2, 6, 7, 8, 14	County	FSLRRD, All municipalities, San Mateo Resource Conservation District, C/CAG <sup>b</sup>	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding- EPA Grants (Section 319 grants, CWSRF), City Capital Project Funding	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action FSLR-11</b> — Advance multi-benefit regional stormwater capture projects in the County through a regionally collaborative approach.						
<u>Hazards Mitigated:</u> Climate Change, Landslide/Mass Movements, Flood, Severe weather, Drought, Sea Level Rise						
New & Existing	2, 4, 6, 7, 8,14	FSLRRD	County, All municipalities, C/CAG <sup>b</sup>	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding -EPA Grants (Section 319 grants, CWSRF), FEMA HMA (BRIC, FMA and HMGP), City Capital Project Funding	Ongoing
<b>Action FSLR-12</b> — Improve stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to FSLRRD Flood Zone channels and infrastructure.						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	1, 2, 4, 6, 7,8	FSLRRD	All municipalities, County	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding-FEMA HMA (BRIC, FMA and HMGP), City Capital Project Funding	Ongoing
<b>Action FSLR-13</b> — Plan, design, and implement long-term resilience to sea level rise, extreme storms, and coastal erosion for culverts, roadways, and bridges in the vicinity of other flood protection projects, including assets identified in the Caltrans District 4 Adaptation Priorities Report.						
<u>Hazards Mitigated:</u> Climate Change, Landslide/Mass Movements, Flood, Severe weather, Sea Level Rise						
New & Existing	2, 4, 6, 7, 8,13	FSLRRD	Caltrans, County, All municipalities	Medium	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action FSLR-14</b> — Identify and pursue strategies to incorporate emergent groundwater hazards into project planning, design, and implementation, including findings from the San Francisco Estuary Institute Shallow Groundwater Response to Sea Level Rise Study.						
<u>Hazards Mitigated:</u> Climate Change, Sea Level Rise						
New & Existing	1, 5, 6, 7, 8	County	FSLRRD	High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action FSLR-15</b> — Identify and pursue strategies to enhance recycled water infrastructure planning/implementation in the vicinity of FSLRRD projects.						
<u>Hazards Mitigated:</u> Drought						
New & Existing	1, 6, 7,8	FSLRRD	County, All municipalities	Medium	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action FSLR-16</b> — Improve community response to flood emergencies in various ways, including but not limited to: - Upgrade and expand the countywide flood early warning system - Conduct community flood preparation, education, and recovery outreach.						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather						
New & Existing	2, 3, 7, 8, 9, 10, 11	FSLRRD	County, All municipalities	Low	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action FSLR-17</b> — Develop Emergency Action Plans for three multi-jurisdictional watersheds:						
1) Bayfront Canal and Atherton Channel						
2) Belmont Creek						
3) Navigable Slough, Colma Creek, and San Bruno Creek						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise						
Existing	3, 4, 7, 8, 9,11	FSLRRD	1) County, Redwood City, Menlo Park, Atherton 2) Belmont, San Carlos 3) South San Francisco, San Bruno, Daly City, Colma, Pacifica	Low	Grant Funding-EMPG and HSGP	Short-term
<b>Action FSLR-18</b> — Advance the long-term resilience of the development of the Brisbane Baylands to sea level rise and extreme storms, as well as provide environmental, recreation, and community/connectivity enhancements where possible.						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise						
New	6, 7, 8, 10, 14	Brisbane	FSLRRD	High	Private Developer, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Long-term
<b>Action FSLR-19</b> — Advance long-term resilience to sea level rise and extreme storms for the communities and critical assets adjacent to Colma Creek, San Bruno Creek, Navigable Slough, and nearby areas of the shoreline, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	6, 7, 8,14	FSLRRD	South San Francisco, San Bruno, Daly City, Colma, Pacifica, County, U.S. Army Corps of Engineers	Low	Tax-Funded Flood Zones, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action FSLR-20</b> — Continue routine maintenance responsibilities of the Colma Creek Channel through collaborative agreements with neighboring jurisdictions so that the Channel operates as designed.						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise						
Existing	2, 7, 8,10	FSLRRD	South San Francisco, Colma, County	Low	Tax-Funded Flood Zones	Ongoing
<b>Action FSLR-21</b> — Advance the long-term resilience of Hillsborough and Portola Valley to extreme storms, as well as provide environmental, recreation, and community/connectivity enhancements where possible. This may include regional stormwater capture projects that also benefit downstream, flood-prone communities.						
<u>Hazards Mitigated:</u> Flood, Severe weather, Sea Level Rise						
New & Existing	2, 4, 6, 7, 8,14	FSLRRD	Hillsborough, Portola Valley, C/CAG, San Mateo Resource Conservation District <sup>b</sup>	Medium	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Grant Funding- FEMA HMA (BRIC, FMA and HMGP) City Capital Project Funding	Ongoing
<b>Action FSLR-22</b> — Complete planning, early design, and benefit-cost analysis of a shoreline protection project that raises the Millbrae and Burlingame shoreline and creek bank elevations in the area, which will provide long-term resilience to sea level rise and extreme storms, as well as provide environmental, recreation, community/connectivity enhancements where possible. This includes partnering with San Francisco International Airport and other nearby developments to align this project with adjacent shoreline improvements.						
<u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	6, 7, 8,14	FSLRRD	Burlingame, Millbrae, San Francisco International Airport	Low	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action FSLR-23</b>— Complete design, environmental clearance, and construction of a shoreline protection project that raises the Millbrae and Burlingame shoreline and creek bank elevations in the area, which will provide long-term resilience to sea level rise and extreme storms, as well as provide environmental, recreation, community/connectivity enhancements where possible. This includes partnering with San Francisco International Airport and other nearby developments to align this project with adjacent shoreline improvements.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	6, 7, 8,14	FSLRRD	Burlingame, Millbrae, San Francisco International Airport	High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Long-term
<p><b>Action FSLR-24</b>— Advance long-term resilience to sea level rise and extreme storms for San Mateo's San Francisco Bay shoreline, as well as provide environmental, recreation, community/connectivity enhancements where possible. This includes conducting an updated levee assessment to identify and prioritize improvements.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	6, 7, 8,14	FSLRRD	San Mateo	High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP), City Capital Project Funding	Long-term
<p><b>Action FSLR-25</b>— Align the Foster City Levee Improvements Project with adjacent shoreline improvements, including potential improvements of Baywinds Park.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	6, 7, 8,14	FSLRRD	Foster City, San Mateo	Medium	Property Tax Measure (Measure P)	Short-term
<p><b>Action FSLR-26</b>— Complete planning, early design, and benefit-cost analysis of a shoreline protection project along the Redwood Shores peninsula, which will provide long-term resilience to sea level rise and extreme storms, as well as provide environmental, recreation, community/connectivity enhancements where possible.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	6, 7, 8,14	FSLRRD	Redwood City, San Carlos, County, Belmont, Silicon Valley Clean Water	Low	Grant Funding FEMA HMA (BRIC, FMA and HMGP)	Short-term
<p><b>Action FSLR-27</b>— Complete design, environmental clearance, and construction of a shoreline protection project along the Redwood Shores peninsula, which will provide long-term resilience to sea level rise and extreme storms, as well as provide environmental, recreation, community/connectivity enhancements where possible.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	6, 7, 8,14	FSLRRD	Redwood City, San Carlos, County, Belmont, Silicon Valley Clean Water	High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Long-term
<p><b>Action FSLR-28</b>— Advance long-term resilience to sea level rise and extreme storms for the communities and critical assets along the San Francisco Bay shoreline south of Whipple Avenue to Marsh Road, as well as provide environmental, recreation, community/connectivity enhancements where possible.</p> <p><u>Hazards Mitigated:</u> Climate Change, Flood, Severe weather, Sea Level Rise</p>						
New & Existing	6, 7, 8,14	FSLRRD	Redwood City, County, Menlo Park	High	Private Developers, Grant Funding	Long-term
<p><b>Action FSLR-29</b>— Complete construction and oversee ongoing operation, maintenance, and mitigation efforts for the Bayfront Canal and Atherton Channel Flood Protection and Ecosystem Restoration Project.</p> <p><u>Hazards Mitigated:</u> Flood, Severe weather, Sea Level Rise</p>						
Existing	4, 7, 8	FSLRRD	Redwood City, Menlo Park, Atherton, County	Low	Grant Funding- FEMA HMA (BRIC, FMA and HMGP), City Capital Project Funding	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action FSLR-30</b> — Advance long-term resilience to sea level rise and extreme storms for the communities and critical assets adjacent to the San Francisquito Creek and nearby areas of the shoreline with the Cities of Menlo Park and East Palo Alto, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	4, 6, 7, 8, 10, 14	FSLRRD	Caltrans, Metropolitan Transportation Commission, San Mateo Resource Conservation District, East Palo Alto, Menlo Park <sup>b</sup>	Medium	Grant Funding-, FEMA HMA (BRIC, FMA and HMGP) City Capital Project Funding	Long-term
<b>Action FSLR-31</b> — Complete permitting and construction of the Vista Grande Drainage Basin Improvement Project, which will address storm-related flooding in the Vista Grande Drainage Basin while providing the additional benefit of augmenting the water level of Lake Merced.						
<i>Hazards Mitigated:</i> Flood, Severe weather, Sea Level Rise						
New & Existing	7,8	Daly City	FSLRRD	Low	Federal Loan (EPA Water Infrastructure Funding and Innovation Act), State Loan (California Clean Water State Revolving Fund)	Short-term
<b>Action FSLR-32</b> — Advance long-term resilience to sea level rise, extreme storms, and coastal erosion in the Mussel Rock area, including the adjacent landfill, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe weather, Sea Level Rise						
Existing	6, 7, 8, 13, 14	Daly City	FSLRRD, San Mateo Resource Conservation District	High	County Funding (Measure K), Grant Funding-, FEMA HMA (BRIC, FMA and HMGP) USACE, City Capital Project Funding	Long-term
<b>Action FSLR-33</b> — Advance long-term resilience to sea level rise, extreme storms, and coastal erosion for the communities and critical assets in the vicinity of the Beach Boulevard Seawall and Promenade and other areas of Pacifica's coastline, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe weather, Sea Level Rise						
Existing	6, 7, 8, 13, 14	Pacifica	FSLRRD, San Mateo Resource Conservation District	Medium	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)USACE, City Capital Project Funding	Long-term
<b>Action FSLR-34</b> — Advance long-term resilience to sea level rise, extreme storms, and coastal erosion for Pillar Point Harbor and the surrounding area.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	6, 7, 8, 13, 14	FSLRRD	County, Half Moon Bay, San Mateo County Harbor District, San Mateo Resource Conservation District	Medium	County Funding (Measure K), Grant Funding-, FEMA HMA (BRIC, FMA and HMGP)USACE	Long-term
<b>Action FSLR-35</b> — Advance long-term resilience to sea level rise, extreme storms, and coastal erosion for the California Coastal Trail.						
<i>Hazards Mitigated:</i> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	6, 7, 8, 10, 13, 14	FSLRRD	Half Moon Bay, Caltrans, California State Coastal Conservancy, San Mateo Resource Conservation District <sup>b</sup>	High	County Funding (Measure K), Grant Funding- FEMA HMA (BRIC, FMA and HMGP), USACE	Long-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action FSLR-36</b> — Complete design, environmental clearance, and construction of an erosion stabilization project of the Seymour Ditch, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<i>Hazards Mitigated.</i> Flood, Severe weather, Landslide, Sea Level Rise						
Existing	6, 7, 8, 14	Half Moon Bay	County, San Mateo Resource Conservation District, Peninsula Open Space Trust, FSLRRD	Low	General Fund	Short-term
<b>Action FSLR-37</b> — Advance long-term resilience to sea level rise, extreme storms, and coastal erosion for the communities and critical assets adjacent to the Butano and Pescadero Creeks and nearby areas of the Pacific coastline, as well as provide environmental, recreation, community/connectivity enhancements where possible.						
<i>Hazards Mitigated.</i> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	6, 7, 8, 13, 14	San Mateo Resource Conservation District	County, FSLRRD	High	County Funding (Measure K), Grant Funding-, FEMA HMA (BRIC, FMA and HMGP) USACE	Long-term
<b>Action FSLR-38</b> — Identify and pursue strategies to address debris flow, landslide, and flood risks, particularly protecting post-fire priority sites identified in the Watershed Emergency Response Team Assessment following the CZU Lighting Complex Fire and implementing recommendations of County debris flow study.						
<i>Hazards Mitigated.</i> Climate Change, Flood, Severe weather, Sea Level Rise						
New & Existing	6, 7, 8, 13, 14	San Mateo Resource Conservation District	County, CAL FIRE, California Department of Conservation, FSLRRD	High	County Funding (Measure K), Grant Funding- FEMA HMA (BRIC, FMA and HMGP), USACE	Long-term
<b>Action FSLR-39</b> — Identify and pursue strategies to incorporate education about sea level rise and other climate-driven hazards into curriculum taught in the County.						
<i>Hazards Mitigated.</i> Climate Change, Flood, Severe weather, Wildfire, Sea Level Rise						
New & Existing	2, 3, 7, 8, 9, 10, 12	FSLRRD	San Mateo County Office of Education, County, Bay Conservation and Development Commission	Medium	General Fund, County Funding (Measure K),	Ongoing
<b>Action FSLR-40</b> — Build FSLRRD’s capability and capacity in various ways, including but not limited to:						
<ul style="list-style-type: none"> <li>• Conducting community and stakeholder outreach</li> <li>• Enhancing the expertise of staffing and improving project administration</li> <li>• Developing partnerships and scoping new projects.</li> </ul>						
<i>Hazards Mitigated.</i> Climate Change, Flood, Severe weather						
New & Existing	2, 3, 7, 8, 9, 10, 12	FSLRRD	N/A	Medium	General Fund	Ongoing
<b>Action FSLR-41</b> — Coordinate with regional Bay Area climate resilience and adaptation planning coalitions.						
<i>Hazards Mitigated.</i> Climate Change, Flood, Severe weather						
New & Existing	2, 10, 12	FSLRRD	N/A	Medium	General Fund	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 b. Action will be jointly and separately implemented by partner agencies.  
 Acronyms used here are defined at the beginning of this volume.

**Table 31-12. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>	Social Equity Priority <sup>a</sup>
1	6	Medium	Low	Yes	No	Yes	High	Low	Medium
2	6	Medium	Low	Yes	No	Yes	High	Low	Medium
3	5	High	High	Yes	Yes	No	Medium	High	Medium
4	6	Medium	Low	Yes	No	Yes	High	Low	Medium
5	5	Medium	Medium	Yes	No	Yes	High	Low	Medium
6	9	High	Low	Yes	Yes	Yes	High	High	Medium
7	6	Medium	Low	Yes	No	Yes	High	Low	Medium
8	4	Medium	Low	Yes	No	Yes	High	Low	Medium
9	4	High	Medium	Yes	Yes	Yes	High	High	Medium
10	5	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
11	6	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
12	6	High	Medium	Yes	Yes	Yes	High	High	Medium
13	6	High	Medium	Yes	Yes	Yes	High	High	Medium
14	5	High	High	Yes	Yes	No	Medium	High	Medium
15	4	Medium	Medium	Yes	Yes	Yes	High	Medium	Low
16	7	High	Low	Yes	Yes	Yes	High	Low <sup>b</sup>	High
17	6	High	Low	Yes	Yes	Yes	High	Low <sup>b</sup>	High
18	5	High	High	Yes	Yes	No	Medium	High	Medium
19	4	High	Low	Yes	Yes	Yes	High	High	Medium
20	4	High	Low	Yes	Yes	Yes	High	High	Medium
21	6	Medium	Medium	Yes	Yes	Yes	High	Medium	Medium
22	4	Medium	Low	Yes	Yes	Yes	High	Low <sup>b</sup>	Medium
23	4	High	High	Yes	Yes	No	Medium	High	Medium
24	4	High	High	Yes	Yes	No	Medium	High	Medium
25	4	High	Medium	Yes	Yes	Yes	High	Medium <sup>b</sup>	Medium
26	4	Medium	Low	Yes	Yes	Yes	High	Medium	Medium
27	4	High	High	Yes	Yes	No	Medium	High	Medium
28	4	High	High	Yes	Yes	No	Medium	High	Medium
29	3	High	Low	Yes	Yes	Yes	High	Low <sup>b</sup>	Medium
30	6	High	Medium	Yes	Yes	Yes	High	High	High
31	2	High	Low	Yes	Yes	Yes	High	Low <sup>b</sup>	Medium
32	5	High	High	Yes	Yes	No	Medium	Medium <sup>b</sup>	Medium
33	5	High	Medium	Yes	Yes	Yes	High	High	Medium
34	5	High	Medium	Yes	Yes	Yes	High	High	Medium
35	6	High	High	Yes	Yes	No	Medium	High	Medium
36	4	High	Low	Yes	No	Yes	High	Low	Medium
37	5	High	High	Yes	Yes	No	Medium	High	Medium
38	3	High	High	Yes	Yes	No	Medium	High	Medium
39	7	Medium	Medium	Yes	Yes	Yes	High	Medium	High
40	7	Medium	Medium	Yes	No	Yes	High	Low	Medium
41	3	Medium	Medium	Yes	No	Yes	High	Low	Medium

a. See the introduction to this volume for explanation of priorities.

b. Outside funding source pursuit priority was adjusted to reflect reality more accurately (e.g., actions are already fully/partially funded).

**Table 31-13. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea Level Rise / Climate Change	FSLR-4, 5, 6, 10, 13, 14, 17, 20, 34	FSLR-9, 12, 13, 18, 19, 33, 38	FSLR-16, 17, 39, 40	FSLR-10, 23, 27, 28, 30, 34, 35, 37, 39	FSLR-5, 16, 17	FSLR-9, 10, 11, 12, 13, 18, 20, 23, 24, 25, 27, 28, 30, 32, 33, 34, 35, 37, 38, 39	FSLR-4, 6, 7, 10, 12, 13, 14, 16, 18, 19, 22, 23, 24, 25, 26, 27, 28, 30, 32, 33, 34, 35, 37, 38, 39, 41	FSLR-1, 2, 7, 8, 11, 16, 18, 19, 22, 24, 25, 26, 28, 34, 38, 40, 41
Flood	FSLR-4, 5, 6, 10, 13, 17, 20, 34	FSLR-9, 12, 13, 18, 19, 33, 38	FSLR-16, 17, 39, 40	FSLR-10, 23, 27, 28, 30, 35, 37, 39	FSLR-5, 16, 17	FSLR-9, 10, 11, 12, 13, 18, 20, 21, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40	FSLR-4, 6, 10, 12, 13, 16, 18, 19, 22, 24, 25, 26, 27, 28, 30, 32, 33, 34, 35, 37, 38, 39, 41	FSLR-1, 2, 8, 11, 16, 18, 19, 22, 24, 25, 26, 28, 34, 38, 40, 41
Landslide	FSLR-4, 10, 13	FSLR-13, 38		FSLR-10		FSLR-10, 11, 13, 36, 38	FSLR-4, 10, 13, 38	FSLR-1, 2, 8, 11, 38
Dam Failure	FSLR-3							FSLR-1, 2, 8
Earthquake	FSLR-3							FSLR-1, 2, 8
Wildfire	FSLR-3	FSLR-38	FSLR-39			FSLR-38	FSLR-38	FSLR-1, 2, 8, 38
Tsunami	FSLR-3, 5				FSLR-5			FSLR-1, 2, 8
<b>Medium-Risk Hazards</b>								
Severe Weather	FSLR-4, 5, 6, 10, 17, 20, 34	FSLR-9, 12, 18, 19, 33, 38	FSLR-16, 17, 39, 40	FSLR-10, 23, 27, 28, 30, 35, 37, 39	FSLR-5, 16, 17	FSLR-9, 10, 11, 12, 18, 20, 21, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39	FSLR-4, 6, 10, 12, 16, 18, 19, 22, 24, 25, 26, 27, 28, 30, 32, 33, 34, 35, 37, 38, 39, 41	FSLR-1, 2, 8, 11, 16, 18, 19, 22, 24, 25, 26, 28, 34, 38, 40, 41
<b>Low-Risk Hazards</b>								
Drought	FSLR-10, 15			FSLR-10		FSLR-10, 11, 15	FSLR-10	FSLR-1, 2, 8, 11

a. See the introduction to this volume for explanation of mitigation types.

### 31.8 PUBLIC OUTREACH

Table 31-14 lists public outreach activities for this jurisdiction.



**Table 31-14. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Coastside Focus Group #2 with South Coast Sustainable	June 29, 2021	24
Coastside Focus Groups with Puente De La Costa Sur	June 24, 2021	15
Bayfront Canal and Atherton Channel Flood Protection and Ecosystem Restoration Project Update Outreach Meeting	June 23, 2021	25
Community Leaders and Community Members Focus Group (NFO, Belle Haven, East Palo Alto) with Climate Resilient Communities	June 23, 2021	44
CID Virtual Peer Support Group Meeting by Center for Individuals with Disabilities	June 17, 2021	6
BACHAC's Monthly Meeting #2 (Presentation from County Staff)	June 14, 2021	22
Environmental Justice Academy Focus Group with Nuestra Casa	June 10, 2021	25
Center for Independence of Individuals with Disabilities' Staff Meeting	June 7, 2021	15
2021 Climate Change Risk & Resilience Forum with League of Women Voters/FSLRRD: Countywide Wildfire Risk and Resilience	June 3, 2021	130
Coastside Focus Group #1 with South Coast Sustainable	June 3, 2021	24
Evergreen Seniors (Panel from Various Coastal Jurisdictions) by Senior Coastsiders	May 13, 2021	12
South Coast Sustainable's Sustainable Pescadero Meeting #2	May 5, 2021	32
2021 Climate Change Risk & Resilience Forum with League of Women Voters/FSLRRD: Redwood City, Menlo Park, East Palo Alto	April 29, 2021	110
CID Support Group by Center for Independence of Individuals with Disabilities	April 29, 2021	3
CID Emergency Preparedness Program/Food Distribution Event by Center for Independence of Individuals with Disabilities	April 24, 2021	8
BACHAC's Monthly Meeting #1 (Presentation from County Staff)	April 12, 2021	22
2021 Climate Change Risk & Resilience Forum with League of Women Voters/FSLRRD: San Mateo, Foster City, Redwood Shores, Belmont, San Carlos	April 8, 2021	40
South Coast Sustainable's Sustainable Pescadero Meeting #1	April 5, 2021	32
Survey Outreach for Unhoused Populations by Senior Coastsiders	March 25, 2021	5
SC4 Amateur Radio Club with South Coast Sustainable	March 20, 2021	50
2021 Climate Change Risk & Resilience Forum with League of Women Voters/FSLRRD: Countywide Kickoff	February 4, 2021	80

## 31.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, outside resources and references were reviewed to provide information for this annex:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- **Email correspondence with Hazard Mitigation Plan Annex Partners**— Input was solicited from all annex partners referenced in the Hazard Mitigation Action Plan Matrix and feedback received was incorporated.
- **Email correspondence with the San Francisquito Creek Joint Powers Authority**— Historical information on past flood events from the San Francisquito Creek Joint Powers Authority was incorporated into the Past Natural Hazard Events table.

- **Scoping documents for the Flood Early Warning System**— Historical information on past flood events was referenced and incorporated into the Past Natural Hazard Events table.
- **Pacific Gas & Electric Public Safety Power Shutoffs Reports**— Historical information on past power shutoff events was referenced and incorporated into the Past Natural Hazard Events table.

Climate Central (<https://www.climatecentral.org/pdfs/SLR-CA-SM-PressRelease.pdf>)— Research showing San Mateo County has more people and property value at risk from sea level rise than any other county in the state was incorporated into the discussion of jurisdiction-specific vulnerabilities.

- **San Mateo County 2018 Sea Level Rise Vulnerability Assessment** ([https://seachangesmc.org/wp-content/uploads/2018/03/2018-03-05-mp-SLR\\_VA\\_Report\\_2.2018\\_v4\\_WEB.pdf](https://seachangesmc.org/wp-content/uploads/2018/03/2018-03-05-mp-SLR_VA_Report_2.2018_v4_WEB.pdf))— Critical information on assets vulnerable to sea level rise in San Mateo County informed the Hazard Mitigation Action Plan Matrix and was incorporated into the discussion of jurisdiction-specific vulnerabilities.
- **“Millions projected to be at risk from sea-level rise in the continental United States” (Hauer et al. 2016, <https://www.nature.com/articles/nclimate2961?dom=pseau&src=syn&foxtrotcallback=true>)**— Additional research on assets vulnerable to sea level rise in San Mateo County was incorporated into the discussion of jurisdiction-specific vulnerabilities.

## 32. SAN MATEO COUNTY HARBOR DISTRICT

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### 32.1 LOCAL HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

James B. Pruett, General Manager  
504 Avenue Alhambra, Ste 200/P.O. 1449  
El Granada, CA 94018  
650-822-4144  
jpruett@smharbor.com

#### Alternate Point of Contact

Lizzie Zuroski, Communications Analyst  
504 Avenue Alhambra, Ste 200/P.O. 1449  
El Granada, CA 94018  
650-808-7500  
lzuroski@smharbor.com

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 32-1.

**Table 32-1. Local Mitigation Planning Team Members**

Name	Title
Jim Pruett	General Manager
John Moren	Director of Operations
Jim Merlo	Oyster Point Marina Harbormaster
Chris Tibbe	Pillar Point Harbor Harbormaster
Lizzie Zuroski	Communications Analyst

### 32.2 JURISDICTION PROFILE

#### 32.2.1 Overview

The San Mateo County Harbor District is a special district created in 1933 to provide ocean and bayfront harbor services and oversight for San Mateo County. A five-member elected Board of Directors governs the District. The Board assumes responsibility for the adoption of this plan; the General Manager will oversee its implementation. The District currently employs a staff of 39. Funding comes primarily through property taxes, rates, and fees.

#### 32.2.2 Service Area

The district service area covers all of San Mateo County, 744 square miles serving a population of 767,423.

The San Mateo County Harbor District was originally formed in 1933 to build a harbor at Redwood City, with the District's boundaries being the entire area of the County of San Mateo. In 1961, the breakwater water at Pillar Point was completed. In the 1970s and 1980s Johnson pier was built, with its 8 docks, 369 berths and inner breakwater, The District assumed operation of Oyster Point Marina and Park from the City of South San Francisco in 1977, and constructed 11 docks, 589 berths, a new breakwater, and onshore facilities during the



1980s. A ferryboat service to the East Bay was added to Oyster Point in the 2000s, resulting in the removal of 134 berths to accommodate, resulting in 455 berths total. Multiple activities occur at both locations, include charter fishing, recreational angling, paddle sports, dining cruises, educational programs, and cooperation with other local jurisdictions on regional projects.

### 32.2.3 Assets

Table 32-2 summarizes the assets of the District and their value.

<b>Asset</b>	<b>Value</b>
<b>Property</b>	
30.1 acres of land at Pillar Point Harbor (PPH)	Not Available
.31 acres of land in El Granada, CA	\$1,200,000
<b>Equipment</b>	
Pick-Up Truck 2014	\$33,950
Pick-Up Truck 2017	\$37,462
Pick-Up Truck 2017	\$37,462
Pick-Up Truck 2014	\$36,750
Pick-Up Truck 2003	\$20,495
1975 Workboat/Utility – Boston Whaler	\$4,000
1996 Harbor Patrol Vessel – Marine Boat	\$42,578
2006 Harbor Patrol Vessel – Almar	\$305,000
2006 Harbor Patrol Vessel – Boston Whaler	\$195,000
2007 Harbor Patrol Vessel – Honda	\$12,000
2007 Harbor Patrol Vessel – Honda	\$12,000
2007 Harbor Patrol Vessel – Honda	\$12,000
2007 Harbor Patrol Vessel – Honda	\$12,000
Pill Chipper/MTD – OPM	\$4,500
Cushman Golf – PPH	\$5,000
EZ Go Golf Cart – PPH	\$5,000
Forklift – Toyota – PPH	\$25,000
EZ Go Golf Cart – OPM	\$4,994
Husqvarna Lawn Mower 30' – OPM	\$4,000
Husqvarna Lawn Mower 48' – OPM	\$5,000
Power Generator – OPM	\$20,000
Pump out – PPH	\$24,000
Oil Shed and Tank – OPM	\$12,000
Skift Hoist	\$25,000
Smiths American Sport Electric Cart – OPM	\$10,000
Tractor with mower and post hole digger	\$9,000
Trash Compacter – Superior Equipment	\$56,000
Utility Shed – OPM	\$4,000
Utility Shed – PPH	\$5,000
Utility Shed – OPM	\$2,000

Asset	Value
EZ Go Golf Cart – OPM	\$4,994
Radon	\$342,000
Husqvarna Rider Mower – OPM	\$5,000
Printer/Copier	\$13,847
Vacuum Pump-OPM	\$35,441
Ventek Paystation- OPM	\$9,520
Electric Power Pad-Kayak Rack-OPM	\$12,500
Two Life Rafts	\$6,700
Life Sleds	\$2,714
Fluid Oil/Water Separator-PPH	\$12,745
Launch Ramp Paystation-PPH	\$18,439
Lawn Mower-PPH	\$5,000
3 Transformers-PPH	\$180,000
6 Transformers-PPH- Dock D-H	\$360,000
6 Transformers	\$339,122
Polaris CRW100NSRC	\$31,008
Yamaha Personal Watercraft	\$14,205
Yamaha Personal Watercraft	\$14,205
Yamaha Personal Watercraft	\$14,278
PWC Trailer EZ Loader 2003	\$800
EZ Loader 2003	\$800
Pacific Boat Trailer 2003	\$8,000
Utility Trailer 1900	\$1,340
Kawasaki Karavan for PWC 2019	\$3,000
Pacific Trailer- OPM 2006	\$5,000
Whaler Trailer-OPM 2006	\$1,000
Oil Spill Trailer-PPH 2017	\$35,000
<i>Total:</i>	<b>\$2,470,859</b>
<b>Critical Facilities and Infrastructure</b>	
Pillar Point Marina – 1 Johnson Pier, Half Moon Bay, CA 94018	\$9,995,552
Pillar Point Retail Center – 9 Johnson Pier, Half Moon Bay, CA 94018	\$1,367,195
Pillar Point Fish Wholesalers’ Bldg. – 1 Johnson Pier, Half Moon Bay, CA 94018	\$801,391
Pillar Point Harbor (PPH) Harbor Master’s Office – 1 Johnson Pier	\$589,910
Sewer Pump Station & System – 1 Johnson Pier	\$299,375
PPH Restroom West End w/ Laundry Facilities/Shower – 1 Johnson Pier	\$251,425
PPH Restroom Johnson Pier – 1 Johnson Pier	\$251,425
PPH Maintenance Building including 8 metal doors – 1 Johnson Pier	\$201,706
PPH Sewer Lift Stations (3) – 1 Johnson Pier	\$100,570
PPH Restroom Boat Launch – 1 Johnson Pier	\$94,222
PPH RV Lot Restrooms – 1 Johnson Pier	\$84,652
Oyster Point Marina (OPM) – 950 Marina Blvd., South San Francisco, CA 94080	\$9,995,552
OPM Harbor Master’s Office – 925 Marina Blvd., South San Francisco, CA 94080	\$384,566
OPM Maintenance Building – 925 Marina Blvd.	\$262,537

Asset	Value
OPM Restroom Fishing Pier – 925 Marina Blvd.	\$131,078
OPM Restroom Dock 12 – 925 Marina Blvd.	\$131,078
OPM Restroom Dock 13 – 925 Marina Blvd.	\$131,078
OPM Restroom Dock 11 – 925 Marina Blvd.	\$104,631
OPM Restroom/Showers Dock 5 – 925 Marina Blvd.	\$104,631
OPM Restroom/Showers Dock 1 – 925 Marina Blvd.	\$104,631
OPM Restroom/Showers Dock 2 – 925 Marina Blvd.	\$104,631
OPM Restroom/Showers Dock 6 – 925 Marina Blvd.	\$104,631
OPM Pump Station – 925 Marina Blvd.	\$72,328
<b>Total:</b>	<b>\$29,267,326</b>

### 32.3 CURRENT TRENDS

Total customers have increased by approximately 3 percent since 2010. Population in the service area is not projected to change significantly over the next 10 years.

### 32.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 32-3.
- An assessment of fiscal capabilities is presented in Table 32-4.
- An assessment of administrative and technical capabilities is presented in Table 32-5.
- An assessment of education and outreach capabilities is presented in Table 32-6.
- Classifications under various community mitigation programs are presented in Table 32-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 32-8.

**Table 32-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
Harbors & Navigation Code	12/2020	State of California
Harbor District Code of Ordinance	12/18/2019	San Mateo County Harbor District
Emergency Response Plan – Pillar Point Harbor	5/21/21	San Mateo County Harbor District
Emergency Response Plan – Oyster Point Marina	4/2021	San Mateo County Harbor District



**Table 32-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	Yes
Other	No

**Table 32-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	No	N/A
Engineers or professionals trained in building or infrastructure construction practices	No	N/A
Planners or engineers with an understanding of natural hazards	No	N/A
Staff with training in benefit/cost analysis	Yes	Administration: Director of Administrative Services, Accounting Manager, Accountant
Surveyors	No	N/A
Personnel skilled or trained in GIS applications	Yes	Operations: Harbormaster, Assistant Harbormaster, Deputy Harbormaster B
Scientist familiar with natural hazards in local area	No	N/A
Emergency manager	No	N/A
Grant writers	No	N/A
Other	No	N/A

**Table 32-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	Yes Emergency preparedness information, including tsunami education at: <a href="https://www.smharbor.com/2021-tsunami-preparedness">https://www.smharbor.com/2021-tsunami-preparedness</a>
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	Yes Multiple campaigns per year highlighting: Boater education, compliance, and safety; District projects that take into account sea level rise and climate change; and water quality, drought, and wildfire education and updates.

Criterion	Response
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	Yes  Harbor Board of Commissioners Committees: Dredging/Sediment Management, Sea Level Rise
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes  Press Releases, Local Signage, Email distribution list
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes  Email, social media, website, signage

**Table 32-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	009005174	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 32-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: The District works with various consultants and environmental groups to develop and enhance this capacity. Understanding and responding to climate change is one of the District's overall Strategic Priorities.</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: All projects have multi-year climate change monitoring aspects.</i>	Medium
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: District hires professional design engineering consultants.</i>	Medium
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Currently installing electric vehicle charging stations in all parking lots.</i>	Medium
Capital planning and land use decisions informed by potential climate impacts <i>Comment: All current capital improvements projects, especially land-based ones, have had exhaustive studies done on the longevity and potential impacts of these climate changes. The District has engaged a consultant to produce a Sea Level Rise Impact Analysis.</i>	Medium
Participation in regional groups addressing climate risks <i>Comment: Engagement with Tsunami Ready task force in November 2020.</i>	High

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: West Trail improvement project at Pillar Point includes mitigation efforts to address climate change through native habitat restoration and living shoreline techniques.</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Currently in planning to install EV charging stations in parking lots, as well as other projects in design/engineering planning phase. District maintains preference for electricity-powered equipment replacements.</i>	High
Identified strategies for adaptation to impacts <i>Comment: Multiple adaptation strategies are in place, including habitat restoration. All marina-based capital improvement projects include plans for adapting to sea level rise.</i>	High
Champions for climate action in local government departments <i>Comment: Overall staff commitment to Oil Spill Prevention and Response as well as native seabird and pinniped conservation, safety, and public education.</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: Significant Commissioner support exists for environmental projects, including adoption of the Bay Delta Plan, a regional watershed conservation and management initiative. .</i>	High
Financial resources devoted to climate change adaptation <i>Comment: Current CIP program favors adaptive measures, including West Trail living shoreline project, replacement of existing equipment with EV equipment, native habitat restoration, sea level rise informed marina replacement projects, and others.</i>	High
Local authority over sectors likely to be negative impacted <i>Comment: The District has some local authority, but this is limited to the areas it owns and/or manages.</i>	Medium
<b>Public Capacity</b>	
Local residents' knowledge of and understanding of climate risk <i>Comment: The local community is aware of and active in developing strategies for adaptation to sea level rise through partnerships with government agencies and community organizations.</i>	High
Local residents' support of adaptation efforts <i>Comment: Local community seems supportive of adaption efforts by multiple agencies.</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: This is not something the District has the capacity to accurately measure at this time, but nonetheless recognizes the importance of this capacity.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment: This is not something the District has the capacity to accurately measure at this time, but nonetheless recognizes the importance of this capacity.</i>	Medium
Local ecosystems capacity to adapt to climate impacts <i>Comment: This is not something the District has the capacity to fully measure at this time, but nonetheless recognizes the importance of this capacity. The District does work with multiple consultants to support climate change response and is consistently updating its understanding of this area.</i>	Medium

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 32.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan



will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 32.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- SMC Climate Change Program**— The Community Climate Action Plan is a strategic roadmap to guide unincorporated San Mateo County in preparing for climate risks and creating impactful greenhouse gas emission reductions. It uses current trends and provides realistic and vetted actions that will help the County reach its climate goals. It will also include a working lands component that will help us sequester carbon in our working lands and support our agricultural community by incentivizing climate-smart farming practices. The Community Climate Action Plan represents the ongoing work of and partnerships with multiple County departments such as Health Policy and Planning, the Planning and Building Department, the Department of Public Works, Local Agency Formation Commission, and C/CAG.

### 32.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- SMC Sea Level Rise Program**— The Flood and Sea Level Rise Resiliency District, known as SM Flood and Sea Level Rise Resilience District (FSLRRD) is an independent government agency working throughout San Mateo County to make us more resilient to the climate change-related impacts of sea level rise, flooding, and coastal erosion. With start-up funding from the County and 20 incorporated cities within it, FSLRRD provides a unified vision and voice to plan for the future. FSLRRD goes beyond planning; it is securing funding for and will build projects that protect us, enhance our environment, and create recreational opportunities.

## 32.6 RISK ASSESSMENT

### 32.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 32-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 32-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Severe Rains/Flooding	DR-4308	2/1/17 – 2/23/17	\$429,055.52 <ul style="list-style-type: none"> <li>Debris deposits at the Deer Creek outfall</li> <li>Landslide at the West Trail</li> <li>PPH launch ramp silt bombardment.</li> </ul> Subsequent removal of debris/sand from these areas occurred. Project reference #640 SMHDA81.

### 32.6.2 Hazard Risk Ranking

Table 32-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

The San Mateo County Harbor District has used the following jurisdictions as a guide for its risk rankings:

- City of Half Moon Bay
- City of South San Francisco
- Unincorporated San Mateo County

Since these three areas either share boundaries with or are adjacent to the District, the risk rankings have referenced to produce those in Table 32-10 with the exception of Tsunami, which is ranked highly for the District because of our nexus to the ocean.

**Table 32-10. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Tsunami	50	High*
2	Earthquake	36	High
3	Sea Level Rise/Climate Change	26	High
4	Flood	17	High
5	Landslide/Mass Movements	38	High
6	Severe Weather	24	Medium
7	Dam Failure	28	Medium
8	Wildfire	23	Medium
9	Drought	9	Low

\* Ranking changed to high because the biggest risk to the harbor, being mostly water and on the coast, is tsunami.

### 32.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Tsunami
- Earthquake
- Sea Level Rise

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

### 32.7 HAZARD MITIGATION ACTION PLAN

Table 32-11 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 32-12 identifies the priority for each action. Table 32-13 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 32-11. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SHD-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Tsunami, Earthquake, Flood, Landslide/Mass Movement, Severe Weather, Dam Failure, Wildfire						
Existing	2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 14	San Mateo County Harbor District	San Mateo County	High	Grant Funding-FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action SHD-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community.						
<i>Hazards Mitigated:</i> Tsunami, Earthquake, Sea Level Rise/Climate Change, Flood, Landslide/Mass Movement, Severe Weather, Dam Failure, Wildfire, Drought						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14	San Mateo County Harbor District	San Mateo County	Low	Staff Time, General Funds	Ongoing
<b>Action SHD-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> Tsunami, Earthquake, Sea Level Rise/Climate Change, Flood, Landslide/Mass Movement, Severe Weather, Dam Failure, Wildfire, Drought						
New & Existing	2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 14	San Mateo County Harbor District	San Mateo County	Low	Staff Time, General Funds	Short-term
<b>Action SHD-4</b> —Identify and pursue strategies to increase adaptive capacity to climate change.						
<i>Hazards Mitigated:</i> Tsunami, Sea Level Rise/Climate Change, Flood, Landslide/Mass Movement, Severe Weather, Dam Failure, Wildfire, Drought						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	San Mateo County Harbor District	San Mateo County	Low	Staff Time, General Funds	Short-term
<b>Action SHD-5</b> — Purchase portable generators for critical facilities and infrastructure that lack adequate backup power.						
<i>Hazards Mitigated:</i> Tsunami, Earthquake, Sea Level Rise/Climate Change, Flood, Landslide/Mass Movement, Severe Weather, Dam Failure, Wildfire						
Existing	1, 2, 6, 7, 8, 9, 10	San Mateo County Harbor District			Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 32-12. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	11	High	High	Yes	Yes	No	Medium	High
2	13	Medium	Low	Yes	No	No	Medium	High
3	11	Medium	Medium	Yes	No	Yes	Medium	Low
4	14	Medium	High	No	Yes	Yes	Medium	High
5	7	High	High	Yes	Yes	No	Medium	High

a. See the introduction to this volume for explanation of priorities.



**Table 32-13. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Tsunami	1, 2, 3, 4	1, 4, 5	3, 4	2, 3, 4	5	1	1, 2, 3, 4, 5	2, 3, 4
Earthquake	1, 2, 3, 4	1, 3, 4, 5	2, 3, 4	2, 3	5	1	3, 4	3, 4
Sea Level Rise/ Climate Change	2, 3,	3, 5	2, 3, 4	2, 3, 4	5		2, 3, 4, 5	2, 3
Flood	2, 3, 4	3	2, 3, 4	2, 3, 4	5		2, 3, 4, 5	2
Landslide/ Mass Movements	2, 3, 4	1		2, 3, 4	5	1	1, 2, 3, 4	2, 3
<b>Medium-Risk Hazards</b>								
Severe Weather	1, 2, 3, 4	1	2, 3, 4	2, 3, 4	5	1	1, 2, 3, 4, 5	2, 3
Dam Failure		1		2, 3, 4	5		1, 2, 5	2
Wildfire	2, 4	4, 5	2, 3, 4	2, 3, 4	5	1	4, 5	4
<b>Low-Risk Hazards</b>								
Drought	4		2	2, 3, 4		1	2	3

a. See the introduction to this volume for explanation of mitigation types.

## 32.8 PUBLIC OUTREACH

Table 32-14 lists public outreach activities for this jurisdiction.

**Table 32-14. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
Website advertisement of LHMP development and solicitation for feedback.	TBD	TBD

## 32.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **State of California Harbors & Navigation Code** – Used as guidance for allowable activities.
- **San Mateo County Harbor District Code of Ordinance** – Used as strategic guidance.
- **Pillar Point Harbor Emergency Response Plan** – Used to reference operational priorities and procedures.
- **Oyster Point Marina Emergency Response Plan** – Used to reference operational priorities and procedures.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## 33. SAN MATEO COUNTY OFFICE OF EDUCATION

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### 33.1 HAZARD MITIGATION PLANNING TEAM

#### Primary Point of Contact

Molly Henricks  
Coordinator of School Safety and Risk Prevention  
101 Twin Dolphin Drive  
Redwood City, CA 94065  
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#### Alternate Point of Contact

Andra Yeghoian  
Environmental Education Coordinator  
101 Twin Dolphin Drive  
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This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 33-1.

**Table 33-1. Local Mitigation Planning Team Members**

Name	Title
Molly Henricks	Coordinator of School Safety and Risk Prevention
Andra Yeghoian	Environmental Education Coordinator
Margie Gustafson	Executive Director, Internal Business Services
Mary McGrath	Executive Director, Safe and Supportive Schools
Patricia Love	Executive Director, Communications

### 33.2 JURISDICTION PROFILE

#### 33.2.1 Overview

The San Mateo County Office of Education supports the 23 local school districts in San Mateo County by providing services that can be done more efficiently and economically at the county level. The agency is jointly governed by an elected Superintendent and seven member elected Board of Education. The Board of Education will assume responsibility for the adoption of this plan; the Coordinators will oversee its implementation.

#### 33.2.2 Service Area

The district service area covers 744 square miles for the entire county, bordered by the Pacific Ocean to the west and the San Francisco Bay to the east, serving a population of over 90,000 students. The San Mateo County Office of Education covers 4.23 acres of land with various locations in San Mateo County (see Table 33-2 for the addresses), serving 129 students. The San Mateo County Office of Education provides emergency management guidance and technical support to all 23 school districts, charter schools and private schools within San Mateo County.



### 33.2.3 Assets

Table 33-2 summarizes the assets of the District and their value.

<b>Asset</b>	<b>Value</b>
Critical Facilities and Infrastructure	
101 Twin Dolphin Drive, Redwood City (Central Office)	\$20,801,610
1800 Rollins Road, Burlingame (currently unoccupied)	\$5,286,515
1290 Commodore Drive, San Bruno (El Camino Side)	\$5,900,151
1280 Commodore Drive, San Bruno (Leased Facility)	Unknown
65 Tower Road, San Mateo (Leased Facility)	Unknown
35 Tower Road, San Mateo (Leased Facility)	Unknown
11000 Pescadero Rd, La Honda (Leased Facility)	Unknown
<b>Total:</b>	<b>\$31,988,276</b>

## 33.3 CURRENT TRENDS

In recent years, service has increased due to global and local factors, such as, wildfires, power outages and COVID-19.

## 33.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 33-3.
- An assessment of fiscal capabilities is presented in Table 33-4.
- An assessment of administrative and technical capabilities is presented in Table 33-5.
- An assessment of education and outreach capabilities is presented in Table 33-6.
- Classifications under various community mitigation programs are presented in Table 33-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 33-8.

**Table 33-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
California Education Code	2020	Various codes apply
Public Resources Code	1/1/2019	Various codes apply
California Code of Regulations	2021	
Code of Federal Regulations	2020	
California Department of Public Health	4/23/2021	COVID-19, Kitchen Facilities, Health & Safety
California Government Code	2009	3100-3102 Emergencies Services Act 8607 Standardized Emergency Management System
California and US Environmental Protection Agencies	4/21/2021	Construction Regulations

**Table 33-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	No
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service <i>If yes, specify:</i>	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	No
Other <i>If yes, specify:</i>	Yes Local Grant Funding, Fee for Services

**Table 33-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?
Planners or engineers with knowledge of land development and land management practices <i>If Yes, Department /Position:</i>	No
Engineers or professionals trained in building or infrastructure construction practices <i>If Yes, Department /Position:</i>	No
Planners or engineers with an understanding of natural hazards <i>If Yes, Department /Position:</i>	No
Staff with training in benefit/cost analysis <i>If Yes, Department /Position:</i>	No
Surveyors <i>If Yes, Department /Position:</i>	No
Personnel skilled or trained in GIS applications <i>If Yes, Department /Position:</i>	No
Scientist familiar with natural hazards in local area <i>If Yes, Department /Position:</i>	No

Staff/Personnel Resource	Available?
Emergency manager <i>If Yes, Department /Position:</i>	No
Grant writers <i>If Yes, Department /Position:</i> Throughout the Organization	Yes

**Table 33-6. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe:</i> We have information related to REMS, Hazard Responses and Facilities Report which includes some hazard mitigation. <a href="https://www.smcoe.org/for-schools/safe-and-supportive-schools/school-safety.html">https://www.smcoe.org/for-schools/safe-and-supportive-schools/school-safety.html</a>	Yes
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe:</i> We have a Facebook and Twitter Account that we post things to frequently. We have posted information on the PSPS shut-offs, wildfire mitigation and School Closure mitigation.	Yes
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe:</i> Our County School Board is responsible for passing policies regarding school safety, including hazard mitigation. We have a Youth Advisory Committee that helps give youth voice to policies and practices, along with a youth climate change group that help address issues related to climate change hazard mitigation.	Yes
Do you have any other programs in place that could be used to communicate hazard-related information? <i>If yes, briefly describe:</i> The Coalition for Safe Schools and Communities, is a multi-disciplinary team that focuses on student and school safety, which includes hazard mitigation	Yes
Do you have any established warning systems for hazard events? <i>If yes, briefly describe:</i> School Leaders, County Office Incident Command Staff have SMC ALERT and PSPS Warnings	Yes

**Table 33-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	081556300	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A



**Table 33-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Participated in Climate Ready San Mateo County Summits in 2019</i>	Medium
Jurisdiction-level monitoring of climate change impacts <i>Comment: We do not have a process for monitoring climate impacts beyond the state databases.</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: We have connections to the county office of sustainability for support, but do not have in-house help.</i>	Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Have completed for Energy and Transportation, but need support for other areas</i>	Medium
Capital planning and land use decisions informed by potential climate impacts <i>Comment: We have not built climate risks into our decision-making criteria process yet.</i>	Low
Participation in regional groups addressing climate risks <i>Comment: Have participated in some of the Climate Ready San Mateo Committees</i>	Medium
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: This might exist for the broader city jurisdictions that are schools are in but not for schools.</i>	Low
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Have identified and have a strategic plan but have not implemented</i>	Medium
Identified strategies for adaptation to impacts <i>Comment: Have identified a few but no plan in place to address.</i>	Low
Champions for climate action in local government departments <i>Comment: We have an employee at San Mateo County Office of Education but do not have in the facilities and business department</i>	Medium
Political support for implementing climate change adaptation strategies <i>Comment: There is support at the County Supervisor Level and with some school board members.</i>	Medium
Financial resources devoted to climate change adaptation <i>Comment: None at this time.</i>	Low
Local authority over sectors likely to be negative impacted <i>Comment: None at this time.</i>	Low
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: I believe local residents have an awareness and understanding of climate risk.</i>	Medium
Local residents support of adaptation efforts <i>Comment: I believe local residents are in support of efforts.</i>	Medium
Local residents' capacity to adapt to climate impacts <i>Comment: Some capacity for impacts that do not require moving houses and schools.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment: Unsure at this time.</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment: Unsure at this time.</i>	Low

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 33.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 33.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- Preliminary efforts in the Sustainable and Climate Resilient Schools Strategic Plan for San Mateo County Office of Education (last updated Spring 2021)
- Coalition for Safe Schools and Communities, Facilities Report, 2019
- Coalition for Safe Schools and Communities: Big Five Administrators Packet, 2020-2021

### 33.5.2 Opportunities for Future Integration

The capability assessment presented in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- San Mateo County Local Hazard and Mitigation Plan, 2021
- San Mateo County School Districts, Emergency Preparedness Plans

Taking action to integrate each of these programs with the hazard mitigation plan was considered as a mitigation action to include in the action plan for this annex.

## 33.6 RISK ASSESSMENT

### 33.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 33-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 33-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Wildfire	DR-4558	August 14-September 26, 2020	N/A
COVID-19	DR-4482	January 20, 2020 - Present	N/A
Loma Prieta Earthquake	DR-845	October 17-December 18, 1989	N/A

### 33.6.2 Hazard Risk Ranking

Table 33-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 33-10. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Sea Level Rise / Climate Change	45	High
2	Landslide	42	High
3	Earthquake	36	High
4	Flooding	24	Medium
5	Severe Weather	24	Medium
6	Dam Failure	24	Medium
7	Wildfire	18	Medium
8	Drought	9	Low
9	Tsunami	6	Low

### 33.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Loss of Power – Loss of ability to provide educational related activities
- Smoke Days – Due to wildfires, days in which schools cannot operate safely
- Lack of adequate power back-up/generators
- Utilization of facilities during a mass jurisdiction event

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 33.7 HAZARD MITIGATION ACTION PLAN

Table 33-11 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 33-12 identifies the priority for each action. Table 33-13 summarizes the mitigation actions by hazard of concern and mitigation type.



**Table 33-11. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action OED-1</b> —Facilitate hazard risk assessments of each site’s vulnerability.						
<u>Hazards Mitigated:</u> Existing	Earthquake, Flooding, Tsunami, Severe Weather, Wildfire, landslide 1, 6, 7, 8, 9	San Mateo County Office of Education		High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short -Term
<b>Action OED-2</b> — Purchase stationary generators for critical facilities and infrastructure						
<u>Hazards Mitigated:</u> Existing	Earthquake, Flooding, Tsunami, Landslide, Severe Weather, Wildfire 4, 8, 9,13	San Mateo County Office of Education		High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-Term
<b>Action OED-3</b> — Provide critical facilities infrastructure improvements and/or retrofit to mitigate loss.						
<u>Hazards Mitigated:</u> Existing	Earthquake, Flooding, Tsunami, landslide , Severe Weather, Wildfire 4, 8, 9, 13, 14	San Mateo County Office of Education		High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Long-Term
<b>Action OED-4</b> —Identify and pursue strategies to incorporate education about sea level rise and other climate-driven hazards into curriculum taught in the County.						
<u>Hazards Mitigated:</u> New & Existing	Earthquake, Flooding, Tsunami, Severe Weather, Wildfire, climate change, Sea Level Rise 5, 8, 9	SM Flood & Sea Level Rise Dist. (FSLRRD)	San Mateo County Office of Education	Medium	General Fund, County Funding (Measure K),	Short term
<b>Action OED-5</b> —Identify, purchase, and implement emergency mitigation, preparedness and response curriculum and training for earthquake, flooding, wildfires, tsunamis, climate change, and severe weather to school communities						
<u>Hazards Mitigated:</u> New & Existing	Earthquake, Flooding, Tsunami, Severe Weather, Wildfire, climate change, Sea Level Rise 1, 5, 8,11	San Mateo County Office of Education	FSLRRD	Medium	Grant Funding-EMPG and HSGP, Local Funds	Ongoing
<b>Action OED-6</b> —Purchase and implement emergency warning and response communications systems for internal communication and communication with student’s families.						
<u>Hazards Mitigated:</u> New & Existing	Earthquake, Flooding, Tsunami, landslide, Severe Weather, Wildfire 1, 5, 8,11	San Mateo County Office of Education		Medium	Grant Funding-EMPG and HSGP	Ongoing
<b>Action OED-7</b> — Purchase portable generators for critical facilities and infrastructure						
<u>Hazards Mitigated:</u> Existing	Earthquake, Flooding, Tsunami, landslide, Severe Weather, Wildfire 4, 8, 9,13	San Mateo County Office of Education		High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-Term

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 33-12. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	4	Medium	High	No	Yes	No	Low	Low
2	4	High	High	Yes	Yes	No	Medium	High
3	5	High	High	Yes	Yes	No	Low	Low
4	3	Medium	Medium	Yes	Yes	No	Medium	Medium
5	4	Medium	Medium	Yes	Yes	No	Medium	High
6	4	High	Medium	Yes	Yes	No	Medium	High
7	4	High	High	Yes	Yes	No	Medium	High

a. See the introduction to this volume for explanation of priorities.

**Table 33-13. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Sea level Rise / Climate change		OED 1, 3	OED - 4, 5, 6	OED 4, 5	OED 2, 5, 6, 7	OED 3	OED - 4	OED 4, 5, 6
Landslide		OED- 1	OED - 4, 5, 6		OED 2, 5, 6, 7	OED 3	OED - 4	OED 4, 5, 6
Earthquake		OED 1, 3	OED - 4, 5, 6	OED - 4, 5	OED 2, 5, 6, 7	OED - 3	OED - 4	OED 4, 5, 6
<b>Medium-Risk Hazards</b>								
Flooding		OED 1, 3	OED - 4, 5, 6		OED 2, 5, 6, 7	OED 3	OED - 4	OED 4, 5, 6
Severe Weather		OED 1, 3	OED - 4, 5, 6		OED 2, 5, 6, 7	OED 3	OED - 4	OED 4, 5, 6
Dam Failure		OED - 1	OED - 4, 5, 6		OED 2, 5, 6, 7	OED 3		OED 4, 5, 6
Wildfire		OED 1, 3	OED - 4, 5, 6	OED - 4, 5	OED 2, 5, 6, 7	OED 3	OED - 4	OED 4, 5, 6
<b>Low-Risk Hazards</b>								
Drought			OED - 4, 5, 6	OED 4, 5			OED - 4	
Tsunami		OED 1, 3,	OED - 4, 5, 6		OED 2, 5, 6, 7	OED 3	OED - 4	OED 4, 5, 6

a. See the introduction to this volume for explanation of mitigation types.

### 33.8 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Sustainable and Climate Resilient Schools Strategic Plan for San Mateo County Office of Education**—This plan was used to assess capabilities and in the development of the action plan.
- **Coalition for Safe Schools and Communities, Facilities Report**—This report was used to assess capabilities and in the development of the action plan.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.



# 34. SAN MATEO RESOURCE CONSERVATION DISTRICT

## 34.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Kellyx Nelson, Executive Director  
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### Alternate Point of Contact

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This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 34-1.

**Table 34-1. Local Mitigation Planning Team Members**

Name	Title
Kellyx Nelson	Executive Director
Sara Polgar	Conservation Program Specialist
Sheena Sidhu	Program Manager: Forest Health and Fire Resilience
Joe Issel	Natural Resource Manager

## 34.2 JURISDICTION PROFILE

### 34.2.1 Overview

San Mateo Resource Conservation District (SMRCD or District) is a special district created in 1939 to provide comprehensive, integrated conservation services to landowners and land managers, technical advisors, local jurisdictions, government agencies, and others in San Mateo County to help them be part of the solution to pressing natural resources issues through non-regulatory pathways. The District derives its powers and purpose from State law and functions independently of County government. The SMRCD is governed by a five-member Board of Directors each of whom serves as a volunteer appointed by the San Mateo County Board of Supervisors. The SMRCD currently employs a staff of 19. The SMRCD leverages a small property tax base (~\$80,000 annually) to bring diverse public and private funds via grants, interagency agreements, contracts for services, donations, etc. (between \$7 million and \$12 million annually).

The Board of Directors assumes responsibility for the adoption of this plan; Executive Director Kellyx Nelson will oversee its implementation.

### 34.2.2 Service Area and Trends

The District boundaries encompass approximately 245 square miles of mostly rural, agricultural, and open space lands in the western half of the County and includes significant portions of all watersheds in San Mateo County. The geographic extent of this area generally includes western (primarily unincorporated) San Mateo County from the San Francisco-San Mateo County boundary to the Santa Cruz-San Mateo County boundary. The District is in the process of expanding its boundaries to include the entirety of San Mateo County (approximately 745 square miles). The initial step of this process has been completed; a revised Sphere of Influence (reflecting this expansion) was approved by the Local Agency Formation Commission on January 10, 2021.

It is important to note that even with its current boundaries, the District can and does serve landowners and land managers, local jurisdictions, government agencies and others throughout San Mateo County. (The SMRCD boundaries only limit the District’s tax base, not its service area.) As such, the SMRCD serves the population of San Mateo County which is more than 750,000 according to 2019 population estimates from the U.S. Census Bureau. Assets

Table 34-2 summarizes the assets of the district and their value.

**Table 34-2. Special Purpose District Assets**

Asset	Value
<b>Property</b>	
None	N/A
<b>Equipment</b>	
Office equipment	\$50,000
Field equipment	\$20,000
<b>Total:</b>	<b>\$70,000</b>
<b>Critical Facilities and Infrastructure</b>	
Office (rented) 80 Stone Pine Road, Suite 100, Half Moon Bay, CA 94019	N/A
<b>Total:</b>	<b>N/A</b>

### 34.3 CURRENT TRENDS

Population in this service area is not projected to change significantly over the next 10 years.

### 34.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 34-3.

- An assessment of fiscal capabilities is presented in Table 34-4.
- An assessment of administrative and technical capabilities is presented in Table 34-5.
- An assessment of education and outreach capabilities is presented in Table 34-6.
- Classifications under various community mitigation programs are presented in Table 34-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 34-8.

**Table 34-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update
Program: Drought Resiliency (Water for Farms, Fish and People)	N/A
Program: Water Quality	N/A
Program: Forest Health & Fire Resiliency, and Post-Fire Recovery	N/A
Program: Erosion and Sediment Management	N/A
Program: Climate Resiliency	N/A
Program: Habitat Restoration, and Integrated Watershed Restoration	N/A
CA Public Resources Code, Section 9 – Resource Conservation <sup>a</sup>	2017
San Mateo County Grading Ordinance <sup>b</sup>	2017
Central California Coast Coho Salmon Recovery Plan	2012
DWR California Water Plan Update	2018
California 2030 Natural and Working Lands Climate Change Implementation Plan	2019
Pescadero Lagoon Science Panel Final Report	2016
Solutions to Flooding on Pescadero Creek Road	2014
San Gregorio Watershed Management Plan	2010
Pilarcitos Integrated Watershed Management Plan	2008
Identification and Remediation of Fecal Pollution in Pillar Point Harbor	2014
Addressing Regulatory Obstacles to Eucalyptus Control in San Mateo County	2011
Santa Cruz County and San Mateo County Community Wildfire Protection Plan (CWPP)	2018
San Mateo County Community Climate Action Plan <sup>c</sup>	2013

a. Enabling state legislation for natural resource conservation.  
 b. Authorizes SMRCD to issue Grading Permit Exemptions for multiple purposes related to hazard mitigation (e.g., natural resource management, soil conservation practices, ag water storage, storm damage repair, etc.)  
 c. Currently being updated



**Table 34-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	Yes
Other – Foundations, Grants, Donations	Yes

**Table 34-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	16 staff with professional expertise and extensive experience in land management practices covering broad range of capacities (e.g., agriculture, forest health and fire resilience, water quality and conservation, habitat restoration, erosion, and sediment management, etc.)
Engineers or professionals trained in building or infrastructure construction practices	No	N/A
Planners or engineers with an understanding of natural hazards	Yes	16 staff with professional expertise and extensive experience in land management practices covering broad range of capacities (e.g., agriculture, forest health and fire resilience, water quality and conservation, habitat restoration, erosion, and sediment management, etc.)
Staff with training in benefit/cost analysis	No	N/A
Surveyors	Yes	1 staff member (not licensed surveyor)
Personnel skilled or trained in GIS applications	Yes	Several of the staff identified above
Scientist familiar with natural hazards in local area	Yes	All of the staff identified above
Emergency manager	Yes	Program Manager for Fire Resiliency
Grant writers	Yes	Several of the staff identified above
Other	No	N/A

**Table 34-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	Yes  Various pages at the SMRCD website provide information about and ways to access resources and assistance for preparing for wildfire, improving drought resiliency through water conservation and storage, preventing, and mitigating erosion, preventing water pollution
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	Yes  Posts alerting public about hazards and directing to resources, informational meetings, and technical and funding assistance available
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	Yes  Board of Directors Project-specific advisory committees (e.g., convened to prioritize projects to be implemented through a specific grant)
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes  Existing, direct technical assistance to landowners under our various program areas (i.e., fire, climate, agriculture, water, and wildlife) Workshops (in-person and virtual) Staff participation in community-based forums that meet regularly.
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	No

**Table 34-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	137544362	Unknown
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 34-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Our team regularly uses knowledge of wildfire, drought, and sensitive species impacts in our work</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: We coordinate a regional network, the Santa Cruz Mountain Stewardship Network, that facilitates tracking of relevant indicators of climate change through remote sensing of vegetation cover. Otherwise, we monitor sites where we implemented conservation practices and restoration projects, but these discrete sites do not provide a comprehensive (jurisdictional level) picture of climate change impacts.</i>	Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Our team has significant experience with construction feasibility of land management practices, and incorporates climate change considerations such as fire resiliency, erosion, and drought into project planning</i>	High
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Not a capacity that we have.</i>	Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Our team has significant experience with construction feasibility of land management practices, and incorporates climate change considerations such as fire resiliency, erosion, and drought into project planning</i>	High
Participation in regional groups addressing climate risks <i>Comment: Collaboration with San Mateo County Office of Sustainability, Santa Cruz Mountain Stewardship Network, other RCDs, Carbon Cycle Institute, other technical partners.</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Division 9 of Public Resources Code; CEQA; grant program requirements</i>	High
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Carbon farming, forest management</i>	High
Identified strategies for adaptation to impacts <i>Comment: Numerous climate adaption projects, including carbon farming, water security/reliability, forest management</i>	High
Champions for climate action in local government departments <i>Comment: Champions at both Board and staff levels</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: Elected officials, agencies, landowners, and other stakeholders rely on us to implement climate adaptation through our programs</i>	High
Financial resources devoted to climate change adaptation <i>Comment: We bring in significant grant funding for this work, but our capacity is limited by the need to seek grants</i>	Medium
Local authority over sectors likely to be negative impacted <i>Comment: We have no regulatory authority</i>	Low



Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents’ knowledge of and understanding of climate risk <i>Comment: We serve a large and diverse district. While many residents have knowledge and understanding of risks, others are not as connected to these issues.</i>	Medium
Local residents’ support of adaptation efforts <i>Comment: Similar to the above, there are many passionate supporters of adaptation efforts, and others who are not as connected to this issue.</i>	Medium
Local residents’ capacity to adapt to climate impacts <i>Comment: In addition to gaps in knowledge and interest among some residents, technical and financial resources are also a barrier for some.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Low
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Low

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

### 34.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

#### 34.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **SMRCD Program: Forest Health & Fire Resiliency, and Post-Fire Recovery** – Program is implemented through close coordination and partnerships with San Mateo County (Office of Sustainability; Parks Department; OES) and CAL FIRE to support and implement ongoing programs and projects to mitigate fire risks. Examples include implementation of vegetation management via a neighborhood chipper program; land-scape level forest health projects to increase wildfire resiliency; strategizing with communities and partners to create and implement fuel-load reduction and prescribed burn projects and wildfire resiliency plans.
- **SMRCD Programs: Climate Resiliency and Agriculture** – These programs deliver technical assistance and project planning, design and implementation to private and public agricultural landowners and managers on conservation practices that address natural resource issues and improve resiliency to hazards. Additionally, the program supports climate resilient planning and policymaking for agricultural operations in San Mateo County. These programs are implemented through close coordination and partnerships with San Mateo County (Office of Sustainability, Planning & Building and Environmental Health Departments) and the USDA Natural Resource Conservation Service, and other RCDs.

- **SMRCD Program: Erosion and Sediment Management** – Program provides technical assistance and project planning, design, and implementation to help private and public landowners with addressing erosion issues that threaten access, structures and cause excess sedimentation in creeks (contributing to downstream flooding issues). Examples include guidance for and implementation of storm proofing best management practices (BMPs) on rural roads, replacing failing creek crossings on roads and repairing gullies and landslides that threaten infrastructure, water quality and habitat. It is implemented through close coordination and partnerships with the numerous private and public landowners, including San Mateo County (Parks Departments) and State Parks, and is funded by these landowners and state grants.
- **SMRCD Program: Drought Resiliency**—Program addresses water security for residential, agricultural, and parks/open space landowners through implementation of water conservation and storage projects. Program is implemented through partnerships with private and public landowners including San Mateo County (Parks Department), and with extensive funding from state grants (e.g., CA Wildlife Conservation Board) that are targeted to increasing resiliency to drought hazards.
- **SMRCD Program: Integrated Watershed Restoration Program**—Program mitigates erosion and downstream flooding through multiple restoration approaches implemented strategically throughout a watershed. Examples include restoring in-stream habitat structure and elevation to reduce bank erosion and incision, increasing floodplain capacity, restoring functional hydrology of estuaries and lagoons. It is implemented through close coordination and partnerships with the numerous private and public landowners, including San Mateo County (Public Works and Parks Departments) and State Parks, and is funded by these landowners and state and federal grants.
- **Watershed planning documents identified in Table 34-3**— these documents identify and prioritize various actions relevant to climate adaptation
- **County Santa Cruz County and San Mateo County Community Wildfire Protection Plan (CWPP)** —The plan identifies hazards associated with wildfire, as seen across the landscape, and provide strategies to mitigate wildfire risk and restore healthier, more resilient ecosystems while protecting life and property. SMRCD and Santa Cruz RCD helped CAL FIRE with development of the original CWPP in 2008/09 and with the 2018 update (which revised outdated information), and SMRCD integrates findings and recommendations of the CWPP into its programs.
- **San Mateo County Sea Level Rise Vulnerability Assessment**—Identifies impacts for County shoreline (*except* South Coast from southern border of Half Moon Bay to southern County border) and adaptation approaches that that the RCD will be a partner in planning and implementing

### 34.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **SMRCD Strategic Plan**—Update (underway) includes the following goal: The land and communities of San Mateo County are healthy and resilient in the face of climate change and other impacts.
- **SMRCD Program: Water Quality**—Program activities include water quality monitoring following fire response activities (e.g., fire retardant drops) for both public and private landowners. Opportunity existing for additional integration with San Mateo County on this post-fire water quality sampling.
- **San Mateo County Community Climate Action Plan**—The Office of Sustainability is currently updating the existing Community Climate Action Plan which will incorporate strategies for climate mitigation in the agricultural sector (e.g., carbon sequestration) that the RCD is well-positioned to help implement.

- **San Mateo County South Coast Sea Level Rise Risk and Solutions Study**—Plan will identify sea level rise impacts and adaptation approaches that the RCD will be a partner in planning and implementing.
- **Future hydrologic or sediment modeling**—The RCD has identified watersheds where such modeling would be helpful to inform projects that alleviate flooding and/or stream bank erosion.
- **Watershed- or neighborhood-wide forest management plans**—This approach could more efficiently (than individual plans) meet forest management planning needs for some areas.
- **Future Local CWPPs or similar prioritization plans**—Plans with assessments of wildfire risks and prioritizes tasks to increase fire resiliency at the neighborhood level and certified by local officials.

## 34.6 RISK ASSESSMENT

### 34.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 34-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 34-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Wildfire Flare-ups	N/A	January 2021	Not Available
Wildfires	DR-4558	August 16-September 26, 2020	Not Available
COVID-19 Pandemic	DR-4482	January 20, 2020-Present	Ongoing
Drought	N/A	October 1, 2019-Present	Ongoing
Severe Winter Storms, Flooding, Mudslides	DR-4308	February 1-23, 2017	Not Available
Severe Winter Storms, Flooding, Mudslides	DR-4305	January 18-23, 2017	Not Available
Coastal Erosion	N/A	2016	Not Available
Windstorms	N/A	October-November 2014	Not Available
Windstorms	N/A	February 2014	Not Available
Drought	N/A	January 17, 2014-April 7, 2017	Not Available
Windstorms	N/A	April 2013	\$25,500
Flooding	N/A	December 2012	\$4,500,000
Severe Storms, Landslides	N/A	March 2012	\$64,000
Windstorms	N/A	March 2011	\$25,000
Windstorms	N/A	February 2011	\$62,917
Windstorms	N/A	November 2010	\$166,667
Severe Storms, Flooding, Wind	N/A	January 2010	\$1,167,917
Severe Storms, Flooding, Wind	N/A	October 2009	\$1,131,333
Windstorms	N/A	April 2009	\$43,714
Windstorms	N/A	January 2009	\$20,883
Coastal Erosion	N/A	2009-2011	Not Available
Windstorms	N/A	October 2008	\$50,000
Flooding	N/A	January 2008	\$200,000
Flooding, Mudslides	N/A	May 10, 2006	Not Available



Type of Event	FEMA Disaster #	Date	Damage Assessment
Severe Storms, Flooding, Landslides, Mudslides	DR-1646	March 29-April 16, 2006	\$4,350,000
Flooding, Mudslides	N/A	February 3-April 1, 2006	Not Available
Severe Storms, Flooding, Mudslides, Landslides	DR-1628	December 17, 2005-January 3, 2006	\$10,000,000
Severe Winter Storms, Flooding	DR-1203	February 2-April 30, 1998	\$1,835,000
Coastal Erosion	N/A	1998	Not Available
Severe Storms, Flooding, Mudslides, Landslides	DR-1155	December 28, 1996-April 1, 1997	Not Available
Severe Winter Storms, Flooding, Landslides, Mudflows	DR-1046	February 13-April 19, 1995	Not Available
Severe Winter Storms, Flooding, Landslides, Mudflows	DR-1044	January 3-February 10, 1995	Not Available
Severe Freeze	DR-894	December 19, 1990-January 3, 1991	Not Available
Loma Prieta Earthquake	DR-845	October 17-December 18, 1989	Not Available
Flooding	N/A	February 1988	Not Available
Severe Storms, Flooding	DR-758	February 12-March 10, 1986	Not Available
Coastal Storms, Flooding, Slides, Tornadoes	DR-677	January 21-March 30, 1983	Not Available
Severe Storms, Flooding, Mudslides, High Tide	DR-651	December 19, 1981-January 8, 1983	Not Available

### 34.6.2 Hazard Risk Ranking

Table 34-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 34-10. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Drought	9*	High
1	Wildfire	51	High
1	Landslide/Mass Movement	45	High
2	Flood	18	Medium
2	Sea Level Rise / Climate Change	27	Medium
2	Severe Weather	24	Medium
3	Earthquake	36*	Low
3	Dam Failure	12	Low
3	Tsunami	6	Low

\*See 34.6.3 Jurisdiction-Specific Vulnerabilities for explanation of ranking.

### 34.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Risk Ranking – Almost the entirety of the District is unincorporated San Mateo County. As such, the risk rankings for this jurisdiction category were used for the risk ranking scores. The risk ranking itself also takes into account jurisdiction-specific considerations – namely, the District is mostly rural, agricultural,

and open space lands, and its mission is to assist District constituents in addressing natural resources issues through conservation practices and habitat restoration.

- **Drought** – The District is acutely vulnerable to drought. It has no snowpack, no large municipal reservoirs, and no State water project. Most communities in the District are rural and rely on local water supplies to meet their needs: drawing from creeks, wells, and reservoirs/ponds. Farms, fish, and people depend upon the same limited water resources. Effects in the District due to the current, unprecedented drought include residents having to truck in water to drink, cook, and bathe; farmers having to truck in water and fallow fields; steelhead trout and endangered Coho salmon teetered on extinction as local creeks dried up; and local community water suppliers rationing water.
- **Wildfire** – Due to local topography, high fuel loads, and frequent extreme drought conditions, the District is at very high risk for catastrophic wildfires. An increasing number of houses are built in the Wildland Urban Interface across the District, inadvertently impacting natural fire regimes due to suppression efforts to protect property. Large swaths of chaparral, oak woodlands, and mixed conifer forests have not burned in decades, creating the potential for increased carbon dioxide emissions, flooding, erosion, and ecosystem type conversion in the event of wildfire. Forest and ecosystem health diminishes when fire is suppressed, making natural systems less resilient in the face of climate change.
- **Agricultural Hazards**—Agricultural land and rangeland in the District are vital to the County’s economy and important to consider when addressing issues related to groundwater, watersheds, and wildfire. Most of the agricultural hazards in the District are weather related (e.g., freeze, hail, prolonged high temperatures, wind, flood, drought). Other hazards include insects and disease.
- **Flooding** – Although the flood risk is relatively low across much of the District in terms of land area affected, Pescadero, the largest community within the District is at very high risk to flooding impacts due to its location in the floodplain and limited access to Highway 1. Already, Pescadero experiences frequent flooding due to small storms. Impacts include loss of access between CA Highway 1 and town, flooding of homes and agricultural fields, and loss of tourism business.
- **Landslide/Mass Movements** – The District is acutely vulnerable to episodic landslide erosion due to the geology, steep slopes and legacy impacts of intensive agricultural practices and logging in coastal watersheds. (An example of this is a massive gully (150’Lx 100’Wx 40’D) that formed overnight along Butano Creek at Cloverdale Road, posing a threat to the County’s bridge.) Additionally, coastal creeks are rapidly incising, causing episodic and chronic erosion and downstream transport of significant sediment volumes causing downstream damage and flooding.
- **Earthquake** – Compared with other County jurisdictions and geographic areas, the District includes much less built infrastructure at risk from seismic events. As such, the earthquake risk ranking has been reduced. Potential impacts that fall within the District’s purview are mostly limited to impairments to water supplies, both quantity and quality if seismic activity cuts off groundwater supplies or springs, both domestic and agricultural, and erosion on rural roads in the District. Furthermore, there are no real ways to reduce these seismic risks to water supplies or rural roads through hazard mitigation actions.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 34.7 HAZARD MITIGATION ACTION PLAN

Table 34-11 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 34-12 identifies the priority for each action. Table 34-13 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 34-11. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action SRC-1</b>— Integrate risk assessment and hazard mitigation strategies from this plan into resource management, conservation and carbon farm plans developed by the District.</p> <p><u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Dam Failure, Sea Level Rise</p>						
Existing & New	1, 3, 5, 9, 14	San Mateo RCD	USDA-NRCS, County, NGOs	Medium	General Fund, Federal Grants (FEMA BRIC/ HMGP)	Ongoing
<p><b>Action SCR-2</b>— Advance data collection (field and remote sensing) for mapping products that would inform hazard mitigation planning. This includes but is not limited to LiDAR and imagery flights; field-based ground-truthing of remote sensing data; GIS layer development for ladder fuels, vegetation type, road networks, etc.</p> <p><u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Sea Level Rise</p>						
Existing & New	1, 5, 7, 14	San Mateo RCD	Santa Cruz Mountain Stewardship Network, County (Parks), Research science institutes, Other RCDs, NGOs	High	Santa Cruz Mountain Stewardship Network members, Federal Grant (FEMA BRIC/ HMGP)	Short-term
<p><b>Action SRC-3</b>—Advance hydrologic and sediment modeling in county's Pacific coastal watersheds where such modeling would be helpful to inform projects that alleviate flooding and/or stream bank erosion.</p> <p><u>Hazards Mitigated:</u> Wildfire, Landslide, Flood, Climate Change, Severe Weather, Sea Level Rise</p>						
Existing & New	1, 5, 7	San Mateo RCD	Research institutes, Other RCDs, Santa Cruz Mountain Stewardship Network, USDA-NRCS	High	State Grants (CA SCC/OPC Prop 68; WCB), Federal Grants (NOAA, FEMA BRIC/ HMGP), County	Long-term
<p><b>Action SRC-4</b>—Advance groundwater studies in county's Pacific coastal watersheds to better understand groundwater basins (e.g., connections to surface water supply) to inform diversification of water supply and sustainable management groundwater supplies.</p> <p><u>Hazards Mitigated:</u> Drought, Climate Change, Sea Level Rise</p>						
Existing & New	1, 5, 7	San Mateo RCD	Research science institutes, Other RCDs, Santa Cruz Mountain Stewardship Network, USDA-NRCS	High	State Grants (DWR; CA SCC/OPC Prop 68; WCB), Federal Grants (USDA-NRCS; NOAA, FEMA BRIC/ HMGP), County	Short-term
<p><b>Action SRC-5</b>—Implement conservation practices and projects to improve soil health factors including organic matter content, aggregate stability, water holding capacity on residential, agricultural, and parks/open space properties.</p> <p><u>Hazards Mitigated:</u> Drought, Landslide, Climate Change, Sea Level Rise</p>						
Existing	6, 7, 14	San Mateo RCD	USDA-NRCS, County, NGOs	Low	State Grants (CDFA; WCB), Federal Grants (USDA-NRCS, FEMA BRIC/ HMGP), County, Public & Private Landowners, Community Foundations	Ongoing
<p><b>Action SRC-6</b>— Develop and implement best management practices and projects on residential, parks/open space and agricultural properties and with communities to increase water security and protect stream flows. Examples include irrigation efficiency; strategically changing timing and rate of creek diversions; expanding and creating new water storage infrastructure; developing new water sources.</p> <p><u>Hazards Mitigated:</u> Drought, Climate Change, Sea Level Rise</p>						
Existing & New	7, 8, 13, 14	San Mateo RCD	USDA-NRCS	Low	State Grants (CDFA; DWR; CA SCC/OPC Prop 68; WCB), Federal Grants (USDA-NRCS; NOAA; FEMA BRIC/HMGP), County, Public & Private Landowners, Community Foundations	Ongoing



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action SRC-7</b>—Develop and implement projects to help private and public landowners with addressing erosion issues that threaten access, structures and/or cause excess sedimentation in creeks, increasing future downstream flooding risk. Examples include guidance for and implementation of storm proofing best management practices on rural roads; replacing, repairing and/or retrofitting bridges and other road crossings and drainage infrastructure; and repairing gullies and landslides that threaten infrastructure and agricultural production.</p> <p><u>Hazards Mitigated:</u> Landslide, Flood, Climate Change, Severe Weather, Earthquake, Sea Level Rise</p>						
Existing	6, 7, 8, 13, 14	San Mateo RCD	County, Other local districts, USDA-NRCS	Low	State Grants (CA SCC/OPC Prop 68; WCB, NPS 319), Federal Grants (USDA-NRCS; NOAA, EPA, FEMA BRIC/HMGP), County, Public & Private landowners, Community foundations	Ongoing
<p><b>Action SRC-8</b>—Develop and implement floodplain, stream, and wetlands restoration projects on private and public lands in the District to reduce erosion and flooding to risks to communities and infrastructure.</p> <p><u>Hazards Mitigated:</u> Landslide, Flood, Climate Change, Severe Weather, Sea Level Rise</p>						
Existing & New	7, 8, 14	San Mateo RCD	CA Department of Parks and Recreation and Federal and State wildlife agencies, County, Other local districts, USDA-NRCS	Low	State Grants (CA SCC/OPC Prop 68; WCB, NPS 319), Federal Grants (USDA-NRCS; NOAA, EPA, FEMA BRIC/HMGP), County, Public & Private landowners, Community foundations	Ongoing
<p><b>Action SRC-9</b>—Continue to develop and implement comprehensive, multi-benefit restoration projects in Pescadero Marsh and Pescadero-Butano watershed to advance long-term resilience to sea level rise, extreme storms, and coastal erosion for the adjacent communities and critical assets and nearby areas of the Pacific coastline, as well as provide environmental, recreation, community/connectivity enhancements where possible.</p> <p><u>Hazards Mitigated:</u> Landslide, Flood, Climate Change, Severe Weather</p>						
Existing & New	6, 7, 8, 13, 14	San Mateo RCD	CA Department of Parks and Recreation, Flood & Sea Level Rise District, County, Federal and State wildlife agencies, NGOs	Low	County Funding (Measure K), State Grants (CA SCC/OPC Prop 68), Federal Grants (FEMA BRIC/HMGP, NOAA, EPA, USACE)	Ongoing
<p><b>Action SRC-10</b>—Support and advance planning for, and development and implementation of projects that incorporate nature-based solutions to improve long-term resilience of communities and infrastructure (e.g., CA Highway 1, CA Coastal Trail) to sea level rise, extreme storms, and coastal erosion on the county's Pacific coastline.</p> <p><u>Hazards Mitigated:</u> Landslide, Flood, Climate Change, Severe Weather, Sea Level Rise</p>						
Existing & New	2, 6, 7, 8, 9, 10, 13, 14	San Mateo RCD	County, C/CAG, All municipalities, Caltrans, CA SCC, Flood & Sea Level Rise Resiliency District	High	County Funding (Measure K), State Grants (CA SCC/OPC Prop 68), Federal Grants (FEMA BRIC/HMGP, USACE)	Long-term
<p><b>Action SRC-11</b>—Engage with and provide guidance to communities developing community-scale plans such as CWPPs, prioritization plans or forest management plans.</p> <p><u>Hazards Mitigated:</u> Wildfire, Climate Change, Sea Level Rise</p>						
Existing & New	1, 2, 3, 5, 6, 7, 8, 9, 10, 12	San Mateo RCD	CAL FIRE, Fire Safe San Mateo County, County,	Low	County Funding (Measure K), State Grants (CAL FIRE, CA SCC/OPC Prop 68), Federal Grants (FEMA BRIC/HMGP)	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<p><b>Action SRC-12</b>—Develop and implement landscape-scale forest health, invasive species, and vegetation management to reduce the risk of damage from catastrophic wildfire.</p> <p><u>Hazards Mitigated:</u> Wildfire, Climate Change, Sea Level Rise</p>						
Existing & New	7, 8, 9,14	San Mateo RCD	CAL FIRE, Fire Safe San Mateo County, County,	Low	County Funding (Measure K), State Grants (CAL FIRE, CA SCC/OPC Prop 68), Federal Grants (FEMA BRIC/HMGP)	Ongoing
<p><b>Action SRC-13</b>—Work with communities to plan and implement defensible space and vegetation management programs to reduce the risk of damage from catastrophic wildfire. Examples of this action include convening and coordinating prescribed burn association (PBA) of private landowners: supporting community grazing programs, forest management planning, and strategic fuel breaks along strategic locations including along evacuation routes.</p> <p><u>Hazards Mitigated:</u> Wildfire, Climate Change</p>						
Existing & New	1, 2, 5, 7, 8, 9, 10, 12, 14	San Mateo RCD	CAL FIRE, Fire Safe San Mateo County, County,	Low	County Funding (Measure K), State Grants (CAL FIRE, CA SCC/OPC Prop 68), Federal Grants (FEMA BRIC/HMGP)	Ongoing
<p><b>Action SRC-14</b>—Identify and pursue strategies to address debris flow, landslide, and flood risks, particularly those that protect post-fire priority sites identified in the Watershed Emergency Response Team Assessment following the CZU Lighting Complex Fire and implement recommendations of County debris flow study.</p> <p><u>Hazards Mitigated:</u> Wildfire, Landslide, Flood, Climate Change, Severe Weather, Sea Level Rise</p>						
Existing	6, 7, 8	San Mateo RCD	County, CAL FIRE, California Department of Conservation, Flood & Sea Level Rise Resiliency District	High	County Funding (Measure K), State Grants (CAL FIRE, CA SCC/OPC Prop 68), Federal Grants (FEMA BRIC/HMGP)	Ongoing
<p><b>Action SRC-15</b>—Identify and pursue strategies to incorporate dam failure, earthquake, tsunami and wildfire hazards into project planning, design, and implementation.</p> <p><u>Hazards Mitigated:</u> Wildfire, Earthquake, Dam Failure, Tsunami, Sea Level Rise</p>						
Existing & New	1, 5, 6, 7, 8	San Mateo RCD		Medium	General Fund, State Grants, Federal Grants (FEMA BRIC/HMGP)	Short-term
<p><b>Action SRC-16</b>—Develop and implement program for rapid drinking and surface water quality monitoring following fire response activities in the District.</p> <p><u>Hazards Mitigated:</u> Wildfire</p>						
Existing & New	1,7	San Mateo RCD	County, SWRCB	Medium	County, Public & Private landowners, Community foundations	Ongoing
<p><b>Action SRC-17</b>—Conduct outreach and education to the communities in the District regarding hazards and opportunities to mitigate on personal, property and community scales</p> <p><u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Severe Weather, Earthquake, Dam Failure</p>						
Existing & New	1, 2, 3, 5, 6	San Mateo RCD	USDA-NRCS, County, NGOs, Fire Safe San Mateo County, Local Fire Districts	Low	General Fund, State Grants (CA SCC/OPC Prop 68) Federal Grants (FEMA BRIC/ HMGP), County (Measure K), Community Foundations	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SRC-18</b> —Conduct outreach, education, and engagement with relevant agencies to support them in updating, adopting, and/or implementing changes to regulations and policies, codes and ordinances and permit processes and funding mechanisms that are barriers to natural resource management and restoration practices and projects that mitigate hazards and increase resilience to future hazards. <u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Earthquake, Dam Failure, Tsunami, Sea Level Rise						
Existing & New	1, 2, 5, 7, 10, 14	San Mateo RCD	Other RCDs, NGOs, Santa Cruz Mountain Stewardship Network	Medium	General Fund, Federal Grant (FEMA BRIC/HMGP)	Ongoing
<b>Action SRC-19</b> —Conduct outreach and education about role of natural resource management and habitat restoration in hazard mitigation with landowners, communities, NGOs, municipalities, and other local agencies. <u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Dam Failure, Tsunami, Sea Level Rise						
Existing & New	2, 3, 7, 8, 9, 10, 12	San Mateo RCD	Other RCDs, NGOs, Santa Cruz Mountain Stewardship Network	Low	General Fund	Ongoing
<b>Action SRC-20</b> —Coordinate with regional Bay Area climate resilience and adaptation planning coalitions. <u>Hazards Mitigated:</u> Drought, Wildfire, Flood, Climate Change, Severe Weather, Sea Level Rise						
Existing & New	2, 10, 12	San Mateo RCD		Low	General Fund	Ongoing
<b>Action SRC-21</b> —Build the District's capability and capacity in various ways, including but not limited to: <ul style="list-style-type: none"> <li>• Conducting community and stakeholder outreach.</li> <li>• Enhancing the expertise of staffing and improving project administration.</li> <li>• Developing partnerships and scoping new projects.</li> <li>• Coordinating steering committee/group/council to scope and prioritize projects</li> </ul> <u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Earthquake, Dam Failure, Tsunami, Sea Level Rise						
Existing & New	2, 3, 7, 8, 9, 10, 12	San Mateo RCD		Medium	General Fund	Ongoing
<b>Action SRC-22</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard. <u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Earthquake, Dam Failure, Tsunami						
Existing	6, 7, 9, 13	San Mateo RCD	County	High	County, Federal Grant (FEMA BRIC/ HMGP)	Ongoing
<b>Action SRC-23</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan. <u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Earthquake, Dam Failure, Tsunami, Sea Level Rise						
Existing & New	1, 2, 3, 5, 7, 8	San Mateo RCD		Low	General Fund	Ongoing
<b>Action SRC-24</b> —Purchase portable generators for critical facilities and infrastructure that lack adequate backup power. <u>Hazards Mitigated:</u> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Earthquake, Dam Failure, Tsunami						
Existing	6, 7, 9	San Mateo RCD		High	Federal Grant (FEMA BRIC/HMGP)	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action SRC-25</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.						
<b>Hazards Mitigated:</b> Drought, Wildfire, Landslide, Flood, Climate Change, Severe Weather, Earthquake, Dam Failure, Tsunami, Sea Level Rise						
Existing & New	1, 2, 3, 5, 7,8	San Mateo RCD		Low	General Fund	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 34-12. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
SRC-1	5	Medium	Medium	Yes	Yes	Yes	High	Medium
SRC-2	4	High	High	Yes	Yes	No	Medium	High
SRC-3	3	Medium	High	No	Yes	No	Low	Medium
SRC-4	3	High	High	Yes	Yes	No	Medium	High
SRC-5	3	High	Low	Yes	Yes	Yes	High	High
SRC-6	4	High	Low	Yes	Yes	Yes	High	High
SRC-7	5	High	Low	Yes	Yes	Yes	High	High
SRC-8	3	High	Low	Yes	Yes	Yes	High	High
SRC-9	5	High	Low	Yes	Yes	Yes	High	High
SRC-10	8	High	High	Yes	Yes	No	Medium	High
SRC-11	10	High	Low	Yes	Yes	Yes	High	High
SRC-12	4	High	Low	Yes	Yes	Yes	High	High
SRC-13	9	High	Low	Yes	Yes	Yes	High	High
SRC-14	3	High	High	Yes	Yes	No	Medium	High
SRC-15	5	Medium	Medium	Yes	Yes	Yes	High	Medium
SRC-16	2	Medium	Medium	Yes	Yes	Yes	High	Medium
SRC-17	5	Medium	Low	Yes	Yes	Yes	High	Medium
SRC-18	6	Medium	Medium	Yes	Yes	Yes	High	Medium
SRC-19	7	Medium	Low	Yes	Yes	Yes	High	Medium
SRC-20	3	Medium	Low	Yes	Yes	Yes	High	Medium
SRC-21	7	Medium	Medium	Yes	Yes	Yes	High	Medium
SRC-22	4	High	High	Yes	Yes	No	Medium	High
SRC-23	6	Medium	Low	Yes	No	Yes	High	Low
SRC-24	3	High	High	Yes	Yes	No	Low	High
SRC-25	6	Medium	Low	Yes	Yes	Yes	High	Medium

a. See the introduction to this volume for explanation of priorities.

**Table 34-13. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Drought	SRC-18,23	SRC-22	SRC-17, 18, 19	SRC-5	SRC-24		SRC-6,20	SRC-1, 2, 4, 21, 25
Wildfire	SRC-18,23	SRC-22	SRC-17, 18, 19	SRC-12, 13, 14	SRC-24		SRC-20	SRC-1, 2, 3, 11, 15, 16, 21, 25
Landslide/ Mass Movements	SRC-18,23	SRC-22	SRC-17, 18, 19	SRC-5, 8, 9,14	SRC-24	SRC-7	SRC-10	SRC-1, 2, 3, 21, 25
<b>Medium-Risk Hazards</b>								
Flood	SRC-18,23	SRC-22	SRC-17, 18, 19	SRC-8, 9, 14	SRC-24	SRC-7	SRC-10,20	SRC-1, 2, 3, 21, 25
Sea Level Rise / Climate Change	SRC-18,23	SRC-22	SRC-18,19	SRC-5, 8, 9, 12, 13, 14	SRC-24	SRC-7	SRC-6, 10, 20	SRC-1, 2, 3, 4, 11, 21, 25
Severe Weather	SRC-18,23	SRC-22	SRC-17, 18, 19	SRC-8, 9, 14	SRC-24	SRC-7	SRC-10,20	SRC-1, 2, 3, 21, 25
<b>Low-Risk Hazards</b>								
Earthquake	SRC-18,23	SRC-22	SRC-17,18		SRC-24	SRC-7		SRC-15, 21, 25
Dam Failure	SRC-18,23	SRC-22	SRC-17, 18, 19		SRC-24			SRC-1, 15, 21, 25
Tsunami	SRC-18,23	SRC-22	SRC-18,19		SRC-24			SRC-15, 21, 25

a. See the introduction to this volume for explanation of mitigation types.

## 34.8 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **California 2030 Natural and Working Lands Climate Change Implementation Plan** for identifying actions to address climate change hazards.
- **Santa Cruz County and San Mateo County Community Wildfire Protection Plan (CWPP)** for identifying measures to reduce wildfire risk.
- **Coastal San Mateo County Gully Erosion Report (San Mateo RCD)** for evaluating risks associated with landslides and for identifying actions to reduce these risks.
- **San Mateo County Local Coastal Program** for identifying pertinent development and conservation regulations.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## **34.9 ADDITIONAL COMMENTS**

The District does not own nor have regulatory authority or legal responsibility for any facilities or infrastructure.



# 35. WESTBOROUGH WATER DISTRICT

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## 35.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Patricia Mairena, General Manager  
2263 Westborough Boulevard  
South San Francisco, CA 94080  
650-589-1435  
pmairena@westboroughwater.org

### Alternate Point of Contact

Gary Ushiro, Senior Engineer  
Pakpour Consulting Group,  
5776 Stoneridge Mall Road, Suite 320  
Pleasanton, CA 94588  
925-224-7717  
gushiro@pcgenr.com

Development of this annex was carried out by the members of the local mitigation planning team, whose members are listed in Table 35-1.

**Table 35-1. Local Mitigation Planning Team Members**

Name	Title
Patricia Mairena	General Manager
Joubin Pakpour	District Engineer
Gary Ushiro	Senior Engineer
Feraydoon Jahanian Farsi	Project Engineer

## 35.2 JURISDICTION PROFILE

### 35.2.1 Overview

The Westborough Water District, formerly known as Callan Park County Water District, is a special district created in 1961 to provide water distribution and sewer collection service to a 1 square mile area within the City of South San Francisco (West of 280 to Skyline Boulevard and South of King Drive in Daly City to San Bruno). The District supplies water and sewer service to approximately 4,000 residential and commercial connections. The Westborough Water District owns the sanitary sewer system. Under an agreement, the North San Mateo County Sanitation District (City of Daly City) maintains the sewer system and disposes the sewage. The Westborough Water District presently employs six full-time employees and a permanent part-time On-Call Worker. Funding comes primarily through water, sewer rates and a portion of County taxes. A five-member elected Board of Directors governs the District.

The Board of Directors assumes responsibility for the adoption of this plan; the General Manager will oversee its implementation.

### 35.2.2 Service Area

The district serves a population of 12,500. The population is expected to remain nearly constant through 2035. Its service area covers an area of 1 square mile.

### 35.2.3 Assets

Table 35-2 summarizes the assets of the district and their value.

<b>Asset</b>	<b>Value</b>
<b>Property</b>	
3.3 acres of land	\$310,000
<b>Equipment</b>	
Water facilities (24 miles)	\$31,680,000
Sewer facilities (20 miles)	\$21,120,000
Joint use facilities	\$135,000
Maintenance facilities	\$425,000
Water meters	\$610,000
Furniture and equipment	\$265,000
<i>Total:</i>	<i>\$54,235,000</i>
<b>Critical Facilities and Infrastructure</b>	
Skyline Tank #1	\$1,850,000
Skyline Tank #2	\$2,600,000
Skyline Tank #3	\$2,100,000
Connection with WWD Water System	\$60,000
WWD Water Pump Station	\$485,000
Skyline Pump Station	\$180,000
WWD District Office – 2263 Westborough Blvd	\$1,520,000
Skyline Storage Building	\$530,000
WWD Sewer Pump Station #1 (Avalon)	\$125,000
WWD Sewer Pump Station #2 (District Office)	\$905,000
WWD Sewer Pump Station #3 (Rowntree)	\$1,070,000
<i>Total:</i>	<i>\$11,425,000</i>

## 35.3 CURRENT TRENDS

Westborough Water District’s service area is largely built-out in areas with little new development potential. Since the overwhelming majority of Westborough’s developed land area is dedicated to residential use, most development projects reviewed by the City relate to infill development on scattered vacant lots, or significant renovations or redevelopment of existing structures. Commercial development consists of renovating existing shopping areas. Overall, the level of development activity in Westborough’s service area over the past several years has been relatively low.

## 35.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 35-3.
- An assessment of fiscal capabilities is presented in Table 35-4.
- An assessment of administrative and technical capabilities is presented in Table 35-5.
- An assessment of education and outreach capabilities is presented in Table 35-6.
- Classifications under various community mitigation programs are presented in Table 35-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 35-8.

**Table 35-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
California Department of Public Health	2021	
California and US Environmental Protection Agencies	2021	
California Code of Regulations	2021	
Federal Endangered Species Act	2021	
California Environmental Quality Act (CEQA)	2021	
State and Regional Water Quality Control Boards	2021	
California Department of Water Resources	2021	
American Water Works Association Standards	2021	
District Water Quality Reports	2021	
Urban Water Management Plan	2021	
District Design Standards	2018	
Emergency Response Plan	2021	
Capital Improvement Program	2020	



**Table 35-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	Yes
Incur Debt through General Obligation Bonds	Yes
Incur Debt through Special Tax Bonds	Yes
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	No
Other	No

**Table 35-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	Yes	Pakpour Consulting Group (District Engineer)
Engineers or professionals trained in building or infrastructure construction practices	Yes	Can contract for this service
Planners or engineers with an understanding of natural hazards	Yes	Pakpour Consulting Group G&E Engineering Systems, Inc.
Staff with training in benefit/cost analysis	Yes	Pakpour Consulting Group
Surveyors	Yes	Triad/Holmes Associates, Surveyors
Personnel skilled or trained in GIS applications	Yes	Pakpour Consulting Group and District Staff
Scientist familiar with natural hazards in local area	No	
Emergency manager	Yes	General Manager
Grant writers	No	
Other	N/A	

**Table 35-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes, General Manager
Do you have personnel skilled or trained in website development?	Yes, General Manager
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	Yes Emergency Information and Water Conservation sections of District website
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	Yes The District's Facebook Page includes water conservation ideas
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	No
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes  Water Faucet – Westborough Water District Newsletter which is distributed periodically (average of three times per year)  Emergency Response System will notify each customer by telephone in the event of an emergency if they provide their number to the District Office.
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes Emergency Response System will notify each customer by telephone in the event of an emergency if they provide their number to the District Office.

**Table 35-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	078790466	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	No	N/A	N/A
Tsunami Ready	No	N/A	N/A

**Table 35-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
<b>Jurisdiction-level understanding of potential climate change impacts</b> <i>Comment: The District's 2020 Urban Water Management Plan discusses climate and climate change considerations. Changing climate affects both water use and supplies. Extreme and higher temperatures lead to increase water use and severe and prolonged droughts could lead to less water available. Due to its elevation relative to the San Francisco Bay (approximately 400 to 600 feet above mean sea level), the District does not have vulnerable assets impacted by sea level rise but understands impacts to regional infrastructure may have the potential to impact Westborough Water District.</i>	Medium
<b>Jurisdiction-level monitoring of climate change impacts</b> <i>Comment: The District follows climate change discussion and planning in the region.</i>	Low
<b>Technical resources to assess proposed strategies for feasibility and externalities</b> <i>Comment: The District takes climate change into account for fiscal and capital planning.</i>	Medium
<b>Jurisdiction-level capacity for development of greenhouse gas emissions inventory</b> <i>Comment: The District used the "Total Utility Approach" to determine water-related energy consumption for 2020. The District is in the process of identifying self-generated renewable energy.</i>	Low
<b>Capital planning and land use decisions informed by potential climate impacts</b> <i>Comment: The District's Water Shortage Contingency Plan serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will take be implemented at various shortage level scenarios.</i>	Medium
<b>Participation in regional groups addressing climate risks</b> <i>Comment: The Westborough Water District is a member of the Bay Area Water Supply &amp; Conservation Agency (BAWSCA) and Association of California Water Agencies (ACWA).</i>	Medium
<b>Implementation Capacity</b>	
<b>Clear authority/mandate to consider climate change impacts during public decision-making processes</b> <i>Comment: The Westborough Water District is governed by an elected five-member board.</i>	Medium
<b>Identified strategies for greenhouse gas mitigation efforts</b> <i>Comment: The District used the "Total Utility Approach" to determine water-related energy consumption for 2020. The District is in the process of identifying self-generated renewable energy.</i>	Low
<b>Identified strategies for adaptation to impacts</b> <i>Comment: Explore other energy conservation measures and possible collaboration(s) with other regional organizations</i>	Low
<b>Champions for climate action in local government departments</b> <i>Comment: Considering actions to reduce greenhouse gases</i>	Low
<b>Political support for implementing climate change adaptation strategies</b> <i>Comment: The Board and District staff support strategies to reduce climate change impacts.</i>	High
<b>Financial resources devoted to climate change adaptation</b> <i>Comment: District budget and capital plans</i>	Low
<b>Local authority over sectors likely to be negative impacted</b> <i>Comment: District does not have authority over negatively impacted sectors.</i>	Low



Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: In general, the local residents are knowledgeable about climate change.</i>	High
Local residents support of adaptation efforts <i>Comment: The District believes local residents supports adaptation to reduce the impacts of climate change.</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment: The District believes local residents are able to adapt to climate impacts.</i>	Medium
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	Unsure
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 35.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 35.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Seismic Improvement Program**—The Seismic Improvement Program is implemented as part of the overall Capital Improvement Program.
- **Seismic Vulnerability Assessment** — The District prepared a Seismic Vulnerability Assessment in May 2012 to simulate what might realistically happen to water supplies for the Westborough Water District following a major earthquake. The results from the assessment will be used to identify improvements to the water distribution system and to develop a Seismic Improvement Program as part of a Capital Improvement Program.
- **Urban Water Management Plan** – The District adopted the latest Urban Water Management Plan in June 2021. This plan focuses on the Westborough Water District’s ability to meet water demand in a reliable and high quality manner, based on past and current water use. Part of the plan considers water shortage contingencies and water supply emergency response.

### 35.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Interim Action Plan**—The Seismic Improvement Program may take many years to implement. In the interim, the following action items can be considered. The three tanks at the Skyline tank site are all vulnerable to significant damage during a large magnitude earthquake. One approach to mitigate this vulnerability is to lower the water levels in the tanks. The District might look into an intertie with the City of San Bruno or possibly another intertie that allows access to SFPUC water, south of the Baden pump station.
- **Capital Improvement Projects** – Capital improvement project proposals may take into consideration hazard mitigation potential as a means of evaluating project prioritization.

## 35.6 RISK ASSESSMENT

### 35.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 35-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 35-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
Earthquake	DR-845	1989	\$25,000

### 35.6.2 Hazard Risk Ranking

Table 35-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 35-10. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	46*	High
2	Landslide	45	Medium
3	Severe Weather	24	Medium
4	Drought	16**	Medium
5	Wildfire	6***	Low
6	Sea Level Rise/Climate Change	5****	Low
7	Flood	5****	Low
8	Tsunami	3	Low
9	Dam Failure	0	Low

\* Based on historical events, earthquakes are the most significant natural hazard to the District.

\*\* Due to 2021 drought emergency declaration for San Mateo County, the District increased the risk ranking score for drought hazard.

\*\*\* The District is mostly developed with trees along Interstate 280.

\*\*\*\* Due to its elevation relative to the San Francisco Bay (approximately 400 to 600 feet above mean sea level), the District does not have vulnerable assets impacted by Flood and Tsunami.

### 35.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Critical facilities such as water infrastructure that includes but is not limited to reservoirs (tanks), pump stations, regulator stations, interties, and communication towers (repeaters) are vulnerable to the effects of earthquakes
- Liquefaction caused by earthquakes creating leaks and damage to water facilities.
- Insufficient supply of water for firefighting purposes during prolonged wildfires.
- Cross country water mains connecting 1) Williams Court and Williamsburg Court, 2) Wren Court and Wright Court, 3) Unwin Court and Liberty Court, and 4) Appian Way and Waverly Court has the potential to break during an earthquake and cause landslides or property damage to nearby homes.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

## 35.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 35-11 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 35-11. Status of Previous Plan Actions**

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>WWD-1</b>—Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas and prioritize those structures that have experienced repetitive losses.</p> <p><i>Comment:</i> The Structural Engineering firm, TJC and Associates, submitted a Final Condition Assessment report on the Skyline Tanks on June 2017. Due to budgetary constraints the District will be designing and implementing the recommendations one tank at a time starting with the most vulnerable tank. The District completed design of Skyline Tank #3. In FY 21-22, the Board will decide when construction will begin.</p>			✓	WBW-1
<p><b>WWD-2</b>— Integrate the hazard mitigation plan into other plans and programs that support infrastructure investments choices, such as the capital improvement program.</p> <p><i>Comment:</i> The District adopted the Long Term Capital Improvement Program (Water) in 2020 which includes projects to support the hazard mitigation plan. The District is working on a sewer CIP and is seeking Board adoption in 2021.</p>			✓	WBW-2
<p><b>WWD-3</b>—Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.</p> <p><i>Comment:</i> The District has an Emergency Disaster Response Plan in place which will guide District staff in responding to an earthquake or other natural disaster. The Emergency Disaster Response Plan will be updated in June 2021.</p>			✓	WBW-4
<p><b>WWD-4</b>—Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><i>Comment:</i> The District will support County-wide initiatives such as mutual collaboration with other participating jurisdictions. The District will participate in future Workshops provided by Tetra Tech, SMC OES and SMC EMA.</p>			✓	WBW-5



Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<p><b>WWD-5</b>—Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><i>Comment:</i> The District will evaluate and monitor the mitigation actions periodically and produce a revised plan every 5 years.</p>			✓	WBW-3
<p><b>WWD-6</b>—Seismic retrofit or replace water tanks (reservoirs) to withstand impacts of earthquakes and to meet State and/or Federal requirements</p> <p><i>Comment:</i> The Structural Engineering firm, TJC and Associates, submitted a Final Condition Assessment report on the Skyline Tanks on June 2017. Due to budgetary constraints the District will be designing and implementing the recommendations one tank at a time starting with the most vulnerable tank. The District completed design of Skyline Tank #3. In FY 21-22, the Board will decide when construction will begin.</p>			✓	WBW-7
<p><b>WWD-7</b>—Install specially-engineered pipelines in areas subject to faulting, liquefaction, earthquake-induced landsliding, or other earthquake hazard.</p> <p><i>Comment:</i> The District identified three locations (King Drive, Christen Hill Tank driveway and Westborough Boulevard) to install earthquake resistant ductile iron pipe where the water main crosses the San Andreas Fault. These projects are identified in CIP Project Numbers 17-02 and 17-05. The main supply to the Skyline tanks was upgraded to include valves on both sides of the San Andreas Fault. The District purchased 700 LF of above ground, flexible emergency pipeline which will connect to the valves and provide a jump if the water main is ruptured at the fault.</p>			✓	WBW-8
<p><b>WWD-8</b>—Relocate water mains in cross country areas to reduce the impact to buildings and critical facilities that could result in landslides or property damage</p> <p><i>Comment:</i> Capital Improvement Program projects were identified to eliminate cross country water mains which have the potential for property damage due to pipe failure.</p>			✓	WBW-9
<p><b>WWD-9</b>—Continue with Water Conservation Program to promote water saving measures and re-use of water during times of drought</p> <p><i>Comment:</i> The District passed and adopted Ordinance No. 69 - Prohibiting Wasteful Water Use Within the District on September 8, 2016 and continues to stress to its customers the importance of water conservation. The District has an updated website with links to Water Conservation and Rebates.</p>			✓	WBW-10
<p><b>WWD-10</b>—Create and maintain defensible space around structures and infrastructure</p> <p><i>Comment:</i> Each year, the District clears vegetation around the tank site within the District property. CIP project W20-10 includes asphalt concrete paving around the Skyline Tanks which will minimize vegetation and erosion around the tanks.</p>			✓	WBW-11
<p><b>WWD-11</b>—Obtain portable emergency generator sized for main Pump Station.</p> <p><i>Comment:</i> The District purchased a 400 KW portable generator in 2020 which was designed to be set up from the parking lots. The generator can be used at the main pump station and Skyline pump station.</p>	✓			
<p><b>Action G-1</b>— Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.</p> <p><i>Comment:</i> The District will support County-wide initiatives such as mutual collaboration with other participating jurisdictions.</p>			✓	WBW-4
<p><b>Action G-2</b>— Actively participate in the plan maintenance protocols outlined in Volume I of the hazard mitigation plan.</p> <p><i>Comment:</i> The District will evaluate and monitor the mitigation actions periodically and produce a revised plan every 5 years.</p>			✓	WBW-5

### 35.8 HAZARD MITIGATION ACTION PLAN

Table 35-12 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 35-13 identifies the priority for each action. Table 35-14 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 35-12. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action WBW-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<u>Hazards Mitigated:</u> Earthquake, Landslide, Climate Change, Severe Weather, Drought, Wildfire						
Existing	6, 7, 9, 12	Westborough Water District	N/A	High	Grant funding- FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action WBW-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Capital Improvement Program.						
<u>Hazards Mitigated:</u> Earthquake, Landslide, Sea Level Rise/Climate Change, Severe Weather, Drought, Wildfire						
New & Existing	2, 6	Westborough Water District Board	N/A	Low	Staff Time, General Funds	Ongoing
<b>Action WBW-3</b> — Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Earthquake, Landslide, Sea Level Rise/Climate Change, Severe Weather, Drought, Wildfire						
Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	Westborough Water District	N/A	Medium	Staff Time, General Funds	Short-term
<b>Action WBW-4</b> — Develop and implement a program to capture perishable data after significant events (e.g., high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Earthquake, Landslide, Sea Level Rise/Climate Change, Severe Weather, Drought, Wildfire						
Existing	1, 2, 6	Westborough Water District	N/A	Low	Staff Time, General Fund	Ongoing
<b>Action WBW-5</b> — Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.						
<u>Hazards Mitigated:</u> Earthquake, Landslide, Sea Level Rise/Climate Change, Severe Weather, Drought, Flood, Wildfire						
New & Existing	1, 2, 6	Westborough Water District	N/A	Low	Staff Time, General Funds	Short-term
<b>Action WBW-6</b> — Purchase stationary generators for critical facilities and infrastructure that lack adequate backup power, including pump stations and District Office.						
<u>Hazards Mitigated:</u> Earthquake, Landslide, Sea Level Rise/Climate Change, Severe Weather, Drought, Wildfire						
Existing	1, 2, 6, 9, 13	Westborough Water District	N/A	Medium	FEMA HMA (BRIC, FMA and HMGP), Staff Time, General Funds	Short-term
<b>Action WBW-7</b> — Seismic retrofit or replace water tanks (reservoirs) to withstand impacts of earthquakes and to meet State and/or Federal requirements.						
<u>Hazards Mitigated:</u> Earthquake						
Existing	1, 2, 6, 9, 13	Westborough Water District	N/A	High	FEMA HMA (BRIC, FMA and HMGP), Staff Time, General Funds	Long-term
<b>Action WBW-8</b> — Install specially-engineered pipelines in areas subject to faulting, liquefaction, earthquake-induced landsliding, or other earthquake hazard.						
<u>Hazards Mitigated:</u> Earthquake, Landslide						
Existing	1, 2, 6, 9, 13	Westborough Water District	N/A	High	FEMA HMA (BRIC, FMA and HMGP), Staff Time, General Funds	Long-term
<b>Action WBW-9</b> — Relocate water mains in cross country areas to reduce the impact to buildings and critical facilities that could result in landslides or property damage						
<u>Hazards Mitigated:</u> Earthquake, Landslide						
Existing	1, 2, 6, 9	Westborough Water District	N/A	Medium	Staff Time, General Funds	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action WBW-10</b> — Continue with Water Conservation Program to promote water saving measures and re-use of water during times of drought.						
<i>Hazards Mitigated:</i> Severe Weather, drought, climate change						
Existing	1, 2, 5, 7	Westborough Water District	N/A	Medium	Staff Time, General Funds	Ongoing
<b>Action WBW-11</b> — Create and maintain defensible space around structures and infrastructure.						
<i>Hazards Mitigated:</i> Wildfire						
Existing	1, 2, 6, 9	Westborough Water District	N/A	Low	Staff Time, General Fund	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 35-13. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	3	High	High	Yes	Yes	No	Medium	High
2	3	Medium	Low	Yes	No	Yes	High	Low
3	3	High	Medium	Yes	Yes	No	Medium	High
4	3	Low	Medium	Yes	No	Maybe	Low	Low
5	3	High	Low	Yes	No	Yes	High	Low
6	5	High	Medium	Yes	Yes	Yes	High	High
7	5	Medium	Medium	Yes	Yes	No	Medium	High
8	5	High	Medium	Yes	No	Yes	High	Medium
9	4	Medium	Medium	Yes	Yes	No	Medium	Medium
10	4	Medium	Medium	Yes	No	No	Medium	Low
11	4	High	High	Yes	Yes	No	Medium	Medium

a. See the introduction to this volume for explanation of priorities.



**Table 35-14. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	WBW-1, 2, 3, 4, 5, 6, 7, 8	WBW-1, 7	WBW-5		WBW-6	WBW-7, 8		WBW-4
<b>Medium-Risk Hazards</b>								
Landslide	WBW-1, 2, 3, 4, 5, 9	WBW-1, 9	WBW-5	WBW-9	WBW-6	WBW-8		
Severe Weather	WBW-1, 2, 3, 4, 5, 7, 10		WBW-5	WBW-10, 11				
Drought	WBW-1, 2, 3		WBW-5	WBW-10			WBW-10	
<b>Low-Risk Hazards</b>								
Wildfire	WBW-1, 2, 3, 4, 5, 7, 11		WBW-5	WBW-10, 11	WBW-6			WBW-4
Sea Level Rise/ Climate Change	WBW-1, 2		WBW-5	WBW-10				
Flood			WBW-5					
Tsunami			WBW-5					
Dam Failure			WBW-5					

a. See the introduction to this volume for explanation of mitigation types.

## 35.9 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- 2020 Urban Water Management Plan (Adopted June 2021) - This UWMP is a foundational document and source of information about the District's historical and projected water demands, water supplies, supply reliability and potential vulnerabilities, water shortage contingency planning, and demand management programs.
- Water Shortage Contingency Plan 2020 Update (Adopted – June 2021) – The plan includes planned response measures to mitigate future water supply shortages.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.

## 35.10 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Westborough Water District updates the long-term Capital Improvement Program on an annual basis, as needed. The District is performing rate studies to identify revenue to fund the Capital Improvement Projects.



# 36. WOODSIDE FIRE PROTECTION DISTRICT

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## 36.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Don Bullard, Fire Marshal  
808 Portola Rd. Suite C  
Portola Valley, CA. 94028  
650-851-1594  
djbullard@woodsidefire.org

### Alternate Point of Contact

Thomas J. Cuschieri, Battalion Chief  
808 Portola Rd. Suite C  
Portola Valley, Ca. 94028  
650-851-1594  
tcuschieri@woodsidefire.org

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 36-1.

**Table 36-1. Local Mitigation Planning Team Members**

Name	Title
Rob Lindner	Fire Chief
Don Bullard	Fire Marshal
Tom Cuschieri	Battalion Chief

## 36.2 JURISDICTION PROFILE

### 36.2.1 Overview

Woodside Fire Protection District (WFPD) serves approximately 25,000 residents through its three fire stations:

- Station 7: Woodside, CA
- Station 8: Portola Valley, CA
- Station 19: Redwood City, CA

The Fire District consists of 55 personnel paid and volunteer staff that seek to protect the life, property, and environment through prevention, education, preparedness, and emergency response.

The residents of Woodside and Portola Valley began volunteering as firefighters at the Woodside Fire District in 1924; other residents began supporting the mission of the district through administrative and governing roles. The District was established in 1925. Although the Fire District originally began solely as a response organization, its scope has gradually expanded to include education, prevention, and preparedness. In the 1960s, the District began using self-contained breathing apparatus and in the 1970s, it added hazardous materials (HazMat) training to further ensure the safety of its responders. Engine companies began carrying medical equipment such as



defibrillators beginning in the 1980s while the 1990s led to the advent of special operations, i.e., engine and transport-based paramedics, confined space, swift water, trench, low and high-angle rope rescue.

The WFPD is led by a Board of Directors and a Fire Chief. The Board oversees the regular review of District Finances and serves in an advisory role to ensure the WFPD achieves its long- and short-term goals. Board meetings typically include discussion on training, operations, emergency medical services (EMS), fire prevention activities, and more.

The Board of Directors assumes responsibility for the adoption of this plan; The Woodside Fire Protection District will oversee its implementation.

The District participates in the Public Protection Class Rating System and currently has an #ISO rating of 02/2X.

### 36.2.2 Service Area

The district serves a daytime population of 25,000 people. Its service area covers an area of 32 square miles and includes the communities of Woodside, Portola Valley, Emerald Hills, Ladera, Los Trancos, Skyline, Vista Verde, and some unincorporated areas of San Mateo County.

### 36.2.3 Assets

Table 36-2 summarizes the assets of the district and their value.

Asset	Value
<b>Property</b>	
3 acres of land	\$17,900,000.
<b>Equipment</b>	
1997 Pierce Pumper Tanker	\$318,000.00
2000 GMC Service	\$5,000.00
2000 Pierce Rescue Hvy	\$365,000.
2001 Chevy First Responder	\$10,000.00
2004 Trailer Training Trl	\$25,000
2005 Chipper Trailer	\$20,000
2004 Chevy First Responder	\$35,000
2005 Chevy First Responder	\$35,000
1996 Ford First Responder	\$10,000
2009 Seagrave Pumper Ldh	\$200,000
2009 Seagrave Pumper Ldh	\$200,000
2011 Ford First Responder	\$175,000
2012 Polaris ATV	\$29,000
2012 Seagrave Pumper	\$500,000
2013 Chevy First Responder	\$80,000
2014 Chevy Silverado	\$30,000
2014 Chevy First Responder	\$36,311
2015 Chevy First Responder	\$60,000
2015 Chevy First Responder	\$60,000
2008 Bandit Chipper	\$17,500
2016 Chevy First Responder	\$80,000
2016 Chevy First Responder	\$80,000
2015 Seagrave Pumper 1F9EM28TXGKS2007	\$625,000

Asset	Value
2017 Chevy First Responder 1GNSKBKC8JR132739	\$80,000
2019 Chevy First Responder	\$85,000
2018 Seagrave First Responder	\$800,000
2021 Bandit Chipper	\$80,000
2021 Green Climber Masticator	\$150,000
2021 Masticator Trailer	\$20,000
2021 Chevy 5500 Chipper Box truck	\$100,000
<i>Total:</i>	\$4,311,198.00
<b>Critical Facilities and Infrastructure</b>	
Woodside Fire Station 7, 3111 Woodside Rd, Woodside	\$5.6 million
Woodside Fire Station 8, 135 Portola Road, Portola Valley	\$3.1 million
Woodside Fire Station 19, 4091 Jefferson Ave, Redwood City	\$17.9 million
<i>Total:</i>	\$26.1 million

### 36.3 CURRENT TRENDS

The Woodside Fire Protection District like many other fire departments is all risk. Year after year the demand for calls has shown in increase for service. These increases come in the form of fire, EMS, public assists, community risk reduction programs, mutual aid, and pandemic emergencies. The Woodside Fire Protection District has adapted to these trends by increasing our training and our staffing in certain areas. The fire service has continually adapted and trained to be ready to respond to a broader array of emergencies, both natural and manmade. The fire service also continues to engage in firefighter safety, health, and wellness for the overall wellbeing of our department members. Trends will also continue to grow in the areas of public health responsibility like we are seeing with the pandemic and COVID-19. The fire service is now becoming more involved and responsible for public health emergencies to help out in clinical settings to help treat the community. Overall budgets will be affected by this increase and departments will be stretched to do more with fewer resources.

### 36.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 36-3.
- An assessment of fiscal capabilities is presented in Table 36-4.
- An assessment of administrative and technical capabilities is presented in Table 36-5.
- An assessment of education and outreach capabilities is presented in Table 36-6.
- Classifications under various community mitigation programs are presented in Table 36-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 36-8.

**Table 36-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
Town of Woodside Evacuation Plan	4/12/18	
Town of Woodside Evacuation Plan-Unincorporated San Mateo County	4/12/18	
Town of Portola Valley Evacuation Plan	4/12/18	
<b>Fire Prevention Standards</b>		
Photovoltaic Solar Installation Standards	1/1/20	
Residential Sprinkler Plan Submittal	1/1/20	
Residential Water Supply + Hydrants	1/1/20	
Roadways/Driveways Requirements	1/1/20	
Residential Plan Submittal	1/1/20	
Solar System Requirements	1/1/20	
Generator Requirements	1/1/20	
Woodside Fire Code Ordinance No. 12	1/1/20	
Perimeter Clearing Requirements	1/1/20	
California Building Code (CBC) 7A	1/1/20	
WUI-Approved Products (Per CBC 7A)	1/1/20	
2019 California Fire Code	1/1/20	Adopted in its entirety
2019 California Building Code	1/1/20	Adopted in its entirety

**Table 36-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	No
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
State-Sponsored Grant Programs	Yes; 2018 CAL Fire Teague Hill Grant, 2019 CAL Fire SMC Hazardous Fuel Grant , 2021 PG&E Grant, State Coastal Conservancy Grants, Potential Future State Grants for Home Hardening, Forest Health and Hazardous fuel Reduction. Firesafe Clearinghouse Grants. All above grants are run jointly with San Mateo County Fire Safe and the Fire District.
Development Impact Fees for Homebuyers or Developers	No
Federal Grant Programs	FEMA Assistance to Firefighters, Safety and Public Education Grants
Other	Yes, private donations to the Woodside Portola Valley Fire Protection Foundation



**Table 36-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?	Department/Agency/Position
Planners or engineers with knowledge of land development and land management practices	No	
Engineers or professionals trained in building or infrastructure construction practices	Yes	Fire Prevention Division, Facilities Division
Planners or engineers with an understanding of natural hazards	No	
Staff with training in benefit/cost analysis	No	
Surveyors	No	
Personnel skilled or trained in GIS applications	Yes	Recently trained and work with the City of San Mateo on GIS Applications for District Fire Pre-Plans.
Scientist familiar with natural hazards in local area	No	
Emergency manager	No	
Grant writers	Yes	Formed a grant writing team of 3 individuals with support from staff around the year 2010.
Other	Yes	Public Education Specialist/CERPP Coordinator

**Table 36-6. Education and Outreach**

Criterion	Response
Do you have a public information officer or communications office?	Yes, Public Education Specialist/CERPP Coordinator,
Do you have personnel skilled or trained in website development?	Yes, Information Technology (IT) Division
Do you have hazard mitigation information available on your website? <i>If yes, please briefly describe</i>	No Public Education Section on Website includes Disaster/Emergency Preparedness Information; Fire Prevention section of Webpage
Do you use social media for hazard mitigation education and outreach? <i>If yes, please briefly describe</i>	Yes Twitter, Instagram, Nextdoor, PV Forum and Facebook
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, please briefly specify</i>	Yes (more Emergency preparedness/prevention than mitigation) On a preparedness level we have WPV-Ready and on a response level (which incorporates components of preparedness) we have WPV-CERT, Ready, Set Go and Firewise Programs
Do you have any other programs already in place that could be used to communicate hazard-related information? <i>If yes, please briefly describe</i>	Yes Fire Adaptive Community Program, Home Safety Checks, Girl/Boy Scout Fire Safety, Various Other Public Education Programs
Do you have any established warning systems for hazard events? <i>If yes, please briefly describe</i>	Yes SMC Alert System, Rapid Notify

**Table 36-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	No	N/A	N/A
DUNS#	Yes	009012824	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	No	N/A	N/A
Public Protection	No	N/A	N/A
Storm Ready	No	N/A	N/A
Firewise	Yes	Firewise Community	2021
Tsunami Ready	No	N/A	N/A

**Table 36-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Impacts are understood particularly as they relate to increased wildfire activity</i>	High
Jurisdiction-level monitoring of climate change impacts <i>Comment: Impacts are being monitored particularly toward wildfire and Public health and safety</i>	High
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment:</i>	Unsure
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment:</i>	Unsure
Capital planning and land use decisions informed by potential climate impacts <i>Comment: CPAW Grant allowing utilization of planners, foresters, economists, and researcher sand wildfire hazard modelers</i>	High
Participation in regional groups addressing climate risks <i>Comment: California Firesafe Councils</i>	High
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment:</i>	Medium
Identified strategies for greenhouse gas mitigation efforts <i>Comment:</i>	Unsure
Identified strategies for adaptation to impacts <i>Comment: Strategies identified and implemented toward wildfire hazards and risk</i>	High
Champions for climate action in local government departments <i>Comment: Ad Hoc Wildfire Committees, Firesafe Councils</i>	High
Political support for implementing climate change adaptation strategies <i>Comment: SMC Government</i>	High
Financial resources devoted to climate change adaptation <i>Comment:</i>	High
Local authority over sectors likely to be negative impacted <i>Comment:</i>	Unsure

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Local residents are very knowledgeable, understand and are engaged</i>	High
Local residents support of adaptation efforts <i>Comment:</i>	High
Local residents' capacity to adapt to climate impacts <i>Comment:</i>	High
Local economy current capacity to adapt to climate impacts <i>Comment:</i>	High
Local ecosystems capacity to adapt to climate impacts <i>Comment:</i>	Unsure

- a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement;  
Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 36.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for future integration. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 36.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Fire Prevention Section of Website** -- This portion of the website contains useful information, resources, and actions that can be taken at the property owner level to reduce risk to wildfires, house fires, and associated hazards. Information includes legislation and regulations for fire safety, natural resource measures (i.e., defensible space), and structural initiatives.
- **Public Education Program** – One of the core elements of the WFPD’s mission is to increase the preparedness and prevention of fire hazards within the communities it serves. To that end, it has developed a comprehensive public education program that includes online resources, in person trainings, community events, and more. The public education program is targeted towards both children and adults to create a culture of resilience.
- **Professional Trainings** – All WFPD fire suppression personnel are certified to the California State Firefighter II level and actively involved in the California Incident Command Certification Program. District staff spend approximately 37,700 training hours annually to enhance their knowledge in many topics to ensure that they are able to respond to events quickly, safely, and with maximum opportunity for success. Additionally, every member of the WFPD is trained to the emergency medical technician (EMT) level and most are trained and hold the advanced EMT-P license to provide advanced life support.
- **Evacuation Planning** – The WFPD has developed an evacuation plan to apply to the jurisdictions whose residents it serves. The plans are reviewed and approved annually, and they contain guidelines for evacuation procedures for the community, including how evacuation relates to the following categories:



- All hazards evacuation planning
- Shelter requirements
- Transportation
- Traffic control
- Special facilities and special needs populations
- Non-resident/tourist evacuations
- Animal evacuations

The plans also include designation of roles and responsibilities, direction and control, the readiness levels utilized by WFPD, administration and support (records, plan maintenance, training), and references.

- **Community Planning Assistance for Wildfire** (Grant Award to Woodside Fire) – Community Planning Assistance for Wildfire (CPAW) provides communities with land use planning solutions to better manage their wildland-urban interface (WUI). Established in 2015 by Headwaters Economics, CPAW is funded by the US Forest Service and private foundations. The CPAW team includes planners, foresters. Economists, researchers, and wildfire hazard modelers. All services and recommendations come at no cost to the community.
- **Woodside Fire Protection District Emergency Evacuation Plan**—The purpose of this plan is to provide for the orderly and coordinated evacuation of all or any part of the population of the Woodside Fire Protection District if it is determined that such action is the most effective means available for protecting the population from the effects of an emergency situation.

### 36.5.2 Opportunities for Future Integration

The capability assessment presented in this annex identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **Public Education and Outreach**—Expand Disaster Preparedness Webpage to include the results of the hazard mitigation plan (HMP) update. Develop a comprehensive public information program that also coordinates hazard mitigation with the other public education initiatives.
- **Continued Integration with Jurisdictional Plans**—WFPD, San Mateo County, and the cities within San Mateo County have all developed numerous plans to facilitate long-term growth, implementation of strategic goals/mission, and increased resiliency. WFPD plays an important role in the County as it enhances the safety of many residents. This HMP update marks one way in which WFPD will focus on increasing the coordination between District plans, County plans, and City plans to ensure that local governance considers the unique capabilities and resources of WFPD during a hazard event.
- **WPV-Ready**—WPV-Ready is our local emergency preparedness organization. WPV-Ready operates in the Woodside Fire Protection District (WFPD), providing Emergency Preparedness information, education, and resources. We cover the towns of Woodside and Portola Valley, and un-incorporated areas of San Mateo County including Emerald Hills, Ladera, Los Trancos, Skyline, and Vista Verde. Our goal is to reach every individual and neighborhood in the district and help them become prepared for emergencies like wildland fires and earthquakes.
- **WPV-CERT** – The WPV-CERT program educates volunteers about disaster preparedness for the hazards that may impact their area and trains them in basic disaster response skills so they may assist their neighbors in the event of an emergency. Skills include: fire safety, light search and rescue, team organization, and disaster medical operations.

## 36.6 RISK ASSESSMENT

### 36.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 36-9 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

**Table 36-9. Past Natural Hazard Events**

Type of Event	FEMA Disaster #	Date	Damage Assessment
CZU Fire	N/A	August 2020	WFPD assisted in a multi-jurisdictional response to the 2020 CZU Fire as part of a Type 6 wildfire strike team response.
COVID	N/A	January 20, 2020 - ongoing	Affected our workforce and entire District. Responded to calls for hospital transport. Fire Prevention and Public Education responsibilities were disrupted.
PSPS	N/A	Summer 2020	Stations lost power – Had to use emergency generators. Stations were used as customer resource centers for the public.
Severe Storm(s)	N/A	Winter 2018-2019	Significant power outages in Woodside and Portola Valley. Trees down, wires down and landslides on Hwy 84. Affects our response ability.
Fire	FM-2856	September 10, 2010	WFPD assisted in a multi-jurisdictional response to the 2010 San Bruno Pipeline explosion and subsequent wildfire response.
Fire	N/A	August 2002	WFPD personnel assisted in the 6- alarm response to the 2002 Albion Fire.
Severe Storm(s)	DR-1155	January 4, 1997	The District responded to landslides throughout their service area during the 1997 El Nino storms.
Fire	N/A	1992	A water tender and Type 6 patrol experienced some damage.
Earthquake	DR-845	October 18, 1989	Unknown
Fire (Santa Clara County)	N/A	1986	WFPD responded to a multi-county, multi-jurisdiction fire in Palo Alto for a massive wildfire at the Arastradero Preserve.

### 36.6.2 Hazard Risk Ranking

Table 36-10 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 36-10. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1	Earthquake	36	High
2	Landslide/Mass Movements	32	High
3	Wildfire	30	High
4	Severe Weather	24	Medium
5	Flood	20	Medium
6	Sea Level Rise/Climate Change	16	Low
7	Drought	9	Low
8	Dam Failure	6	Low
9	Tsunami	2	Low

### 36.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Multiple major geologic fault lines run through the fire district exposing critical infrastructure and affecting our response ability and our ability to receive mutual- aid response.
- Overhead above ground utilities infrastructure exposes the fire district to power outages during severe weather and wildfire ignitions during fire season.

Mitigation actions addressing these issues were prioritized for consideration in the action plan for this annex.

### 36.7 STATUS OF PREVIOUS PLAN ACTIONS

Table 36-11 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 36-11. Status of Previous Plan Actions**

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action WFPD-1</b> —Purchase new equipment for district response, including water tenders, rescue vehicles, and SUVs/Pick-up Trucks and chipper program equipment. <i>Comment: Removed, determined to be a response activity.</i>		✓		
<b>Action WFPD-2</b> —Purchase a Type 3 Wildland Rig for regional response capabilities to large scale wildfires and provide training on operation for district staff. <i>Comment: Removed, determined to be a response activity.</i>		✓		
<b>Action WFPD-3</b> —Replace permanent generators at Station 7 and Station 8 to ensure continuity of operations in case of a power outage. <i>Comment: Incorporating into new station rebuild and remodel.</i>			✓	WFPD-5
<b>Action WFPD-4</b> —Conduct engineering study on the impact of the Berrocal Fault on Station 8. Based on results, identify alternate location for Station 8. <i>Comment: Soil impact study done for station remodel.</i>			✓	WFPD-7
<b>Action WFPD-5</b> — Reach 25% of district homes (approximately 375) in pursuit of the District's Fire Adapted Communities program by 2021 through expansion and increased support of the Deputy Fire Marshal's current public outreach initiatives. <i>Comment: Completed outreach to 100% of district homes.</i>	✓			
<b>Action WFPD-6</b> — Develop a strategic expansion plan for the district that identifies milestones for 5, 10, and 15 years. <i>Comment: Ongoing with two new stations currently in the planning stages for new development and expansion</i>			✓	WFPD-8
<b>Action WFPD-7</b> — Purchase and develop additional land for district operation expansion for Station 7 pursuant to strategic plan recommendations. <i>Comment: Ongoing. Evaluating the need to purchase and develop additional land for administrative office needs.</i>			✓	WFPD-9



Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
<b>Action WFPD-8</b> —Where appropriate, support retrofitting, purchase, or relocation of structures in hazard-prone areas to prevent future structure damage. Give priority to properties with exposure to repetitive losses. <i>Comment: Ongoing. Current studies are being done to evaluate the need given two new stations are in the planning process to be built in the near future.</i>			✓	WFPD-1
<b>Action WFPD-9</b> —Continue to support the countywide actions identified in this plan. <i>Comment: Ongoing. WFPD is committed to supporting countywide actions to the MJLHMP as we are currently engaged in moving forward in the 2021 update</i>			✓	WFPD-6
<b>Action WFPD-10</b> —Actively participate in the plan maintenance strategy identified in this plan. <i>Comment: WFPD has three Command staff personnel actively engaged and participating in the plan update and maintenance.</i>			✓	WFPD-3
<b>Action WFPD-11</b> —Integrate the hazard mitigation plan into other plans, programs, or resources, that dictate land use or redevelopment. <i>Comment: One aspect of integration will be with the Community Planning Assistance for Wildfire who will be assisting WFPD with free services we are receiving from them on a grant to assist in land use planning for wildfire.</i>			✓	WFPD-2

## 36.8 HAZARD MITIGATION ACTION PLAN

Table 36-12 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 36-13 identifies the priority for each action. Table 36-14 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 36-12. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action WFPD-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas to prevent future structure damage, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas. <u>Hazards Mitigated:</u> Climate Change, Dam Failure, Drought, Earthquake, Flood, Landslide/Mass Movement, Severe Weather, Wildfire Existing	1, 2, 5, 6, 7, 8, 9, 10, 11, 13	WFPD	Town of Woodside, Town of Portola Valley, SMCO Unincorporated, Cal-Water, Cal-Fire	High	Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action WFPD-2</b> —Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Community Planning Assistance for Wildfire grant team who will be assisting WFPD with free services in land use planning for wildfire. <u>Hazards Mitigated:</u> Climate Change, Dam failure, Drought, Earthquake, Flood, Landslide/Mass Movement, Severe Weather, Wildfire New & Existing	1, 2, 5, 6, 7, 8, 9, 10, 11, 13	WFPD	Town of Woodside, Town of Portola Valley, SMCO Unincorporated, Cal-Water, Cal-Fire	Low	Staff Time, General Funds,	Ongoing

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action WFPD-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam Failure, Drought, Earthquake, Flood, Landslide/Mass Movement, Severe Weather, Wildfire						
New & Existing	1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	WFPD	Town of Woodside, Town of Portola valley, SMCU Unincorporated, Cal-Water, Cal-Fire	Low	Staff Time, General Funds	Short-term
<b>Action WFPD-4</b> —Identify and pursue strategies to increase adaptive capacity to climate change.						
<u>Hazards Mitigated:</u> Climate Change, Drought, Wildfire						
New & Existing	1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 13	WFPD	Town of Woodside, Town of Portola Valley, SMCU Unincorporated, Cal-Water, Cal-Fire	Low	Staff Time, General Funds, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Ongoing
<b>Action WFPD-5</b> — Purchase stationary generators for critical facilities and infrastructure that lack adequate backup power, including our new station 7, newly remodeled station 8 and our administrative building.						
<u>Hazards Mitigated:</u> Dam failure, earthquake, flooding, Landslide/Mass Movements, severe weather, tsunami, wildfire						
Existing	2, 8, 9, 11, 13	WFPD	None	Low	Staff Time, General funds, Grant Funding- FEMA HMA (BRIC, FMA and HMGP)	Short-term
<b>Action WFPD-6</b> — Continue to support the countywide actions identified in this plan.						
<u>Hazards Mitigated:</u> Sea Level Rise/Climate Change, Dam failure, Drought, Earthquake, Flood, Landslide/Mass movement, Severe Weather, Tsunami, Wildfire						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14	WFPD	None	Medium	Staff Time, General Funds	Short-Term
<b>Action WFPD-7</b> — Conduct engineering study on the impact of the Berrocal Fault on Station 8. Based on results, identify alternate location for Station 8.						
<u>Hazards Mitigated:</u> Earthquake, Landslide/Mass movement, Wildfire						
Existing	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 13	WFPD	Town of Woodside, Town of Portola Valley, SMCU Unincorporated	Low	Staff Time General Fund	Short-term
<b>Action WFPD-8</b> — Develop a strategic expansion plan that includes response and mitigation activities for the district that identifies milestones for 5, 10, and 15 years.						
<u>Hazards Mitigated:</u> Climate Change, Drought, Earthquake, Flood, Landslide/Mass Movement, Severe Weather, Wildfire						
New & Existing	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 13	WFPD	None	Low	Staff Time, General Funds, Grant Funding-AFG and SAFER	Ongoing
<b>Action WFPD-9</b> — Purchase and develop additional land for district operation expansion for Station 7 pursuant to strategic plan recommendations.						
<u>Hazards Mitigated:</u> Climate Change, Drought, Earthquake, Flood, Landslide/Mass movement, Severe weather, Wildfire						
New & Existing	1, 2, 5, 6, 7, 8, 9, 10, 11, 13	WFPD	Town of Woodside, Town of Portola Valley	Medium	Staff Time General funds, Grant Funding- AFG and SAFER	Short-term

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action WFPD-10</b> —Reach 100% of District homes and neighborhoods (approximately 6000 homes) in pursuit of the Districts Fire Adapted Communities and Community Planning Assistance for Wildfire (CPAW) programs by 2026 through expansion and increased CPAW support of our current public outreach initiatives. This includes creating fire resilient and fire safe communities through the development of a CWPP.						
<i>Hazards Mitigated:</i> Climate Change, Drought, Earthquake, Severe Weather, Wildfire						
New & Existing	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13	WFPD	Town of Woodside, Town of Portola Valley, SMCU Unincorporated	Low	Staff Time General fund, Forest Service Grant (CPAW)	Ongoing

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date

Acronyms used here are defined at the beginning of this volume.

**Table 36-13. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Eligible for Outside Funding?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Outside Funding Source Pursuit Priority <sup>a</sup>
1	10	High	High	Yes	Yes	No	Medium	High
2	10	Medium	Low	Yes	Yes	Yes	High	High
3	12	High	Low	Yes	No	Yes	Medium	Low
4	11	High	Low	Yes	Yes	Yes	High	High
5	5	High	Low	Yes	Yes	Yes	High	High
6	14	High	Low	Yes	No	Yes	High	Low
7	11	Medium	Low	Yes	Yes	Yes	High	High
8	11	Medium	Low	Yes	Yes	Yes	High	Medium
9	10	High	Medium	Yes	Yes	No	Medium	High
10	12	High	Low	Yes	Yes	Yes	High	High

a. See the introduction to this volume for explanation of priorities.



**Table 36-14. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
Earthquake	2, 3, 4, 6, 7, 8, 10	1, 2, 3, 4, 5, 6, 7, 8	10	3, 4, 6, 10	5	6	3, 4, 6, 10	2, 3, 4, 6, 7, 8, 9, 10
Landslide/Mass Movements	2, 3, 4, 6, 7, 8, 10	1, 2, 3, 4, 5, 6, 7, 8	10	1, 2, 3, 4, 6, 10	5	6	3, 4, 6, 8	2, 3, 4, 6, 8, 9, 10
Wildfire	2, 3, 4, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9	10	1, 2, 3, 4, 6, 10	5	6	2, 3, 4, 6, 10	2, 3, 4, 6, 7, 8, 9, 10
<b>Medium-Risk Hazards</b>								
Severe Weather	2, 3, 4, 6, 10	1, 2, 3, 4, 5, 6, 8	10	2, 3, 4, 7, 10	5		2, 3, 4, 10	2, 3, 4, 7, 8, 9, 10
Flood	2, 3, 4, 6, 7, 8, 9, 10	1, 2, 3, 4, 5, 6, 7, 8, 9	10	2, 3, 4, 6, 7, 8, 1	5	6	2, 3, 4, 6, 8, 10	2, 3, 4, 6, 7, 8, 9, 10
<b>Low-Risk Hazards</b>								
Sea Level Rise/Climate Change	2, 3, 4, 6, 8, 10	1, 2, 3, 4, 6, 8, 9	10	2, 3, 4, 6, 8, 10	5	6	2, 3, 4, 6, 8, 10	2, 3, 4, 6, 7, 8, 9, 10
Drought	2, 3, 4, 6, 8, 10	1, 2, 3, 4, 6, 8, 9	10	2, 3, 4, 6, 8, 10	5	6	2, 3, 4, 6, 8, 10	2, 3, 4, 6, 7, 8, 9, 10
Dam failure	2, 3, 4, 6, 8, 9	1, 2, 3, 4, 5, 6, 8, 9		2, 3, 4, 6, 8	5	6	2, 3, 4, 6, 8	2, 3, 4, 6, 7, 8, 9
Tsunami	2, 3, 6	1, 2, 3, 4, 6, 9		2, 3, 6			2, 3, 6	2, 3, 6, 7, 8, 9, 10

a. See the introduction to this volume for explanation of mitigation types.

### 36.9 PUBLIC OUTREACH

Table 36-15 lists public outreach activities for this jurisdiction.

**Table 36-15. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
No additional public outreach		

### 36.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **2016 San Mateo County MJLHMP** was used to research data entered into the 2016 plan and decipher what information was needed to bring forward to the updated plan.

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.





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2021 Multijurisdictional Local Hazard Mitigation Plan

## **Appendix A. Planning Partner Expectations**

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## A. PLANNING PARTNER EXPECTATIONS

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The federal Disaster Mitigation Act (DMA) of 2000 (Public Law 106-390), commonly known as the 2000 Stafford Act amendments, was approved by Congress on October 10, 2000. This act required state and local governments to develop hazard mitigation plans as a condition for federal grant assistance. Among other things, this legislation reinforces the importance of pre-disaster infrastructure mitigation planning to reduce disaster losses nationwide. DMA 2000 is aimed primarily at the control and streamlining of the administration of federal disaster relief and programs to promote mitigation activities. Prior to 2000, federal legislation provided funding for disaster relief, recovery, and some hazard mitigation planning. The DMA improves upon the planning process by emphasizing the importance of communities planning for disasters before they occur.

The Disaster Mitigation Act defines a “local government” as:

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

Any local government wishing to pursue funding afforded under FEMA Hazard Mitigation Grant Programs must have an approved hazard mitigation plan in order to be eligible to apply for these funds.

One of the goals of the multi-jurisdictional approach to hazard mitigation planning is to achieve compliance with the Disaster Mitigation Act (DMA) for all participating members in the planning effort. DMA compliance must be certified for each member in order to maintain eligibility for the benefits under the DMA. Whether our planning process generates ten individual plans or one large plan that has a chapter for each partner jurisdiction, the following items must be addressed by each planning partner to achieve DMA compliance:

- Participate in the process. It must be documented in the plan that each planning partner “participated” in the process that generated the plan. There is flexibility in defining “participation.” Participation can vary based on the type of planning partner (i.e.: City vs. a Special Purpose District). However, the level of participation must be defined and the extent for which this level of participation has been met for each partner must be contained in the plan context.
- Consistency Review. Review of existing documents pertinent to each jurisdiction to identify policies or recommendations that are not consistent with those documents reviewed in producing the “parent” plan or have policies and recommendations that complement the hazard mitigation initiatives selected (i.e.: comp plans, basin plans or hazard specific plans).
- Action Review. For plan updates, a review of the strategies from your prior action plan to determine those that have been accomplished and how they were accomplished; and why those that have not been accomplished were not completed.



- Update Localized Risk Assessment. Personalize the Risk Assessment for each jurisdiction by removing hazards not associated with the defined jurisdictional area or redefining vulnerability based on a hazard’s impact to a jurisdiction. This phase will include:
  - A ranking of the risk
  - A description of the number and type of structures at risk
  - An estimate of the potential dollar losses to vulnerable structures
  - A general description of land uses and development trends within the community, so that mitigation options can be considered in future land use decisions.
- Capability assessment. Each planning partner must identify and review their individual regulatory, technical, and financial capabilities with regards to the implementation of hazard mitigation actions.
- Personalize mitigation recommendations. Identify and prioritize mitigation recommendations specific to each jurisdiction’s defined area.
- Create an Action Plan.
- Incorporate Public Participation. Each jurisdiction must present the Plan to the public for comment at least once, within two weeks prior to adoption.
- Plan must be adopted by each jurisdiction.

One of the benefits to multi-jurisdictional planning is the ability to pool resources. This means more than monetary resources. Resources such as staff time, meeting locations, media resources, technical expertise will all need to be utilized to generate a successful plan. In addition, these resources can be pooled such that decisions can be made by a peer group applying to the whole and thus reducing the individual level of effort of each planning partner. This will be accomplished by the formation of a steering committee made up of planning partners and other “stakeholders” within the planning area. The size and makeup of this steering committee will be determined by the planning partnership. This body will assume the decision-making responsibilities on behalf of the entire partnership. This will streamline the planning process by reducing the number of meetings that will need to be attended by each planning partner. The assembled Steering Committee for this effort will meet monthly on an as needed basis as determined by the planning team, and will provide guidance and decision making during all phases of the plan’s development.

With the above participation requirements in mind, each partner is expected to aid this process by being prepared to develop its section of the plan. To be an eligible planning partner in this effort, each planning partner shall provide the following:

- A. A “Letter of Commitment” or resolution to participate to the Planning Team (see Exhibit A).
- B. Designate a lead point of contact for this effort. This designee will be listed as the hazard mitigation point of contact for your jurisdiction in the plan.
- C. Support and participate in the selection and function of the Steering Committee selected to oversee the development of this plan.
- D. Provide support in the form of mailing list, possible meeting space, and public information materials, such as newsletters, newspapers, or direct mailed brochures, required to implement the public involvement strategy developed by the Steering Committee.
- E. Participate in the process. There will be many opportunities as this plan evolves to participate. Opportunities such as:
  - i) Steering Committee meetings

- ii) Public meetings or open houses
- iii) Workshops/ planning partner specific training sessions
- iv) Public review and comment periods prior to adoption

At each and every one of these opportunities, attendance will be recorded. Attendance records will be used to document participation for each planning partner. No thresholds will be established as minimum levels of participation. However, each planning partner should attempt to attend all possible meetings and events.

- F. There will be one mandatory workshop that all planning partners will be required to attend. This workshop will cover the proper completion of the jurisdictional annex template which is the basis for each partner's jurisdictional chapter in the plan. Failure to have a representative at this workshop will disqualify the planning partner from participation in this effort. The schedule for this workshop will be such that all committed planning partners will be able to attend.
- G. After participation in the mandatory template workshop, each partner will be required to complete their template and provide it to the planning team in the time frame established by the Steering Committee. Failure to complete your template in the required time frame may lead to disqualification from the partnership.
- H. Each partner will be expected to perform a "consistency review" of all technical studies, plans, ordinances specific to hazards to determine the existence of any not consistent with the same such documents reviewed in the preparation of the parent plan.
- I. Each partner will be expected to review the Risk Assessment and identify hazards and vulnerabilities specific to its jurisdiction. Contract resources will provide the jurisdiction specific mapping and technical consultation to aid in this task, but the determination of risk and vulnerability will be up to each partner.
- J. Each partner will be expected to review and determine if the mitigation recommendations chosen in the parent plan will meet the needs of its jurisdiction. Projects within each jurisdiction consistent with the parent plan recommendations will need to be identified and prioritized, and reviewed to determine their benefits vs. costs.
- K. Each partner will be required to create its own action plan that identifies each project, who will oversee the task, how it will be financed and when it is estimated to occur.
- L. Each partner will be required to formally adopt the plan.

Templates and instructions to aid in the compilation of this information will be provided to all committed planning partners. Each partner will be expected to complete their templates in a timely manner and according to the timeline specified by the Steering Committee.

**NOTE:** Once this plan is completed, and DMA compliance has been determined for each partner, maintaining that eligibility will be dependent upon each partner implementing the plan implementation-maintenance protocol identified in the plan. At a minimum, this means completing the ongoing plan maintenance protocol identified in the plan. Partners that do not participate in this plan maintenance strategy may be deemed ineligible by the partnership, and thus lose their DMA eligibility.

Eligible entities that do not wish to participate in the multi-jurisdictional planning process or fail to meet the requirements contained in this document may choose to link to the plan in pursuit of future adoption after the completion of the current effort.

**Exhibit A**  
**Example Letter of Commitment**

Dan Belville, Director  
San Mateo County Office of Emergency Services  
501 Winslow St.  
Redwood City, CA 94063

Re: Letter of Commitment as a Participating Jurisdiction in the San Mateo County Multijurisdictional Hazard Mitigation Plan Update Plan 2021

Dear Office of Emergency Services,

As the Federal Emergency Management Agency’s (FEMA) local hazard mitigation plan requirements under 44 CFR §201.6 identify criteria for multi-jurisdictional mitigation plans including the participation and collaboration of regional planning and mitigation partners, this letter of commitment is submitted to confirm the participation of <insert agency name> as a Planning Partner in the *San Mateo County Multijurisdictional Hazard Mitigation Plan Update Plan 2021*.

As a condition of participation, <insert agency name> agrees to meet the requirements for mitigation plans identified in 44 CFR §201.6, and to provide timely cooperation and participation to produce a FEMA-approved hazard mitigation plan with the County of San Mateo.

<insert agency name> understands that it must engage in the following planning processes, as detailed in FEMA’s *Local Multi-Hazard Mitigation Planning Guidance* dated March 1, 2013. Planning processes include, but are not limited to the following:

- Review of existing 2016 San Mateo County Multijurisdictional Hazard Mitigation Plan
- Identification of local hazards, risk assessment, and vulnerability analysis
- Participation in the formulation of mitigation goals and actions
- Participation in community engagement and public outreach in the development of the plan
- Timely response to requests for information by the coordinating agency and consultants, and adherence to established deadlines
- Formal adoption of the hazard mitigation plan by the planning partner jurisdiction’s governing body
- Tracking and monthly submission of personnel hours spent on the hazard mitigation planning effort

Sincerely,

Name \_\_\_\_\_

Title \_\_\_\_\_



**Exhibit B**  
**Planning Team Contact information**

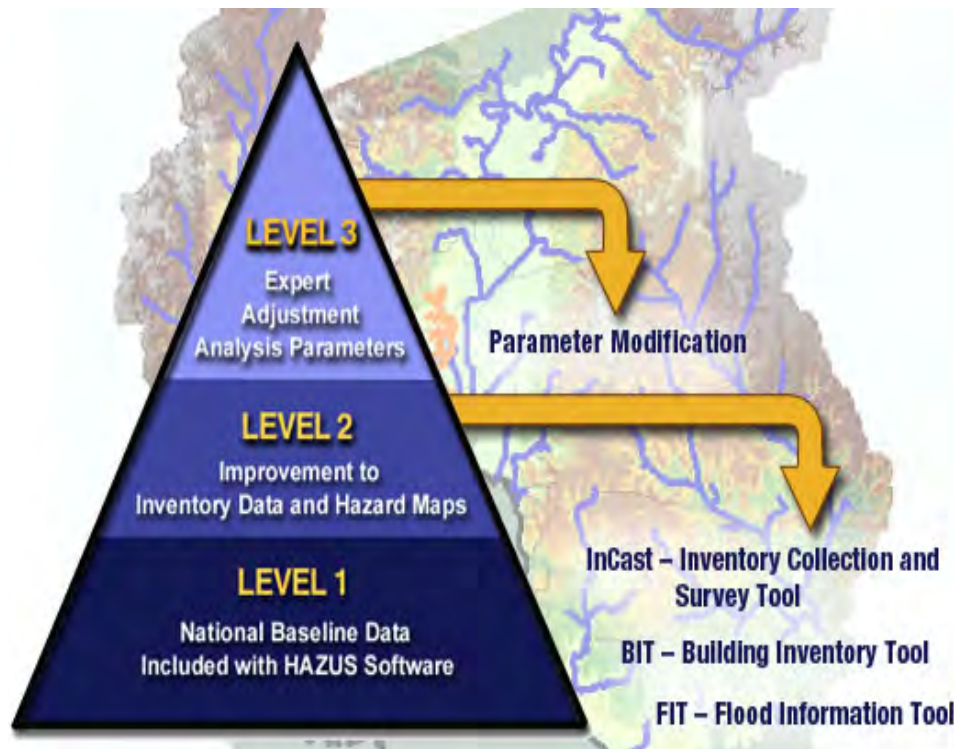
Name	Representing	Address	e-mail
Dan Belville	Department of Emergency Management	501 Winslow St., Redwood City, CA 94063	dbelville@smcgov.org
Rob Flaner	Tetra Tech, Inc.	90 S. Blackwood Ave Eagle, ID 83616	rob.flaner@tetrattech.com
Bart Spencer	Tetra Tech, Inc.	1999 Harrison St., Ste 500 Oakland, CA 946122	bart.spencer@tetrattech.com
Melissa Ross	SMC Building & Planning	555 County Center Redwood City, CA 94063	mross@smcgov.org
Rumika Chaundry	SMC GIS/IT	455 County Center Redwood City, CA 94063	rchaundry@smcgov.org
Hillary Papendick	Office of Sustainability	400 County Center Redwood City, CA 94063	hpapendick@smcgov.org
David Cosgrave	Coastside Fire District		david.cosgrave@fire.ca.gov
Ann Ludwig	Office of Emergency Services – contractor	501 Winslow St. Redwood City, CA 94063	c_aludwig@smcgov.org
Joe LaClair <sup>a</sup>	SMC Planning Services	455 County Center Redwood City, CA 94063	Joe.laclair@gmail.com
Jena Wiser	Tetra Tech, Inc.		jeana.wiser@tetrattech.com
Carol Bauman	Tetra Tech, Inc.		carol.bauman@tetrattech.com
Des Alexander	Tetra Tech, Inc.		des.alexander@tetrattech.com

a. Retired towards the end of the planning process

**Exhibit C.  
Overview of Hazus**

**Overview of Hazus (Multi-Hazard)**

Hazus, is a nationally applicable standardized methodology and software program that contains models for estimating potential losses from earthquakes, floods, tsunamis, and hurricane winds. Hazus was developed by the Federal Emergency Management Agency (FEMA) under contract with the National Institute of Building Sciences (NIBS). NIBS maintains committees of wind, flood, earthquake and software experts to provide technical oversight and guidance to Hazus development. Loss estimates produced by Hazus are based on current scientific and engineering knowledge of the effects of hurricane winds, floods, and earthquakes. Estimating losses is essential to decision-making at all levels of government, providing a basis for developing mitigation plans and policies, emergency preparedness, and response and recovery planning.



Hazus uses state-of-the-art geographic information system (GIS) software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of hurricane winds, floods, tsunamis, and earthquakes on populations. The latest release, Hazus 4.0, is an updated version of Hazus that incorporates many new features which improve both the speed and functionality of the models. For information on software and hardware requirements to run Hazus 4.0, see Hazus Hardware and

Software Requirements.

**Hazus Analysis Levels**

Hazus provides for three levels of analysis:

- A Level 1 analysis yields a rough estimate based on the nationwide database and is a great way to begin the risk assessment process and prioritize high-risk communities.

- A Level 2 analysis requires the input of additional or refined data and hazard maps that will produce more accurate risk and loss estimates. Assistance from local emergency management personnel, city planners, GIS professionals, and others may be necessary for this level of analysis.
- A Level 3 analysis yields the most accurate estimate of loss and typically requires the involvement of technical experts such as structural and geotechnical engineers who can modify loss parameters based on to the specific conditions of a community. This level analysis will allow users to supply their own techniques to study special conditions such as dam breaks and tsunamis. Engineering and other expertise is needed at this level.

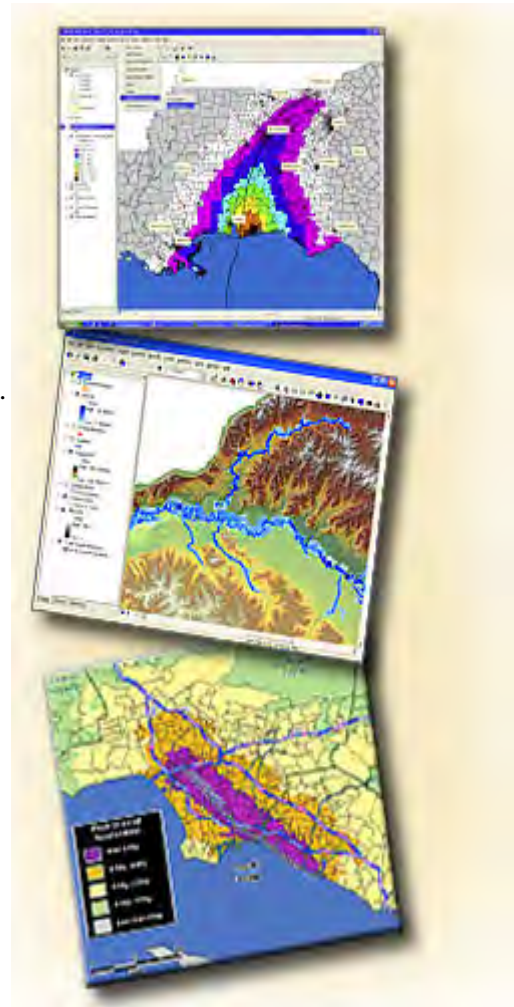
Three data input tools have been developed to support data collection. The Comprehensive Data Management System helps users collect and manage local building data for more refined analyses than are possible with the national level data sets that come with Hazus. The system has expanded capabilities for multi-hazard data collection. Hazus includes an enhanced Building Inventory Tool allows users to import building data and is most useful when handling large datasets, such as tax assessor records. The Flood Information Tool helps users manipulate flood data into the format required by the Hazus flood model. All Three tools are included in the Hazus MR1 Application DVD.

### **Hazus Models**

The Hazus Hurricane Wind Model gives users in the Atlantic and Gulf Coast regions and Hawaii the ability to estimate potential damage and loss to residential, commercial, and industrial buildings. It also allows users to estimate direct economic loss, post-storm shelter needs and building debris. In the future, the model will include the capability to estimate wind effects in island territories, storm surge, indirect economic losses, casualties, and impacts to utility and transportation lifelines and agriculture. Loss models for other severe wind hazards will be included in the future. Details about the Hurricane Wind Model.

The Hazus Flood Model is capable of assessing riverine and coastal flooding. It estimates potential damage to all classes of buildings, essential facilities, transportation and utility lifelines, vehicles, and agricultural crops. The model addresses building debris generation and shelter requirements. Direct losses are estimated based on physical damage to structures, contents, and building interiors. The effects of flood warning are taken into account, as are flow velocity effects. Details about the Flood Model.

The Hazus Earthquake Model, The Hazus earthquake model provides loss estimates of damage and loss to buildings, essential facilities, transportation and utility lifelines, and population based on scenario or probabilistic earthquakes. The model addresses debris generation, fire-following, casualties, and shelter requirements. Direct losses are estimated based on physical damage to structures, contents, inventory, and building interiors. The earthquake model also includes the Advanced Engineering Building Module for single- and group-building mitigation analysis. Details about the Earthquake Model.





The Hazus Tsunami Model represents the first new disaster module for the Hazus software in almost 15 years and is the culmination of work completed on the Hazus Tsunami Methodology Development (FEMA, 2013) by a team of tsunami experts, engineers, modelers, emergency planners, economists, social scientists, geographic information system (GIS) analysts, and software developers. A Tsunami Oversight Committee provided technical direction and review of the methodology development. New features with the model include:

- **Territory Analysis:** This release represents the first time that analysis will be available for U.S. territories (Guam, American Samoa, Commonwealth of Northern Mariana Islands and U.S. Virgin Islands).
- **New Point Format:** The Hazus General Building Stock for the Tsunami release will use a new National Structure Inventory point format (details in User Release Notes available with download).
- **Case Studies:** The Tsunami Module will require user-provided data, so the Hazus Team has provided five case study datasets for users, which will be available on the MSC download site.
- **Two Types of Damage Analysis:** Users will be able to run both near-source (Earthquake + Tsunami) and distant-source (Tsunami only) damage analysis.

Additionally, Hazus can perform multi-hazard analysis by providing access to the average annualized loss and probabilistic results from the hurricane wind, flood, and earthquake models and combining them to provide integrated multi-hazard reports and graphs. Hazus also contains a third-party model integration capability that provides access and operational capability to a wide range of natural, man-made, and technological hazard models (nuclear and conventional blast, radiological, chemical, and biological) that will supplement the natural hazard loss estimation capability (hurricane wind, flood, tsunami and earthquake) in Hazus.

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2021 Multijurisdictional Local Hazard Mitigation Plan

## **Appendix B. Procedures for Linking to Hazard Mitigation Plan**

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## B. PROCEDURES FOR LINKING TO HAZARD MITIGATION PLAN

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Not all eligible local governments are included in the 2021 Multijurisdictional Local Hazard Mitigation Plan. Some or all of these non-participating local governments may choose to “link” to the Plan at some point to gain eligibility for programs under the federal Disaster Mitigation Act (DMA). The following “linkage” procedures define the requirements established by the planning team for dealing with an increase in the number of planning partners linked to this plan. No currently non-participating jurisdiction within the defined planning area is obligated to link to this plan. These jurisdictions can choose to do their own “complete” plan that addresses all required elements of Section 201.6 or Section 201.7 of Chapter 44 of the Code of Federal Regulations (44 CFR).

### INCREASING THE PARTNERSHIP THROUGH LINKAGE

#### Eligibility

Eligible jurisdictions located in the planning area may link to this plan at any point during the plan’s performance period (5 years after final approval). Eligibility will be determined by the following factors:

- The linking jurisdiction is a local or tribal government as defined by the Disaster Mitigation Act.
- The boundaries or service area of the linking jurisdiction is completely contained within the boundaries of the planning area established during the 2020-2021 hazard mitigation planning process.
- The linking jurisdiction’s critical facilities were included in the critical facility and infrastructure risk assessment completed during the 2020 – 2021 plan development process..

#### Requirements

It is expected that linking jurisdictions will complete the requirements outlined below and submit their completed template to the lead agency San Mateo County Department of Emergency Management for review within six months of beginning the linkage process:

- The eligible jurisdiction requests a “Linkage Package” by contacting the Point of Contact (POC) for the plan:  
Dan Belville  
San Mateo County Department of Emergency Management  
501 Winslow St.  
Redwood City, CA 94063
- The POC will provide a linkage procedure package that includes linkage information and a linkage tool-kit:

- Linkage Information
  - Procedures for linking to the multi-jurisdictional hazard mitigation plan
  - Planning partner's expectations for linking jurisdictions
  - A sample "letter of intent" to link to the multi-jurisdictional hazard mitigation plan
  - A copy of Section 201.6 and Section 201.7 of 44 CFR, which defines the federal requirements for a local and tribal hazard mitigation plans.
- Linkage Tool-Kit
  - Copy of Volume 1 and 2 of the plan
  - A special purpose district or tribe template and instructions
  - A catalog of hazard mitigation alternatives
  - A sample resolution for plan adoption
- The new jurisdiction will be required to review both volumes of the 2021 Multijurisdictional Local Hazard Mitigation Plan, which include the following key components for the planning area:
  - Goals and objectives
  - The planning area risk assessment
  - Comprehensive review of alternatives
  - Countywide actions
  - Plan implementation and maintenance procedures.

Once this review is complete, the jurisdiction will complete its specific annex using the template and instructions provided by the POC.

- The development of the new jurisdiction's annex must not be completed by one individual in isolation. The jurisdiction must develop, implement and describe a public involvement strategy and a methodology to identify and vet jurisdiction-specific actions. The original partnership was covered under a uniform public involvement strategy and a process to identify actions that covered the planning area described in Volume 1 and Volume 2 of this plan. Since new partners were not addressed by these strategies, they will have to initiate new strategies and describe them in their annex. For consistency, new partners are encouraged to develop and implement strategies similar to those described in this plan.
- The public involvement strategy must ensure the public's ability to participate in the plan development process. At a minimum, the new jurisdiction must solicit public opinion on hazard mitigation at the onset of the linkage process and hold one or more public meetings to present the draft jurisdiction-specific annex for comment at least two weeks prior to adoption by the governing body. The POC will have resources available to aid in the public involvement strategy, including:
  - The questionnaire utilized in the plan development
  - Presentations from public meeting workshops and the public comment period
  - Press releases used throughout the planning process
  - The plan website.
- The methodology to identify actions should include a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard and a description of the process by which chosen actions were identified. As part of this process, linking jurisdictions should coordinate the selection of actions amongst the jurisdiction's various departments.
- Once their public involvement strategy and template are completed, the new jurisdiction will submit the completed package to the POC for a pre-adoption review to ensure conformance with the multi-jurisdictional plan format and linkage procedure requirements.
- The POC will review for the following:

- Documentation of public involvement and action plan development strategies
  - Conformance of template entries with guidelines outlined in instructions
  - Chosen actions are consistent with goals, objectives, and mitigation catalog of the 2021 Multijurisdictional Local Hazard Mitigation Plan
  - A designated point of contact
  - A completed FEMA plan review crosswalk.
- Plans will be reviewed by the POC and submitted to California Governor’s Office of Emergency Services (Cal OES) for review and approval.
  - Cal OES will review plans for state compliance. Non-compliant plans are returned to the lead agency for correction. Compliant plans are forwarded to FEMA for review with annotation as to the adoption status.
  - FEMA reviews the linking jurisdiction’s plan in association with the approved plan to ensure DMA compliance. FEMA notifies the new jurisdiction of the results of review with copies to Cal OES and the approved plan lead agency.
  - Linking jurisdiction corrects plan shortfalls (if necessary) and resubmits to Cal OES through the approved plan lead agency.
  - For plans with no shortfalls from the FEMA review that have not been adopted, the new jurisdiction governing authority adopts the plan and forwards adoption resolution to FEMA with copies to lead agency and Cal OES.
  - FEMA regional director notifies the new jurisdiction’s governing authority of the plan’s approval.

The new jurisdiction plan is then included with the multi-jurisdiction hazard mitigation plan and the linking jurisdiction is committed to participate in the ongoing plan maintenance strategy identified in Chapter 21, Volume 1 of the hazard mitigation plan.

## **DECREASING THE PARTNERSHIP**

The eligibility afforded under this process to the planning partnership can be rescinded in two ways. First, a participating planning partner can ask to be removed from the partnership. This may be done because the partner has decided to develop its own plan or has identified a different planning process for which it can gain eligibility. A partner that wishes to voluntarily leave the partnership shall inform the POC of this desire in writing. This notification can occur any time during the calendar year. A jurisdiction wishing to pursue this avenue is advised to make sure that it is eligible under the new planning effort, to avoid any period of being out of compliance with the Disaster Mitigation Act.

After receiving this notification, the POC shall immediately notify both Cal OES and FEMA in writing that the partner in question is no longer covered by the 2021 Multijurisdictional Local Hazard Mitigation Plan, and that the eligibility afforded that partner under this plan should be rescinded based on this notification.

The second way a partner can be removed from the partnership is by failure to meet the participation requirements specified in the “Planning Partner Expectations” package provided to each partner at the beginning of the process, or the plan maintenance and implementation procedures specified in Volume 1 of the plan. Each partner agreed to these terms by adopting the plan.

Eligibility status of the planning partnership will be monitored by the POC. The determination of whether a partner is meeting its participation requirements will be based on the following parameters:



- Are partners notifying the POC of changes in designated points of contact?
- Are the partners supporting the Steering Committee by attending designated meetings or responding to needs identified by the body?
- Are the partners continuing to be supportive as specified in the planning partners expectations package provided to them at the beginning of the process?

Participation in the plan does not end with plan approval. This partnership was formed on the premise that a group of planning partners would pool resources and work together to strive to reduce risk within the planning area. Failure to support this premise lessens the effectiveness of this effort. The following procedures will be followed to remove a partner due to the lack of participation:

- The POC will advise the Steering Committee of this pending action and provide evidence or justification for the action. Justification may include: failure to attend meetings determined to be mandatory by the Steering Committee, failure to act on the partner's action plan, or inability to reach designated point of contact after a minimum of five attempts.
- The Steering Committee will review information provided by POC, and determine action by a vote. The Steering Committee will invoke the voting process established in the ground rules established during the formation of this body.
- Once the Steering Committee has approved an action, the POC will notify the planning partner of the pending action in writing via certified mail. This notification will outline the grounds for the action, and ask the partner if it is their desire to remain as a partner. This notification shall also clearly identify the ramifications of removal from the partnership. The partner will be given 30 days to respond to the notification.
- Confirmation by the partner that they no longer wish to participate or failure to respond to the notification shall trigger the procedures for voluntary removal discussed above.
- Should the partner respond that they would like to continue participation in the partnership, they must clearly articulate an action plan to address the deficiencies identified by the POC. This action plan shall be reviewed by the Steering Committee to determine whether the actions are appropriate to rescind the action. Those partners that satisfy the Steering Committee's review will remain in the partnership, and no further action is required.
- Automatic removal from the partnership will be implemented for partners where these actions have to be initiated more than once in a 5-year planning cycle.

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2021 Multijurisdictional Local Hazard Mitigation Plan

## **Appendix C. Annex Instructions and Templates**

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# INSTRUCTIONS FOR COMPLETING CITY/COUNTY ANNEX TEMPLATE

Jurisdictional annex templates for the 2021 San Mateo Multijurisdictional Local Hazard Mitigation Plan update will be completed in three phases. **This document provides instructions for completing all phases of the template for cities and counties.**

The target timeline for completion is as follows:

- **Phase 1**—Team, Profile, Trends, and Previous Plan Status
  - **Deployed:** February 19, 2021
  - **Due:** March 19, 2021 by close of business
- **Phase 2**—Capability Assessment, Integration Review, and Information Sources
  - **Deployed:** April 2, 2021
  - **Due:** May 21, 2021 by close of business, Pacific Time
- **Phase 3**—Risk Assessment, Action Plan, Information Sources, Future Needs, and Additional Comments
  - **Deployed:** June 11, 2021
  - **Mandatory Phase 3 Workshops:** Targeted for the week of June 14. We will schedule multiple workshops during that week to provide options for attendance
  - **Due:** July 23, 2021 by close of business, Pacific Time

Direct any questions about your Phase 3 template to:

**Bart Spencer**  
Tetra Tech  
Phone: (650) 324-1810  
E-mail: [bart.spencer@tetrattech.com](mailto:bart.spencer@tetrattech.com)

Submit your completed Phase 3 template in electronic format to:

**Megan Brotherton**  
Tetra Tech  
Phone: (808) 339-9119  
E-mail: [megan.brotherton@tetrattech.com](mailto:megan.brotherton@tetrattech.com)

## A Note About Formatting

The template for the annex is a Microsoft Word document in a format that will be used in the final plan. Partners are asked to use this template so that a uniform product will be completed for each partner.

Content should be entered directly into the template rather than creating text in another document and pasting it into the template. Text from another source may alter the formatting of the document.

**DO NOT** convert this document to a PDF.

The section and table numbering in the document will be updated when completed annexes are combined into the final document. Please do not adjust any of the numbering.

For planning partners who participated in the 2016 planning effort, relevant information has been brought over to the 2021 template. Fields that require attention have been highlighted using the following color coding:

- **Green:** Text has been brought over from 2016 Plan and should be reviewed and updated as needed.
- **Blue:** This is a new field that will require information that was not included in 2016.

**Un-highlight each field that you update so that reviewers will know an edit has been made.**

New planning partners will need to complete the template in its entirety.

## IMPORTANT! READ THIS FIRST

Phase 1 and Phase 2 templates were previously provided to your jurisdiction for completion.

If your jurisdiction returned the completed Phase 1 & 2 templates:

- The Phase 1 & 2 content you provided is already incorporated into your Phase 3 template.
- Review the template to see if we have inserted any comments requesting further work to be done on Phase 1 or 2
  - ***If any comments are included, address them.*** Then, begin your work on Phase 3 following the Phase 3 instructions beginning on page 12.
  - If no comments are included, then you **DO NOT** need to do any further work on the Phase 1 or Phase 2 content. ***Go directly to the instructions for Phase 3, beginning on page 12.***

If your jurisdiction has **NOT** yet done any work on the Phase 1 or Phase 2 template:

- Follow the instructions beginning on page 3 for providing the Phase 1 and Phase 2 information.
- Then proceed with the Phase 3 instructions beginning on page 12.

If your jurisdiction started work on the Phase 1 or 2 template but never completed and submitted it, copy the work you had completed so far into the new template. Then complete Phases 1, 2, and 3 following the instructions provided here.

## PHASE 1 INSTRUCTIONS

### CHAPTER TITLE

In the chapter title at the top of Page 1, type in the complete official name of your municipality (e.g., City of Pleasantville, West County). Do not change the chapter number. Revise only the jurisdiction name. If your jurisdiction's name has already been entered, verify that wording and spelling are correct; revise as needed.

### LOCAL HAZARD MITIGATION PLANNING TEAM

#### Points of Contact

Provide the name, title, mailing address, telephone number, and e-mail address for the primary point of contact for your jurisdiction. This should be the person responsible for monitoring, evaluating and updating the annex for your jurisdiction. This person should also be the principle liaison between your jurisdiction and the Steering Committee overseeing development of this plan.

In addition, designate an alternate point of contact. This would be a person to contact should the primary point of contact be unavailable or no longer employed by the jurisdiction.

*Note: Both of these contacts should match the contacts that were designated in your jurisdiction's letter of intent to participate in this planning process. If you have changed the primary or secondary contact, let the planning team know by inserting a comment into the document.*

#### Who Should Be on the Local Mitigation Planning Team

The Local Hazard Mitigation Planning Team is responsible for developing your jurisdiction's annex to the hazard mitigation plan. Team membership should represent agencies with authority to regulate development and enforce local ordinances or regulatory standards, such as building/fire code enforcement, emergency management, emergency services, floodplain management, parks and recreation, planning/ community development, public information, public works/ engineering, stormwater management, transportation, or infrastructure.

#### Participating Planning Team

Populate Table 1-1 with the names of staff from your jurisdiction who participated in preparing this annex or otherwise contributed to the planning process for this hazard mitigation plan.

### JURISDICTION PROFILE

Provide information specific to your jurisdiction as indicated, in a style similar to the examples provided below. This should be information that will not be provided in the overall mitigation plan document.

#### Location and Features

Describe the community's location, size and prominent features, in a statement similar to the example below:

**EXAMPLE:** The City of Jones is in the northwest portion of Smith County, along the Pacific Coast in northern California. It is almost 150 miles northeast of San Francisco. The city's total area is 4.2 square miles, with boundaries generally extending north-south from State Highway 111 to the



Johnson River and east-west from Coast Road to East Frank Avenue. The City of Allen is to the north, unincorporated county is to the west, the City of Bethany is to the south, and the Pacific Ocean is to the west.

Jones is home to the University of Arbor, Bickerson Manufacturing, and the western portion of Soosoo National Park. Significant geographic features include the Watery River, which flows southwest across the city, Lake Splash in the city's northwest corner, and the foothills of the Craggy Mountains on the east side.

## History

Describe the community's history, focusing on economy and development, and note its year of incorporation, in a statement similar to the example below:

**EXAMPLE:** The City of Jones was incorporated in 1858. The area was settled during the gold rush in the 1850s as a supply center for miners. As the gold rush died down, timber and fishing became the area's major economic resources. By 1913, the Jones Teachers College, a predecessor to today's University of Arbor, was founded. Recently, the presence of the college has come to shape Jones' population into a young and educated demographic. In 1981 the City developed the Jones Marsh and Wildlife Sanctuary, an environmentally friendly sewage treatment enhancement system.

With numerous annexations since its original incorporation, the city's area has almost doubled. Today it features a commercial core in the center of the city, with mostly residential areas to the north and south, the university to the west and the national park on the east.

## Governing Body Format

Describe the community's key governance elements and staffing, in a statement similar to the example below:

**EXAMPLE:** The City of Jones is governed by a five-member city council. The City consists of six departments: Finance, Environmental Services, Community Development, Public Works, Police, and the City Manager's Office. The City has 13 commissions and task forces, which report to the City Council. The City currently employs a total of 155 employees (full-time equivalent).

The City Council assumes responsibility for the adoption of this plan; the City Manager will oversee its implementation.

## CURRENT TRENDS

### Population

Provide the most current population estimate for your jurisdiction based on an official means of tracking (e.g., the U.S. Census or state agency that develops population estimates). Describe the current estimate and recent population trends in a statement similar to the example below.

**EXAMPLE:** According to California Department of Finance, the population of Jones as of July 2020 was 17,280. Since 2010, the population has grown at an average annual rate of 1.2 percent, though that rate is declining, with an annual average of only 0.8 percent since 2016.

## Development

In the highlighted text that says “Describe trends in general,” provide a brief description of your jurisdiction’s recent development trends in a statement similar to the example below:

**EXAMPLE:** Anticipated future development for Jones is low to moderate, consisting primarily of residential growth. Recent development has been mostly infill. There has been a focus on affordable housing and a push for more secondary mother-in-law units. Future growth in the City will be managed as identified in the City’s 2018 general plan. City actions, such as those relating to land use, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with the plan.

Complete the table titled “Recent and Expected Future Development Trends.” Note:

- The portion of the table requesting the number of permits by year is specifically looking for development permits for **new** construction. If your jurisdiction does not have the ability to differentiate between permit types, list the total number of permits and indicate “N/A” (not applicable) for the permit sub-types.
- If your jurisdiction does not have the ability to track permits by hazard area, delete the bullet list of hazard areas and insert a qualitative description of where development has occurred.

## STATUS OF PREVIOUS PLAN ACTIONS

*Note that this section only applies to jurisdictions that are conducting updates to previously approved hazard mitigation plans. If your jurisdiction has not previously participated in an approved plan, enter an “X” in the box at the beginning of this section and do not complete the section. We will remove this section from your final annex.*

*Also note that this section is further back in the annex than the rest of the Phase 1 content. Some Phase 2 sections are included before it.*

All action items identified in prior mitigation plans must be reconciled in this update. Action items must all be marked as **ONE** of the following; check the appropriate box (place an X) and provide information as follows:

- **Completed**—If an action has been completed since the prior plan was prepared, check the “Completed” box and **provide a date of completion in the comment section**. If an action has been initiated and is an ongoing program (e.g. annual outreach event), you may mark it as completed and **note that it is ongoing in the comments**. If an action addresses an ongoing program you would like to continue to include in your action plan, see the “Carried Over to Plan Update” bullet below.
- **Removed**—If action items are to be removed because they are no longer feasible, a reason must be given. Lack of funding does not mean that it is no longer feasible, unless the sole source of funding for an action is no longer available. **Place a comment in the comment section explaining why the action is no longer feasible or barriers that prevented the action from being implemented (e.g., “Action no longer considered feasible due to lack of political support.”)**. If the wording and/or intent of a previously identified action is unclear, this can be a reason for removal. A change in community priorities may also be a reason for removal and should be discussed in the comments.
- **Carried Over to Plan Update**—If an action is in progress, is ongoing, or has not been initiated and you would like to carry it over to the plan update, check the “Check if Yes” column under “Carried Over to Plan Update.” Selecting this option indicates that the action will be included in the mitigation action

plan for this update. If you are carrying over an action to the update, **include a comment describing any action that has been taken or why the action was not taken** (specifically, any barriers or obstacles that prevented the action from moving forward or slowed progress). Leave the last column, “Action # in Update,” blank at this point. This will be filled in after completing the updated action plan in Phase 3.

Ensure that you have provided **a status and a comment for each action.**

#### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, all action items from your jurisdiction’s previous hazard mitigation plan that are marked as “Carried Over to Plan Update” will need to be included in the action plan.

**THIS COMPLETES PHASE 1**



## PHASE 2 INSTRUCTIONS

### CAPABILITY ASSESSMENT

*Note that it is unlikely that one person will be able to complete all sections of the capability assessment alone. The primary preparer will likely need to reach out to other departments within the local government for information. It may be beneficial to provide these individuals with background information about this planning process, as input from them will be needed again during Phase 3 of the annex development.*

### Planning and Regulatory Capability

In the table titled “Planning and Regulatory Capability,” indicate “Yes” or “No” for each listed code, ordinance, requirement or planning document in each of the following columns:

- **Local Authority**—Enter “Yes” if your jurisdiction has prepared or adopted the identified item; otherwise, enter “No.” If yes, then enter the code, ordinance number, or plan name and its date of adoption in the comments column. *Note: If you enter yes, be sure to provide a comment with the appropriate code, ordinance or plan and date of adoption.*
- **Other Jurisdiction Authority**—Enter “Yes” if another agency (e.g., a state agency or special purpose district) enforces or administers the identified item in a way that may impact your jurisdiction or if any state or federal regulations or laws would prohibit local implementation of the identified item; otherwise, enter “No.” *Note: If you enter yes, be sure to provide a comment indicating the other agency and its relevant authority.*
- **State Mandated**—Enter “Yes” if state laws or other requirements enable or require the listed item to be implemented at the local level; otherwise, enter “No.” *Note: If you enter yes, be sure to provide a comment describing the relevant state mandate.*
- **Integration Opportunity**—Enter “Yes” if there are obvious ways that the code, ordinance or plan can be coordinated with the hazard mitigation plan. Consider the following:
  - If you answered “Yes” in the Local Authority column for this item, then enter “Yes” for integration opportunity if any of the following are true:
    - The item already addresses hazards and their impacts and should be updated to reflect new information about risk from this hazard mitigation plan
    - The item does not address hazards and their impacts but is due for an update in the next 5 years and could be updated in a way that does address hazards and impacts
    - The item identifies projects for implementation and these could be reviewed to determine if they can be modified to help address hazard mitigation goals
    - The item identifies projects for implementation and some of these should be considered for inclusion in the hazard mitigation action plan for your jurisdiction
  - If you answered “No” in the Local Authority column for this item, then enter “Yes” for integration opportunity if your jurisdiction will develop the item over the next 5 years

*Note: Each capability with a “Yes” answer to Integration Opportunity will be discussed in more detail later in the annex. You may wish to keep notes when assessing the Integration Opportunity or review the “Integration with Other Planning Initiatives” section below.*
- **Comments**—Enter the code number and adoption date for any local code indicated as being in place; provide other comments as appropriate to describe capabilities for each entry. **DO NOT OVERLOOK THIS STEP**

For the categories “General Plan” and “Capital Improvement Plan,” answer the specific questions shown, in addition to completing the four columns indicating level of capability.

## Development and Permit Capability

Complete the table titled “Development and Permitting Capabilities.”

## Fiscal Capability

Complete the table titled “Fiscal Capability” by indicating whether each of the listed financial resources is accessible to your jurisdiction. Enter “Yes” if the resource is fully accessible to your jurisdiction. Enter “No” if there are limitations or prerequisites that may hinder your use of this resource.

## Administrative and Technical Capability

Complete the table titled “Administrative and Technical Capability” by indicating whether your jurisdiction has access to each of the listed personnel resources. Enter “Yes” or “No” in the column labeled “Available?”. If yes, then enter the department and position title. If you have contract support with these capabilities, you can still answer “Yes.” Indicate in the department row that this resource is provided through contract.

## Education and Outreach Capability

Complete the table titled “Education and Outreach.”

### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, review all the above capability assessment tables and consider including actions to provide a capability that your jurisdiction does not currently have, update a capability that your jurisdiction does have, or implement an action that is recommended in an existing plan or program.

## National Flood Insurance Program Compliance

Complete the table titled “National Flood Insurance Program Compliance.”

## Community Classifications

Complete the table titled “Community Classifications” to indicate your jurisdiction’s participation in various national programs related to natural hazard mitigation. For each program enter “Yes” or “No” in the second column to indicate whether your jurisdiction participates. If yes, then enter the classification that your jurisdiction has earned under the program in the third column and the date on which that classification was issued in the fourth column; enter “N/A” in the third and fourth columns if your jurisdiction is not participating. If you do not know your current classification, information is available at the following websites:

- **Community Rating System**— <https://www.fema.gov/floodplain-management/community-rating-system>

- **Building Code Effectiveness Grading Schedule**— <https://www.isomitigation.com/bcegs/iso-s-building-code-effectiveness-grading-schedule-bcegs.html>
- **Public Protection Classification**— <https://www.isomitigation.com/ppc/>
- **Storm Ready**— <https://www.weather.gov/stormready/communities>
- **Firewise**— <http://www.firewise.org/usa-recognition-program/map-of-active-participants.aspx>

## Adaptive Capacity for Climate Change

Consider climate change impact concerns such as the following:

- Reduced snowpack
- Increased wildfires
- Sea level rise
- Inland flooding
- Threats to sensitive species
- Loss in agricultural productivity
- Public health and safety.

With those impacts in mind, complete the table titled “Adaptive Capacity for Climate Change” by indicating your jurisdiction’s capacity for each listed criterion as follows:

- **High**—The capacity exists and is in use.
- **Medium**—The capacity may exist, but is not used or could use some improvement.
- **Low**—The capacity does not exist or could use substantial improvement.
- **Unsure**—Not enough information is known to assign a rating.

This is a subjective assessment, but providing a few words of explanation is useful. It is highly recommended that you complete this table with an internal planning team after reviewing the results of the other capability assessment tables.

### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, review all the adaptive capacity criteria and consider including actions to improve the rating for those rated medium or low, to make use of the capacity for those rated high, or to acquire additional information for those rated unsure.

## INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. FEMA recommends integration as follows:



- Integrate hazard mitigation plan goals with community objectives (e.g. incorporate the goals for risk reduction and safety into the policies of other plans).
- Use the risk assessment to inform plans and policies (e.g. incorporate risk assessment findings into land use plans, site plan review, emergency operations plans).
- Implement mitigation actions through existing mechanisms (e.g. include mitigation projects in the capital improvement plan).
- Think about mitigation before and after a disaster (e.g. build recovery planning on existing mitigation plans and goals).

After reviewing the plans, programs and ordinances identified in the capability assessment tables, identify all plans and programs that have already been integrated with the hazard mitigation plan, and those that offer opportunities for future integration. The simplest way to do this is to review the Planning and Regulatory Capabilities table to see which items were marked as “Yes” under the Integration Opportunity column.

## Existing Integration

In the highlighted bullet list, list items for which you entered “Yes” under the Integration Opportunity column of the “Planning and Regulatory Capability” table because the plan or ordinance already addresses potential impacts or includes specific projects that should be included as action items in the mitigation action plan. Consider listing items marked as Completed in the “Status of Previous Plan Actions” table if they were indicated as being ongoing actions. Provide a brief description of how the plan or ordinance is integrated. Examples are as follows:

- **Capital Improvement Plan**—The capital improvement plan includes projects that can help mitigate potential hazards. The City will act to ensure consistency between the hazard mitigation plan and the current and future capital improvement plans. The hazard mitigation plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.
- **Building Code and Fire Code**—The City’s adoption of the 2016 California building and fire codes incorporated local modifications to account for the climatic, topographic and geographic conditions that exist in the City.
- **General Plan**—The general plan includes a Safety Element to protect the community from unreasonable risk by establishing policies and actions to avoid or minimize the following hazards:
  - Geologic and seismic hazards
  - Fire hazards
  - Hazardous materials
  - Flood control
  - Impacts from climate change.
- **Climate Action Plan**—The City’s Climate Action Plan includes projects for reducing greenhouse gas emissions and adapting to likely impacts of climate change. These projects were reviewed to identify cross-planning initiatives that serve both adaptation and mitigation objectives.

#### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, any plans that fall into the “Existing Integration” category should be reviewed and elements from them should be included in the action plan as appropriate.

## Opportunities for Future Integration

List any remaining items that say “Yes” in the Integration Opportunity column in the Planning and Regulatory Capabilities table and explain the process by which integration could occur. Examples follow:

- **Zoning Code**—The City is conducting a comprehensive update to its zoning code. Additional mitigation and abatement measures will be considered for incorporation into the code.
- **Capital Improvement Projects**—Capital improvement project proposals may take into consideration hazard mitigation potential as a means of evaluating project prioritization.
- **Post-Disaster Recovery Plan**—The City does not have a recovery plan and intends to develop one as a mitigation planning action during the next five years. The plan will build on the goals and objectives identified in the hazard mitigation plan.

After you have accounted for all items marked as “Yes” under the Integration Opportunity column, consider other programs you may have in place in your jurisdiction that include routine consideration and management of hazard risk. Examples of such programs may include: tree pruning programs, right-of-way mowing programs, erosion control or stream maintenance programs, etc. Add any such programs to the integration discussion and provide a brief description of how these programs manage (or could be adapted to manage) risk from hazards.

#### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, an action to integrate any identified “Opportunities for Future Integration” should be considered for inclusion in the action plan.

## INFORMATION SOURCES USED FOR THIS ANNEX

*Note that this section will ultimately describe all information sources used to develop this annex, but that only the sources used for Phases 1 and 2 will be listed at this point. Additional sources will be added with the preparation of the Phase 3 annex.*

This section should describe what resources you used to complete the annex and how you used them. Several items are started for you, but be sure to update and enhance any descriptions. Providing this information is a requirement to pass the state and FEMA review process.

**THIS COMPLETES PHASE 2**





We recommend including most large-scale disasters, unless you know that there were no impacts on your jurisdiction. Specifically, we recommend that you include these events if you have damage estimate information or can provide a brief description of impacts that occurred within your community. In addition to these events, refer to the NOAA storm events database included in the toolkit. We recommend conducting a search for the name of your jurisdiction in order to identify events with known impacts. Other potential sources of damage information include the following

- Preliminary damage estimates your jurisdiction filed with the county or state
- Insurance claims data
- Newspaper archives
- Emergency management documents (general plan safety element, emergency response plan, etc.)
- Resident input.

If you do not have estimates for costs of damage caused, list “Not Available” in the “Damage Assessment” column or list a brief description of the damage rather than a dollar value (e.g., Main Street closed as a result of flooding, downed trees and residential damage). Note that tracking such damage is a valid and useful mitigation action if your jurisdiction does not currently track such information.

## Hazard Risk Ranking

Risk ranking identifies which hazards pose the greatest risk to the community, based on how likely it is for each hazard to occur (this is called the community’s exposure) and how great an impact each hazard will have if it does occur (this is called the community’s vulnerability). Every jurisdiction has differing degrees of risk exposure and vulnerability and therefore needs to rank risk for its own area. The risk ranking for each jurisdiction has been calculated in the “Loss Matrix” spreadsheet included in the annex preparation toolkit. The ranking is on the basis of risk ranking scores for each hazard that were calculated based on the hazard’s probability of occurrence and its potential impact on people, property and the economy.

The results for your jurisdiction have already been entered into the “Hazard Risk Ranking” table in your Phase 3 annex template. The hazard with the highest risk rating is listed at the top of table and was given a rank of 1; the hazard with the second highest rating is listed second with a rank of 2; and so on. Two hazards with equal risk ranking scores were given the same rank. Hazards were assigned to “High,” Medium,” or “Low” risk categories based on the risk ranking score. If you wish to review the calculations in detail, the appendix at the end of these instructions describes the calculation methodology that the spreadsheet uses.

**Review the hazard risk ranking information that is included in your annex.** If these results differ from what you know based on substantiated data and documentation, you may alter the ranking and risk categories based on this knowledge. If you do so, indicate the reason for the change in your template. For example:

“Drought was ranked as low; however, the jurisdiction’s economy is heavily reliant on water-using industries, such as agriculture or manufacturing, so this hazard should be ranked as medium.”

### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, you will need to have at least one mitigation action for each hazard ranked as “high” or “medium.”

## Jurisdiction-Specific Vulnerabilities

### Repetitive Loss Properties

A repetitive loss property is any property for which FEMA has paid two or more flood insurance claims in excess of \$1,000 in any rolling 10-year period since 1978. In the space provided, the following information has been included in your annex based on data provided by FEMA:

- The number of any FEMA-identified repetitive-loss properties in your jurisdiction.
- The number of any FEMA-identified severe-repetitive-loss properties in your jurisdiction.
- The number (if any) of repetitive-loss or severe-repetitive-loss properties in your jurisdiction that have been mitigated. Mitigated for this exercise means that flood protection has been provided to the structure.

#### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, if your jurisdiction has any repetitive loss properties, you should strongly consider including a mitigation action that addresses mitigating these properties.

### Other Noted Vulnerabilities

Review the results of the risk assessment included in the toolkit, your jurisdiction's natural events history, and any relevant public comments/input, then develop a few sentences that discuss specific hazard vulnerabilities. You do not need to develop a sentence for every hazard, but identify a few issues you would like to highlight. Also list any known hazard vulnerabilities in your jurisdiction that may not be apparent from the risk assessment and other information provided.

Spending some time thinking about the results of the risk assessment and other noted vulnerabilities will be a big help in the development of your hazard mitigation action plan. The following are examples of vulnerabilities you could identify through this exercise:

- About 45 percent of the population lives in the 0.2 percent annual chance flood hazard area, where flood insurance is generally not required.
- A magnitude 7.5 earthquake on the Smithburg Fault is estimated to produce nearly 1 million tons of structure debris.
- Over the past 10 years, the jurisdiction has experienced more than \$6 million in damage from severe storm events.
- More than 50 buildings are located in areas that would be permanently inundated with 12 inches of sea level rise.
- The results of the public survey indicated that 40 percent of Smithburg residents would not be able to be self-sufficient for 5 days following a major event.
- An urban drainage issue at a specific location results in localized flooding every time it rains.
- One area of the community frequently loses power due to a lack of tree maintenance.

- A critical facility, such as a police station, is not equipped with a generator.
- A neighborhood has the potential to have ingress and egress cut off as the result of a flood or earthquake (e.g. a bridge is the only access).
- Substantial number of buildings in one area of the community are unreinforced masonry or soft-story construction.
- An area along the river is eroding and threatening public and/or private property.
- A large visitor population that may not be aware of tsunami risk.

#### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, consider including actions to address the jurisdiction-specific vulnerabilities listed in this section.

## HAZARD MITIGATION ACTION PLAN

### Hazard Mitigation Action Plan Matrix

The hazard mitigation action plan is the heart of your jurisdictional annex. This is where you will identify the actions your jurisdiction would like to pursue with this plan.

#### Select Recommended Actions

All of the work that you have done thus far should provide you with ideas for actions. Throughout these instructions, green boxes labeled “Hazard Mitigation Action Plan Input” have indicated information that needs to be considered in the selection of mitigation actions. The following sections describe how to consider these and other information sources to develop a list of potential actions.

Be sure to consider the following factors in your selection of actions:

- Select actions that are consistent with the overall purpose, goals, and objectives of the hazard mitigation plan.
- Identify actions where benefits exceed costs.
- Include any action that your jurisdiction has committed to pursuing, regardless of eligibility from outside funding sources (grants, non-profit funding, donations, etc.).
- Know what is and is not eligible for funding under various federal programs (see the fact sheet on FEMA hazard mitigation grant programs in the annex preparation toolkit and the table below).



**Table 2. Federal Hazard Mitigation Grant Program Eligibility by Action Type**

Eligible Activities	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)
<b>Mitigation Projects</b>			
Property Acquisition and Structure Demolition	√	√	√
Property Acquisition and Structure Relocation	√	√	√
Structure Elevation	√	√	√
Mitigation Reconstruction	√	√	√
Dry Floodproofing of Historic Residential Structures	√	√	√
Dry Floodproofing of Non-residential Structures	√	√	√
Generators	√	√	
Localized Flood Risk Reduction Projects	√	√	√
Non-Localized Flood Risk Reduction Projects	√	√	
Structural Retrofitting of Existing Buildings	√	√	√
Non-structural Retrofitting of Existing Buildings and Facilities	√	√	√
Safe Room Construction	√	√	
Wind Retrofit for One- and Two-Family Residences	√	√	
Infrastructure Retrofit	√	√	√
Soil Stabilization	√	√	√
Wildland fire Mitigation	√	√	
Post-Disaster Code Enforcement	√		
Advance Assistance	√		
5 Percent Initiative Projects*	√		
Aquifer and Storage Recovery**	√	√	√
Flood Diversion and Storage**	√	√	√
Floodplain and Stream Restoration**	√	√	√
Green Infrastructure**	√	√	√
Miscellaneous/Other**	√	√	√
<b>Hazard Mitigation Planning</b>	√	√	√
<b>Technical Assistance</b>			√
<b>Management Costs</b>	√	√	√

\* FEMA allows increasing the 5% initiative amount under the Hazard Mitigation Grant Program up to 10% for a presidential major disaster declaration. The additional 5% initiative funding can be used for activities that promote disaster-resistant codes for all hazards. As a condition of the award, either a disaster-resistant building code must be adopted or an improved Building Code Effectiveness Grading Schedule is required.

\*\* Indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.

## ***Material Previously Developed for This Annex***

### Capability Assessment Section—Planning and Regulatory Capability Table, Fiscal Capability Table, Administrative and Technical Capability Table, Education and Outreach Table, and Community Classification Table

Review these tables and consider the following:

- For any capability that you do not currently have, consider whether your jurisdiction should have this capability. If so, consider including an action to develop/acquire the capability.
- For any capability that you do currently have, consider whether this capability can be leveraged to increase or improve hazard mitigation in the jurisdiction.
- If any capabilities listed in the Planning and Regulatory Capabilities table have not been updated in more than 10 years, consider an action to review and update the capability and, as appropriate, incorporate hazard mitigation principles or information obtained in the risk assessment.
- Consider including actions that are identified in other plans and programs (capital improvement plans, strategic plans, etc.) as actions in this plan.

### Capability Assessment Section—National Flood Insurance Program Compliance table

Review the table and consider the following:

- If you have no certified floodplain managers and you have flood risk, consider adding an action to provide key staff members with training to obtain certification.
- If your flood damage prevention was last updated in or before 2004, you should identify an action to update your ordinance to ensure it is compliant with current NFIP requirements.
- If you have any outstanding NFIP compliance issues, be sure to add an action to address them.
- If flood hazard maps do not adequately address the flood risk within your jurisdiction, consider actions to request new mapping or conduct studies.
- If you wish to begin to participate in CRS or you already to participate and would like to improve your classification, consider this as an action.
- If the number of flood insurance policies in your jurisdiction is low relative to the number of structures in the floodplain, consider an action that will promote flood insurance in your jurisdiction.

### Capability Assessment Section— Adaptive Capacity for Climate Change Table

Consider your responses to this section:

- For criteria that you listed as medium or low, think of ways you could improve this rating (see adaptive capacity portion of the mitigation best practices catalog).
- For criteria you listed as high, think about how you can leverage this capacity to improve or enhance mitigation or continue to improve this capacity.
- For criteria that you were unable to provide responses for, consider ways you could improve your understanding of this capacity (see mitigation best practices and adaptive capacity catalog).

**Integration Review Section**

Review the items you identified in this section and consider an action that specifically says what the plan, code, ordinance etc. is and how it will be integrated. For items that address land use, include them in the prepopulated action in your template that reads as follows:

“Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including \_\_\_\_\_.”

**Risk Ranking Section**

You must identify at least one mitigation action that is clearly defined and actionable (i.e. not a preparedness or response action) for every hazard that is categorized in the risk ranking as “high” or “medium” risk.

**Jurisdiction-Specific Vulnerabilities Section**

Review the vulnerability issues that you identified in this section and consider actions to address them (see mitigation best practices catalog). Two examples are shown in the table below.

<b>Table 3. Example Actions to Address Jurisdiction-Specific Vulnerabilities</b>	
<b>Noted Vulnerability</b>	<b>Example Mitigation Action</b>
About 45 percent of the population lives in the 0.2 percent annual chance flood hazard area where flood insurance is generally not required.	Implement an annual public information initiative that targets residents in the 0.2 percent annual chance flood hazard area. Provide information on the availability of relatively low cost flood insurance policies.
An urban drainage issue results in localized flooding every time it rains.	Replace undersized culverts that are contributing to localized flooding. Priority areas include: <ul style="list-style-type: none"> <li>• The corner of Main Street and 1st Street</li> <li>• Old Oak subdivision.</li> </ul>

**Status of Previous Plan Actions Section**

If your jurisdiction participated in a previous hazard mitigation plan, be sure to include any actions that were identified as “carry over” actions.

***Other Sources***

**Mitigation Best Practices Catalog**

A catalog that includes best practices identified by FEMA and other agencies, as well as recommendations from the steering committee and other stakeholders, is included in your toolkit. Review the catalog and identify actions your jurisdiction should consider for its action plan.

**Public Input**

Review input received during the process, specifically the public survey results included in your toolkit.

**Common Actions for All Partners**

The following six actions have been prepopulated in your annex template; **these six actions should be included in every annex and should not be removed:**



- Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard.
- Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions within the community.
- Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
- Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:
  - Enforce the flood damage prevention ordinance.
  - Participate in floodplain identification and mapping updates.
  - Provide public assistance/information on floodplain requirements and impacts.
- Identify and pursue strategies to increase adaptive capacity to climate change.
- Purchase generators for critical facilities and infrastructure that lack adequate back-up power.

In addition, the core planning team recommends that every planning partner strongly consider the following actions:

- Develop and implement a program to capture perishable data after significant events (e.g. high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.
- Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.
- Develop a post-disaster recovery plan and a debris management plan.
- Develop and/or update plans that support or enhance continuity of operations following disasters.

The specifics of all these common actions should be adjusted as needed for the particulars of each community.

## **Complete the Table**

Complete the table titled “Hazard Mitigation Action Plan Matrix” for all the actions you have identified and would like to include in the plan:

- Enter the action number (see box on next page) and description. **If the action is carried over from your previous hazard mitigation plan, return to the “Status of Previous Plan Actions” table you completed in Phase 1 and enter the new action number in the column labeled “Action # in Update.”**
- Indicate whether the action mitigates hazards for new and/or existing assets.
- Identify the specific hazards the action will mitigate (note: you must list each hazard by name; simply indicating “all hazards” is not deemed acceptable).
- Identify by number the mitigation plan objectives that the action addresses (see toolkit).
- Indicate who will be the lead in administering the action. This will most likely be a department within your jurisdiction (e.g. planning or public works). If you wish to indicate more than one department as responsible for the action, clearly identify one as the lead agency and list the others in the “supporting agency” column.

- Enter an estimated cost in dollars if known; otherwise, enter “High,” “Medium,” or “Low,” as determined for the prioritization process described in the following section.
- Identify funding sources for the action. If it is a grant, include the grant-providing agency as well as funding sources for any required cost share. If it is another outside funding source such as a non-profit funding source or a donation, include the source and any requirements for receiving the funding. Refer to your fiscal capability assessment to identify possible sources of funding and refer to the table on page 16 of these instructions for project eligibility for FEMA’s hazard mitigation assistance grant programs.
- Indicate the time line as “short-term” (1 to 5 years) or “long-term” (5 years or greater) or “ongoing” (a continual program)

### Mitigation Action Priority

Complete the information in the table titled “Mitigation Action Priority” as follows:

- **Action #**—Indicate the action number from the Hazard Mitigation Action Plan Matrix table.
- **# of Objectives Met**—Enter the number of objectives the action will meet.
- **Benefits**—Enter “High,” “Medium” or “Low” as follows:
  - High—Action will provide an immediate reduction of risk exposure for life and property.
  - Medium—Action will have a long-term impact on the reduction of risk exposure for life and property, or action will provide an immediate reduction in the risk exposure for property.
  - Low—Long-term benefits of the action are difficult to quantify in the short term.
- **Cost**—Enter “High,” “Medium” or “Low” as follows:
  - High—Existing funding will not cover the cost of the action; implementation would require new revenue through an alternative source (for example, outside funding sources, bonds, grants, and fee increases).

**Action Numbering**

Actions are to be numbered using the three-letter code for your jurisdiction shown below, followed by a hyphen and the action’s sequential number:

- San Mateo County—SMC-1, SMC-2...
- Atherton City—ATH-1, ATH-2...
- Belmont City—BEL-1, BEL-2...
- Brisbane City—BRS-1, BRS-2...
- Burlingame City—BRL-1, BRL-2...
- Colma City—CLM-1, CLM-2...
- Daly City—DLY-1, DLY-2...
- East Palo Alto City—EPA-1, EPA-2...
- Foster City—FOS-1, FOS-2...
- Half Moon Bay City—HMB-1, HMB-2...
- Hillsborough City—HLS-1, HLS-2...
- Menlo Park City—MPK-1, MPK-2...
- Millbrae City—MLB-1, MLB-2...
- Pacifica City—PAC-1, PAC-2...
- Portola Valley City—PTV-1, PTV-2...
- Redwood City—RDW-1, RDW-2...
- San Bruno City—SBR-1, SBR-2...
- San Carlos City—SCR-1, SCR-2...
- San Mateo City—SMT-1, SMT-2...
- South San Francisco City—SSF-1, SSF-2...
- Woodside City—WDS-1, WDS-2...
- Coastside Water —CSW-1, CSW-2...
- Colma Fire —CFD-1, CFD-2...
- Flood & Sea Level —FSL-1, FSL-2...
- Harbor District —HRB-1, HBR-2
- Highland Recreational —HLD-1, HLD-2...
- Jefferson Union HS —JEF-1, JEF-2...
- Menlo Park Fire —MPF-1, MPF-2...
- Mid-Pen Reg Open Space District —MPR-1, MPR-2...
- Mid-Peninsula Water —MPW-1, MPW-2...
- Montara Water & Sewer —MWS-1, MWS-2...
- North Coast Water —NCW-1, NCW-2...
- Office of Education —OED-1, OED-2...
- San Mateo Community College —SCC-1, SCC-2...
- San Mateo RCD —SRC-1, SRC-2...
- Westborough Water —WBW-1, WBW-2...
- Woodside Fire —WFD-1, WFD-2...

- Medium—The action could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the action would have to be spread over multiple years.
  - Low—The action could be funded under the existing budget. The action is part of or can be part of an ongoing existing program.
- **Do Benefits Exceed the Cost?**—Enter “Yes” or “No.” This is a qualitative assessment. Enter “Yes” if the benefit rating (high, medium or low) is the same as or higher than the cost rating (high benefit/high cost; high benefit/medium cost; medium benefit/low cost; etc.). Enter “No” if the benefit rating is lower than the cost rating (medium benefit/high cost, low benefit/medium cost; etc.)
  - **Is the Action Eligible for Outside Funding Sources?**—Enter “Yes” or “No.” For grant funding, refer to the fact sheet on FEMA hazard mitigation grant programs in the annex preparation toolkit and the table on page 16 of these instructions.
  - **Can Action Be Funded Under Existing Program Budgets?**—Enter “Yes” or “No.” In other words, is this action currently budgeted for, or would it require a new budget authorization or funding from another outside source such as grants, non-profit funding, or donations?
  - **Implementation Priority**— Enter “High,” “Medium” or “Low” as follows:
    - High Priority—An action that meets multiple objectives, has benefits that exceed costs, and has a secured source of funding. Action can be completed in the short term (1 to 5 years).
    - Medium Priority—An action that meets multiple objectives, has benefits that exceed costs, and is eligible for funding though no funding has yet been secured for it. Action can be completed in the short term (1 to 5 years), once funding is secured. Medium-priority actions become high-priority actions once funding is secured.
    - Low Priority—An action that will mitigate the risk of a hazard, has benefits that do not exceed the costs or are difficult to quantify, has no secured source of funding, and is not eligible for any known outside funding sources. Action can be completed in the long term (1 to 10 years). Low-priority actions may be eligible for outside funding from programs that have not yet been identified.
  - **Outside Funding Source Pursuit Priority**— Enter “High,” “Medium” or “Low” as follows:
    - High Priority—An action that meets identified outside funding source eligibility requirements, has high benefits, and is listed as high or medium implementation priority; local funding options are unavailable or available local funds could be used instead for actions that are not eligible to be funded by outside sources.
    - Medium Priority—An action that meets identified outside funding source eligibility requirements, has medium or low benefits, and is listed as medium or low implementation priority; local funding options are unavailable.
    - Low Priority—An action that has not been identified as meeting any outside funding source eligibility requirements.

Actions identified as high-outside-funding-pursuit priority actions should be closely reviewed for consideration when outside funding source opportunities arise.

**Note:** If a jurisdiction wishes to identify an action as high priority that is outside of the prioritization scheme for high priorities, a note indicating so should be inserted and a rationale should be provided.



## Analysis of Mitigation Actions

In the table titled “Analysis of Mitigation Actions,” for each combination of hazard type and mitigation type, enter the numbers of all recommended actions that address that hazard type and can be categorized as that mitigation type. The mitigation types are as follows:

- **Prevention**—Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Property Protection**—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
- **Public Education & Awareness**—Actions to inform residents and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
- **Natural Resource Protection**—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, and green infrastructure.
- **Emergency Services**—Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
- **Structural Projects**—Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.
- **Climate Resilience**—Actions that incorporate methods to mitigate and/or adapt to the impacts of climate change. Includes aquifer storage and recovery activities, incorporating future conditions projections in project design or planning, or actions that specifically address jurisdiction-specific climate change risks, such as sea-level rise or urban heat island effect.
- **Community Capacity Building**—Actions that increase or enhance local capabilities to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. Includes staff training, memorandums of understanding, development of plans and studies, and monitoring programs.

This exercise demonstrates that the jurisdiction has selected a comprehensive range of actions. This table must show at least one action to address each “high” and “medium” ranked hazard. Planning partners should aim to identify at least one action for each mitigation type, but this is not required.

An example of a completed “Analysis of Mitigation Actions” table is provided below. Note that an action can be more than one mitigation type.

Sample Completed Table – Analysis of Mitigation Actions								
Hazard Type	Action Addressing Hazard, by Mitigation Type							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Dam Failure	EX-2, 3, 4, 5, 6	EX-1, 6	EX-4, 6		EX-8, 11			EX-3, 4, 8, 9, 10

Hazard Type	Action Addressing Hazard, by Mitigation Type							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
Drought	EX-2	EX-1	EX-4					EX-3, 4, 8, 9, 10
<b>Medium-Risk Hazards</b>								
Earthquake	EX-2, 3, 4, 5, 7	EX-1, 7	EX-4		EX-8, 11			EX-3, 4, 8, 9
Flooding	EX-2, 3, 4, 5, 6, 7	EX-1, 6, 7	EX-4, 6	EX-9	EX-8, 11	EX-6		EX-3, 4, 8, 9, 10
Landslide	EX-2, 3, 4, 5, 7	EX-1, 7	EX-4		EX-8, 11			EX-3, 4, 8, 9, 10
<b>Low-Risk Hazards</b>								
Severe Weather	EX-2, 3, 4, 5, 7	EX-1, 7, 9	EX-4		EX-8, 9, 11		EX-8, 7	EX-3, 4, 8, 9, 10
Wildfire	EX-2, 3, 4, 5, 7	EX-1, 7, 9	EX-4, 9	EX-9	EX-8, 11			EX-3, 4, 8, 9, 10

## PUBLIC OUTREACH

FEMA requirements for public outreach will be met by the County’s engagement efforts and are included in the main part of the plan. These may include public meetings, a StoryMap, surveys, etc. If individual jurisdictions want to have a more robust outreach for their local community, the public outreach table in each annex may be used to memorialize those local efforts.

This table should record local public outreach efforts made by your jurisdiction to inform the community of the plan update process. Examples may include local surveys on hazard awareness/preparedness, social media blasts, press releases, and outreach to local groups (CERT, senior citizen organizations, etc.) **This section is optional.**

## INFORMATION SOURCES USED FOR THIS ANNEX

This section should describe what resources you used to complete the annex and how you used them. The sources used for Phases 1 and 2 should have been entered previously. List any additional sources used for the preparation of the Phase 3 annex. Review to ensure that all materials used in all three phases are identified. Providing this information is a requirement to pass the state and FEMA review process.

## FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

In this section, identify any future studies, analyses, reports, or surveys your jurisdiction needs to better understand its vulnerability to identified or currently unidentified risks. These could be needs based on federal or state agency mandates. **This section is optional.**

## ADDITIONAL COMMENTS

Use this section to add any additional information pertinent to hazard mitigation and your jurisdiction not covered in this template. **This section is optional.**

**THIS COMPLETES PHASE 3**

## APPENDIX— Risk Ranking Calculation Methodology

The instructions below describe the methodology for how risk rankings were derived in the “Loss Matrix” spreadsheet provided with the annex preparation toolkit. The risk-ranking for each hazard assessed its probability of occurrence and its potential impact on people, property, and the economy. Refer to the Loss Matrix spreadsheet in order to follow along.

### Probability of Occurrence

A probability factor is assigned based on how often a hazard is likely to occur. The probability of occurrence of a hazard event is generally based on past hazard events in an area, although weight can be given to expected future probability of occurrence based on established return intervals and changing climate conditions. For example, if your jurisdiction has experienced two damaging floods in the last 25 years, the probability of occurrence is high for flooding and scores a 3 under this category. If your jurisdiction has experienced no damage from landslides in the last 100 years, your probability of occurrence for landslide is low, and scores a 1 under this category. Each hazard was assigned a probability factor as follows:

- High—Hazard event is likely to occur within 25 years (Probability Factor = 3)
- Medium—Hazard event is likely to occur within 100 years (Probability Factor = 2)
- Low—Hazard event is not likely to occur within 100 years (Probability Factor = 1)
- None—There is no exposure to the hazard and no probability of occurrence (Probability Factor = 0)

### Potential Impacts of Each Hazard

The impact of each hazard is divided into three categories: impacts on people, impacts on property, and impacts on the economy. These categories are also assigned weighted values. Impact on people was assigned a weighting factor of 3, impact on property was assigned a weighting factor of 2 and impact on the economy was assigned a weighting factor of 1.

Impact factors for each category (people, property, economy) are described below:

- **People**—Values are assigned based on the percentage of the total *population exposed* to the hazard event. The degree of impact on individuals will vary and is not measurable, so the calculation assumes for simplicity and consistency that all people exposed to a hazard because they live in a hazard zone will be equally impacted when a hazard event occurs. Impact factors were assigned as follows:
  - High—25 percent or more of the population is exposed to a hazard (Impact Factor = 3)
  - Medium—10 percent to 24 percent of the population is exposed to a hazard (Impact Factor = 2)
  - Low—9 percent or less of the population is exposed to the hazard (Impact Factor = 1)
  - No impact—None of the population is exposed to a hazard (Impact Factor = 0)
- **Property**—Values are assigned based on the percentage of the total *property value exposed* to the hazard event:
  - High—25 percent or more of the total replacement value is exposed to a hazard (Impact Factor = 3)
  - Medium—10 percent to 24 percent of the total replacement value is exposed to a hazard (Impact Factor = 2)
  - Low—9 percent or less of the total replacement value is exposed to the hazard (Impact Factor = 1)



- No impact—None of the total replacement value is exposed to a hazard (Impact Factor = 0)
- **Economy**—Values were assigned based on the percentage of the total *property value vulnerable* to the hazard event. Values represent estimates of the loss from a major event of each hazard in comparison to the total replacement value of the property exposed to the hazard. For some hazards, such as wildland fire and landslide, vulnerability may be considered to be the same or a portion of exposure due to the lack of loss estimation tools specific to those hazards.
  - High—Estimated loss from the hazard is 10 percent or more of the total replacement value (Impact Factor = 3)
  - Medium—Estimated loss from the hazard is 5 percent to 9 percent of the total replacement value (Impact Factor = 2)
  - Low—Estimated loss from the hazard is 4 percent or less of the total replacement value (Impact Factor = 1)
  - No impact—No loss is estimated from the hazard (Impact Factor = 0).

### **Impacts on People**

The percent of the total population exposed to each hazard of concern with a defined extent and location (e.g. floodplain) can be found in the loss estimate matrix in the **green highlighted column**. For those hazards that do not have a defined extent and location the entire population or a portion of the population is considered to be exposed, depending on the hazard. For the drought hazard, it is common for jurisdictions to list “low” or “none,” because all people in the planning area would be exposed to drought, but impacts to the health and safety of individuals are expected to be minimal.

### **Impacts on Property**

The percent of the total value exposed to each hazard of concern with a defined extent and location (e.g. floodplain) can be found in the loss estimate matrix in the **blue highlighted column**. For those hazards that do not have a defined extent and location (e.g. severe weather) the entire building stock is generally considered to be exposed. For the drought hazard, it is common for jurisdictions to list “low” or “none,” because all structures in the planning area would be exposed to drought, but impacts to structures are expected to be minimal.

### **Impacts on the Economy**

The loss estimates for each hazard of concern that was modeled (i.e. dam failure, flood, earthquake) can be found in the loss estimate matrix in the **purple highlighted column**. For those hazards that have a defined extent and location, but do not have modelled loss results, loss estimates can be the same as exposure or a portion thereof. For example, a large percentage of the building stock may be exposed to landslide or wildland fire risk, but it would not be expected that one event that resulted in loss to all exposed structures would occur. For those hazards that do not have a defined extent and location, exposure is based on the hazard type.

## **Risk Rating for Each Hazard**

A risk rating for each hazard was determined by multiplying the assigned probability factor by the sum of the weighted impact factors for people, property and the economy:

$$\text{Risk Rating} = \text{Probability Factor} \times \text{Weighted Impact Factor \{people + property + economy\}}$$

This is the number that is shown in the risk ranking table in your template. Generally, score of 30 or greater receive a “high” rating, score between 15 and 30 receive a “medium” rating, and score of less than 15 receives a “low” rating.

**INSTRUCTIONS FOR COMPLETING  
ANNEXES WITH EQUITY LENS FOR  
CITIES AND COUNTY**





# INSTRUCTIONS FOR COMPLETING CITY/COUNTY ANNEX TEMPLATE/ WITH AN EQUITY LENS

**Note Regarding Equity Lensing.** The Core Planning Team and Steering Committee for the 2021 San Mateo County Multijurisdictional Local Hazard Mitigation Plan update have decided to add another layer of resolution to the risk assessment and action planning portions of this plan update, applying an “equity lens”. An equity lens is defined as a critical thinking approach to undoing institutional and structural biases, which evaluates burdens, benefits, and outcomes to underserved communities. Application of the equity lens to risk ranking and action plan prioritization was determined to be “optional” for all planning partners. These instructions have been enhanced to include the equity lens options for Risk Ranking and Action Plan prioritization.

Jurisdictional annex templates for the 2021 San Mateo Multijurisdictional Local Hazard Mitigation Plan update will be completed in three phases. **This document provides instructions for completing all phases of the template for cities and counties.**

The target timeline for completion is as follows:

- **Phase 1**—Team, Profile, Trends, and Previous Plan Status
  - **Deployed:** February 19, 2021
  - **Due:** March 19, 2021 by close of business
- **Phase 2**—Capability Assessment, Integration Review, and Information Sources
  - **Deployed:** April 2, 2021
  - **Due:** May 21, 2021 by close of business, Pacific Time
- **Phase 3**—Risk Assessment, Action Plan, Information Sources, Future Needs, and Additional Comments
  - **Deployed:** June 11, 2021

## A Note About Formatting

The template for the annex is a Microsoft Word document in a format that will be used in the final plan. Partners are asked to use this template so that a uniform product will be completed for each partner.

Content should be entered directly into the template rather than creating text in another document and pasting it into the template. Text from another source may alter the formatting of the document.

**DO NOT** convert this document to a PDF.

The section and table numbering in the document will be updated when completed annexes are combined into the final document. Please do not adjust any of the numbering.

For planning partners who participated in the 2016 planning effort, relevant information has been brought over to the 2021 template. Fields that require attention have been highlighted using the following color coding:

- **Green:** Text has been brought over from 2016 Plan and should be reviewed and updated as needed.
- **Blue:** This is a new field that will require information that was not included in 2016.

**Un-highlight each field that you update so that reviewers will know an edit has been made.**

New planning partners will need to complete the template in its entirety.

- 
- **Mandatory Phase 3 Workshops:** Targeted for the week of June 14. We will schedule multiple workshops during that week to provide options for attendance
  - **Due: July 23, 2021 by close of business, Pacific Time**

Direct any questions about your Phase 3 template to:

**Bart Spencer**  
Tetra Tech  
Phone: (650) 324-1810  
E-mail: [bart.spencer@tetrattech.com](mailto:bart.spencer@tetrattech.com)

Submit your completed Phase 3 template in electronic format to:

**Megan Brotherton**  
Tetra Tech  
Phone: (808) 339-9119  
E-mail: [megan.brotherton@tetrattech.com](mailto:megan.brotherton@tetrattech.com)



## IMPORTANT! READ THIS FIRST

Phase 1 and Phase 2 templates were previously provided to your jurisdiction for completion.

If your jurisdiction returned the completed Phase 1 & 2 templates:

- The Phase 1 & 2 content you provided is already incorporated into your Phase 3 template.
- Review the template to see if we have inserted any comments requesting further work to be done on Phase 1 or 2
  - ***If any comments are included, address them.*** Then, begin your work on Phase 3 following the Phase 3 instructions beginning on page 13.
  - If no comments are included, then you **DO NOT** need to do any further work on the Phase 1 or Phase 2 content. ***Go directly to the instructions for Phase 3, beginning on page 13.***

If your jurisdiction has **NOT** yet done any work on the Phase 1 or Phase 2 template:

- Follow the instructions beginning on page 3 for providing the Phase 1 and Phase 2 information.
- Then proceed with the Phase 3 instructions beginning on page 13.

If your jurisdiction started work on the Phase 1 or 2 template but never completed and submitted it, copy the work you had completed so far into the new template. Then complete Phases 1, 2, and 3 following the instructions provided here.

## PHASE 1 INSTRUCTIONS

### CHAPTER TITLE

In the chapter title at the top of Page 1, type in the complete official name of your municipality (e.g., City of Pleasantville, West County). Do not change the chapter number. Revise only the jurisdiction name. If your jurisdiction's name has already been entered, verify that wording and spelling are correct; revise as needed.

### LOCAL HAZARD MITIGATION PLANNING TEAM

#### Points of Contact

Provide the name, title, mailing address, telephone number, and e-mail address for the primary point of contact for your jurisdiction. This should be the person responsible for monitoring, evaluating, and updating the annex for your jurisdiction. This person should also be the principle liaison between your jurisdiction and the Steering Committee overseeing development of this plan.

In addition, designate an alternate point of contact. This would be a person to contact should the primary point of contact be unavailable or no longer employed by the jurisdiction.

*Note: Both of these contacts should match the contacts that were designated in your jurisdiction's letter of intent to participate in this planning process. If you have changed the primary or secondary contact, let the planning team know by inserting a comment into the document.*

#### Who Should Be on the Local Mitigation Planning Team

The Local Hazard Mitigation Planning Team is responsible for developing your jurisdiction's annex to the hazard mitigation plan. Team membership should represent agencies with authority to regulate development and enforce local ordinances or regulatory standards, such as building/fire code enforcement, emergency management, emergency services, floodplain management, parks and recreation, planning/ community development, public information, public works/ engineering, stormwater management, transportation, or infrastructure.

#### Participating Planning Team

Populate Table 1-1 with the names of staff from your jurisdiction who participated in preparing this annex or otherwise contributed to the planning process for this hazard mitigation plan.

### JURISDICTION PROFILE

Provide information specific to your jurisdiction as indicated, in a style similar to the examples provided below. This should be information that will not be provided in the overall mitigation plan document.

#### Location and Features

Describe the community's location, size, and prominent features, in a statement similar to the example below:

**EXAMPLE:** The City of Jones is in the northwest portion of Smith County, along the Pacific Coast in northern California. It is almost 150 miles northeast of San Francisco. The city's total area is 4.2 square miles, with boundaries generally extending north-south from State Highway 111 to the

Johnson River and east-west from Coast Road to East Frank Avenue. The City of Allen is to the north, unincorporated county is to the west, the City of Bethany is to the south, and the Pacific Ocean is to the west.

Jones is home to the University of Arbor, Bickerson Manufacturing, and the western portion of Soosoo National Park. Significant geographic features include the Watery River, which flows southwest across the city, Lake Splash in the city's northwest corner, and the foothills of the Craggy Mountains on the east side.

## History

Describe the community's history, focusing on economy and development, and note its year of incorporation, in a statement similar to the example below:

**EXAMPLE:** The City of Jones was incorporated in 1858. The area was settled during the gold rush in the 1850s as a supply center for miners. As the gold rush died down, timber and fishing became the area's major economic resources. By 1913, the Jones Teachers College, a predecessor to today's University of Arbor, was founded. Recently, the presence of the college has come to shape Jones' population into a young and educated demographic. In 1981 the City developed the Jones Marsh and Wildlife Sanctuary, an environmentally friendly sewage treatment enhancement system.

With numerous annexations since its original incorporation, the city's area has almost doubled. Today it features a commercial core in the center of the city, with mostly residential areas to the north and south, the university to the west and the national park on the east.

## Governing Body Format

Describe the community's key governance elements and staffing, in a statement similar to the example below:

**EXAMPLE:** The City of Jones is governed by a five-member city council. The City consists of six departments: Finance, Environmental Services, Community Development, Public Works, Police, and the City Manager's Office. The City has 13 commissions and task forces, which report to the City Council. The City currently employs a total of 155 employees (full-time equivalent).

The City Council assumes responsibility for the adoption of this plan; the City Manager will oversee its implementation.

## CURRENT TRENDS

### Population

Provide the most current population estimate for your jurisdiction based on an official means of tracking (e.g., the U.S. Census or state agency that develops population estimates). Describe the current estimate and recent population trends in a statement similar to the example below.

**EXAMPLE:** According to California Department of Finance, the population of Jones as of July 2020 was 17,280. Since 2010, the population has grown at an average annual rate of 1.2 percent, though that rate is declining, with an annual average of only 0.8 percent since 2016.



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## Development

In the highlighted text that says, “Describe trends in general,” provide a brief description of your jurisdiction’s recent development trends in a statement similar to the example below:

**EXAMPLE:** Anticipated future development for Jones is low to moderate, consisting primarily of residential growth. Recent development has been mostly infill. There has been a focus on affordable housing and a push for more secondary mother-in-law units. Future growth in the City will be managed as identified in the City’s 2018 general plan. City actions, such as those relating to land use, annexations, zoning, subdivision and design review, redevelopment, and capital improvements, must be consistent with the plan.

Complete the table titled “Recent and Expected Future Development Trends.” Note:

- The portion of the table requesting the number of permits by year is specifically looking for development permits for **new** construction. If your jurisdiction does not have the ability to differentiate between permit types, list the total number of permits and indicate “N/A” (not applicable) for the permit sub-types.
- If your jurisdiction does not have the ability to track permits by hazard area, delete the bullet list of hazard areas and insert a qualitative description of where development has occurred.

## STATUS OF PREVIOUS PLAN ACTIONS

*Note that this section only applies to jurisdictions that are conducting updates to previously approved hazard mitigation plans. If your jurisdiction has not previously participated in an approved plan, enter an “X” in the box at the beginning of this section and do not complete the section. We will remove this section from your final annex.*

*Also note that this section is further back in the annex than the rest of the Phase 1 content. Some Phase 2 sections are included before it.*

All action items identified in prior mitigation plans must be reconciled in this update. Action items must all be marked as **ONE** of the following: check the appropriate box (place an X) and provide information as follows:

- **Completed**—If an action has been completed since the prior plan was prepared, check the “Completed” box and **provide a date of completion in the comment section**. If an action has been initiated and is an ongoing program (e.g. annual outreach event), you may mark it as completed and **note that it is ongoing in the comments**. If an action addresses an ongoing program you would like to continue to include in your action plan, see the “Carried Over to Plan Update” bullet below.
- **Removed**—If action items are to be removed because they are no longer feasible, a reason must be given. Lack of funding does not mean that it is no longer feasible, unless the sole source of funding for an action is no longer available. **Place a comment in the comment section explaining why the action is no longer feasible or barriers that prevented the action from being implemented (e.g., “Action no longer considered feasible due to lack of political support.”)**. If the wording and/or intent of a previously identified action is unclear, this can be a reason for removal. A change in community priorities may also be a reason for removal and should be discussed in the comments.
- **Carried Over to Plan Update**—If an action is in progress, is ongoing, or has not been initiated and you would like to carry it over to the plan update, check the “Check if Yes” column under “Carried Over to Plan Update.” Selecting this option indicates that the action will be included in the mitigation action

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plan for this update. If you are carrying over an action to the update, **include a comment describing any action that has been taken or why the action was not taken** (specifically, any barriers or obstacles that prevented the action from moving forward or slowed progress). Leave the last column, “Action # in Update,” blank at this point. This will be filled in after completing the updated action plan in Phase 3.

Ensure that you have provided **a status and a comment for each action.**

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, all action items from your jurisdiction’s previous hazard mitigation plan that are marked as “Carried Over to Plan Update” will need to be included in the action plan.

**THIS COMPLETES PHASE 1**

## PHASE 2 INSTRUCTIONS

### CAPABILITY ASSESSMENT

*Note that it is unlikely that one person will be able to complete all sections of the capability assessment alone. The primary preparer will likely need to reach out to other departments within the local government for information. It may be beneficial to provide these individuals with background information about this planning process, as input from them will be needed again during Phase 3 of the annex development.*

### Planning and Regulatory Capability

In the table titled “Planning and Regulatory Capability,” indicate “Yes” or “No” for each listed code, ordinance, requirement, or planning document in each of the following columns:

- **Local Authority**—Enter “Yes” if your jurisdiction has prepared or adopted the identified item; otherwise, enter “No.” If yes, then enter the code, ordinance number, or plan name and its date of adoption in the comment’s column. *Note: If you enter yes, be sure to provide a comment with the appropriate code, ordinance or plan and date of adoption.*
- **Other Jurisdiction Authority**—Enter “Yes” if another agency (e.g., a state agency or special purpose district) enforces or administers the identified item in a way that may impact your jurisdiction or if any state or federal regulations or laws would prohibit local implementation of the identified item; otherwise, enter “No.” *Note: If you enter yes, be sure to provide a comment indicating the other agency and its relevant authority.*
- **State Mandated**—Enter “Yes” if state laws or other requirements enable or require the listed item to be implemented at the local level; otherwise, enter “No.” *Note: If you enter yes, be sure to provide a comment describing the relevant state mandate.*
- **Integration Opportunity**—Enter “Yes” if there are obvious ways that the code, ordinance, or plan can be coordinated with the hazard mitigation plan. Consider the following:
  - If you answered “Yes” in the Local Authority column for this item, then enter “Yes” for integration opportunity if any of the following are true:
    - The item already addresses hazards and their impacts and should be updated to reflect new information about risk from this hazard mitigation plan
    - The item does not address hazards and their impacts but is due for an update in the next 5 years and could be updated in a way that does address hazards and impacts
    - The item identifies projects for implementation, and these could be reviewed to determine if they can be modified to help address hazard mitigation goals
    - The item identifies projects for implementation and some of these should be considered for inclusion in the hazard mitigation action plan for your jurisdiction
  - If you answered “No” in the Local Authority column for this item, then enter “Yes” for integration opportunity if your jurisdiction will develop the item over the next 5 years

*Note: Each capability with a “Yes” answer to Integration Opportunity will be discussed in more detail later in the annex. You may wish to keep notes when assessing the Integration Opportunity or review the “Integration with Other Planning Initiatives” section below.*
- **Comments**—Enter the code number and adoption date for any local code indicated as being in place; provide other comments as appropriate to describe capabilities for each entry. **DO NOT OVERLOOK THIS STEP**



For the categories “General Plan” and “Capital Improvement Plan,” answer the specific questions shown, in addition to completing the four columns indicating level of capability.

## Development and Permit Capability

Complete the table titled “Development and Permitting Capabilities.”

## Fiscal Capability

Complete the table titled “Fiscal Capability” by indicating whether each of the listed financial resources is accessible to your jurisdiction. Enter “Yes” if the resource is fully accessible to your jurisdiction. Enter “No” if there are limitations or prerequisites that may hinder your use of this resource.

## Administrative and Technical Capability

Complete the table titled “Administrative and Technical Capability” by indicating whether your jurisdiction has access to each of the listed personnel resources. Enter “Yes” or “No” in the column labeled “Available?”. If yes, then enter the department and position title. If you have contract support with these capabilities, you can still answer “Yes.” Indicate in the department row that this resource is provided through contract.

## Education and Outreach Capability

Complete the table titled “Education and Outreach.”

### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, review all the above capability assessment tables and consider including actions to provide a capability that your jurisdiction does not currently have, update a capability that your jurisdiction does have, or implement an action that is recommended in an existing plan or program.

## National Flood Insurance Program Compliance

Complete the table titled “National Flood Insurance Program Compliance.”

## Community Classifications

Complete the table titled “Community Classifications” to indicate your jurisdiction’s participation in various national programs related to natural hazard mitigation. For each program enter “Yes” or “No” in the second column to indicate whether your jurisdiction participates. If yes, then enter the classification that your jurisdiction has earned under the program in the third column and the date on which that classification was issued in the fourth column; enter “N/A” in the third and fourth columns if your jurisdiction is not participating. If you do not know your current classification, information is available at the following websites:

- **Community Rating System**— <https://www.fema.gov/floodplain-management/community-rating-system>

- **Building Code Effectiveness Grading Schedule**— <https://www.isomitigation.com/bcegs/iso-s-building-code-effectiveness-grading-schedule-bcegs.html>
- **Public Protection Classification**— <https://www.isomitigation.com/ppc/>
- **Storm Ready**— <https://www.weather.gov/stormready/communities>
- **Firewise**— <http://www.firewise.org/usa-recognition-program/map-of-active-participants.aspx>

## Adaptive Capacity for Climate Change

Consider climate change impact concerns such as the following:

- Reduced snowpack
- Increased wildfires
- Sea level rise
- Inland flooding
- Threats to sensitive species
- Loss in agricultural productivity
- Public health and safety.

With those impacts in mind, complete the table titled “Adaptive Capacity for Climate Change” by indicating your jurisdiction’s capacity for each listed criterion as follows:

- **High**—The capacity exists and is in use.
- **Medium**—The capacity may exist but is not used or could use some improvement.
- **Low**—The capacity does not exist or could use substantial improvement.
- **Unsure**—Not enough information is known to assign a rating.

This is a subjective assessment but providing a few words of explanation is useful. It is highly recommended that you complete this table with an internal planning team after reviewing the results of the other capability assessment tables.

### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, review all the adaptive capacity criteria and consider including actions to improve the rating for those rated medium or low, to make use of the capacity for those rated high, or to acquire additional information for those rated unsure.

## INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. FEMA recommends integration as follows:

- Integrate hazard mitigation plan goals with community objectives (e.g. incorporate the goals for risk reduction and safety into the policies of other plans).
- Use the risk assessment to inform plans and policies (e.g. incorporate risk assessment findings into land use plans, site plan review, emergency operations plan).
- Implement mitigation actions through existing mechanisms (e.g. include mitigation projects in the capital improvement plan).
- Think about mitigation before and after a disaster (e.g. build recovery planning on existing mitigation plans and goals).

After reviewing the plans, programs and ordinances identified in the capability assessment tables, identify all plans and programs that have already been integrated with the hazard mitigation plan, and those that offer opportunities for future integration. The simplest way to do this is to review the Planning and Regulatory Capabilities table to see which items were marked as “Yes” under the Integration Opportunity column.

## Existing Integration

In the highlighted bullet list, list items for which you entered “Yes” under the Integration Opportunity column of the “Planning and Regulatory Capability” table because the plan or ordinance already addresses potential impacts or includes specific projects that should be included as action items in the mitigation action plan. Consider listing items marked as Completed in the “Status of Previous Plan Actions” table if they were indicated as being ongoing actions. Provide a brief description of how the plan or ordinance is integrated. Examples are as follows:

- **Capital Improvement Plan**—The capital improvement plan includes projects that can help mitigate potential hazards. The City will act to ensure consistency between the hazard mitigation plan and the current and future capital improvement plans. The hazard mitigation plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.
- **Building Code and Fire Code**—The City’s adoption of the 2016 California building, and fire codes incorporated local modifications to account for the climatic, topographic, and geographic conditions that exist in the City.
- **General Plan**—The general plan includes a Safety Element to protect the community from unreasonable risk by establishing policies and actions to avoid or minimize the following hazards:
  - Geologic and seismic hazards
  - Fire hazards
  - Hazardous materials
  - Flood control
  - Impacts from climate change.
- **Climate Action Plan**—The City’s Climate Action Plan includes projects for reducing greenhouse gas emissions and adapting to likely impacts of climate change. These projects were reviewed to identify cross-planning initiatives that serve both adaptation and mitigation objectives.



**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, any plans that fall into the “Existing Integration” category should be reviewed and elements from them should be included in the action plan as appropriate.

## Opportunities for Future Integration

List any remaining items that say “Yes” in the Integration Opportunity column in the Planning and Regulatory Capabilities table and explain the process by which integration could occur. Examples follow:

- **Zoning Code**—The City is conducting a comprehensive update to its zoning code. Additional mitigation and abatement measures will be considered for incorporation into the code.
- **Capital Improvement Projects**—Capital improvement project proposals may take into consideration hazard mitigation potential as a means of evaluating project prioritization.
- **Post-Disaster Recovery Plan**—The City does not have a recovery plan and intends to develop one as a mitigation planning action during the next five years. The plan will build on the goals and objectives identified in the hazard mitigation plan.

After you have accounted for all items marked as “Yes” under the Integration Opportunity column, consider other programs you may have in place in your jurisdiction that include routine consideration and management of hazard risk. Examples of such programs may include tree pruning programs, right-of-way mowing programs, erosion control or stream maintenance programs, etc. Add any such programs to the integration discussion and provide a brief description of how these programs manage (or could be adapted to manage) risk from hazards.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, an action to integrate any identified “Opportunities for Future Integration” should be considered for inclusion in the action plan.

## INFORMATION SOURCES USED FOR THIS ANNEX

*Note that this section will ultimately describe all information sources used to develop this annex, but that only the sources used for Phases 1 and 2 will be listed at this point. Additional sources will be added with the preparation of the Phase 3 annex.*

This section should describe what resources you used to complete the annex and how you used them. Several items are started for you but be sure to update and enhance any descriptions. Providing this information is a requirement to pass the state and FEMA review process.

**THIS COMPLETES PHASE 2**



We recommend including most large-scale disasters, unless you know that there were no impacts on your jurisdiction. Specifically, we recommend that you include these events if you have damage estimate information or can provide a brief description of impacts that occurred within your community. In addition to these events, refer to the NOAA storm events database included in the toolkit. We recommend conducting a search for the name of your jurisdiction in order to identify events with known impacts. Other potential sources of damage information include the following

- Preliminary damage estimates your jurisdiction filed with the county or state
- Insurance claims data
- Newspaper archives
- Emergency management documents (general plan safety element, emergency response plan, etc.)
- Resident input.

If you do not have estimates for costs of damage caused, list “Not Available” in the “Damage Assessment” column or list a brief description of the damage rather than a dollar value (e.g., Main Street closed as a result of flooding, downed trees and residential damage). Note that tracking such damage is a valid and useful mitigation action if your jurisdiction does not currently track such information.

## Hazard Risk Ranking

Risk ranking identifies which hazards pose the greatest risk to the community, based on how likely it is for each hazard to occur (this is called the community’s exposure) and how great an impact each hazard will have if it does occur (this is called the community’s vulnerability). Every jurisdiction has differing degrees of risk exposure and vulnerability and therefore needs to rank risk for its own area. The risk ranking for each jurisdiction has been calculated in the “Loss Matrix” spreadsheet included in the annex preparation toolkit. Two sets of ranking are provided. One ranking is the base ranking that utilizes the raw percentage of population exposed to each hazard to rank the impacts to population. The second ranking uses the social vulnerability metrics established by FEMA’s National Risk Index (NRI) to add an equity lens to the impact on population factor for the risk ranking application. Those planning partners applying the equity lens option should utilize the “Social Equity Version” for risk ranking provided in the loss matrix. The ranking is on the basis of risk ranking scores for each hazard that were calculated based on the hazard’s probability of occurrence and its potential impact on people, property and the economy.

The results for your jurisdiction have already been entered into the “Hazard Risk Ranking” table in your Phase 3 annex template. The hazard with the highest risk rating is listed at the top of table and was given a rank of 1; the hazard with the second highest rating is listed second with a rank of 2; and so on. Two hazards with equal risk ranking scores were given the same rank. Hazards were assigned to “High,” “Medium,” or “Low” risk categories based on the risk ranking score. If you wish to review the calculations in detail, the appendix at the end of these instructions describes the calculation methodology that the spreadsheet uses.

**Review the hazard risk ranking information that is included in your annex.** If these results differ from what you know based on substantiated data and documentation, you may alter the ranking and risk categories based on this knowledge. If you do so, indicate the reason for the change in your template. For example:

“Drought was ranked as low; however, the jurisdiction’s economy is heavily reliant on water-using industries, such as agriculture or manufacturing, so this hazard should be ranked as medium.”



**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, you will need to have at least one mitigation action for each hazard ranked as “high” or “medium.”

## **Jurisdiction-Specific Vulnerabilities**

### **Repetitive Loss Properties**

A repetitive loss property is any property for which FEMA has paid two or more flood insurance claims in excess of \$1,000 in any rolling 10-year period since 1978. In the space provided, the following information has been included in your annex based on data provided by FEMA:

- The number of any FEMA-identified repetitive-loss properties in your jurisdiction.
- The number of any FEMA-identified severe-repetitive-loss properties in your jurisdiction.
- The number (if any) of repetitive-loss or severe-repetitive-loss properties in your jurisdiction that have been mitigated. Mitigated for this exercise means that flood protection has been provided to the structure.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, if your jurisdiction has any repetitive loss properties, you should strongly consider including a mitigation action that addresses mitigating these properties.

### **Other Noted Vulnerabilities**

Review the results of the risk assessment included in the toolkit, your jurisdiction’s natural events history, and any relevant public comments/input, then develop a few sentences that discuss specific hazard vulnerabilities. You do not need to develop a sentence for every hazard but identify a few issues you would like to highlight. Also list any known hazard vulnerabilities in your jurisdiction that may not be apparent from the risk assessment and other information provided.

Spending some time thinking about the results of the risk assessment and other noted vulnerabilities will be a big help in the development of your hazard mitigation action plan. The following are examples of vulnerabilities you could identify through this exercise:

- About 45 percent of the population lives in the 0.2 percent annual chance flood hazard area, where flood insurance is generally not required.
- A magnitude 7.5 earthquake on the Smithburg Fault is estimated to produce nearly 1 million tons of structure debris.
- Over the past 10 years, the jurisdiction has experienced more than \$6 million in damage from severe storm events.

- More than 50 buildings are located in areas that would be permanently inundated with 12 inches of sea level rise.
- The results of the public survey indicated that 40 percent of Smithburg residents would not be able to be self-sufficient for 5 days following a major event.
- An urban drainage issue at a specific location results in localized flooding every time it rains.
- One area of the community frequently loses power due to a lack of tree maintenance.
- A critical facility, such as a police station, is not equipped with a generator.
- A neighborhood has the potential to have ingress and egress cut off as the result of a flood or earthquake (e.g. a bridge is the only access).
- Substantial number of buildings in one area of the community are unreinforced masonry or soft-story construction.
- An area along the river is eroding and threatening public and/or private property.
- A large visitor population that may not be aware of tsunami risk.

#### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, consider including actions to address the jurisdiction-specific vulnerabilities listed in this section.

## HAZARD MITIGATION ACTION PLAN

### Hazard Mitigation Action Plan Matrix

The hazard mitigation action plan is the heart of your jurisdictional annex. This is where you will identify the actions your jurisdiction would like to pursue with this plan.

#### Select Recommended Actions

All of the work that you have done thus far should provide you with ideas for actions. Throughout these instructions, green boxes labeled “Hazard Mitigation Action Plan Input” have indicated information that needs to be considered in the selection of mitigation actions. The following sections describe how to consider these and other information sources to develop a list of potential actions.

Be sure to consider the following factors in your selection of actions:

- Select actions that are consistent with the overall purpose, goals, and objectives of the hazard mitigation plan.
- Identify actions where benefits exceed costs.
- Include any action that your jurisdiction has committed to pursuing, regardless of eligibility from outside funding sources (grants, non-profit funding, donations, etc.).
- Know what is and is not eligible for funding under various federal programs (see the fact sheet on FEMA hazard mitigation grant programs in the annex preparation toolkit and the table below).

**Table 2. Federal Hazard Mitigation Grant Program Eligibility by Action Type**

<b>Eligible Activities</b>	<b>Hazard Mitigation Grant Program (HMGP)</b>	<b>Pre-Disaster Mitigation (PDM)</b>	<b>Flood Mitigation Assistance (FMA)</b>
<b>Mitigation Projects</b>			
Property Acquisition and Structure Demolition	√	√	√
Property Acquisition and Structure Relocation	√	√	√
Structure Elevation	√	√	√
Mitigation Reconstruction	√	√	√
Dry Floodproofing of Historic Residential Structures	√	√	√
Dry Floodproofing of Non-residential Structures	√	√	√
Generators	√	√	
Localized Flood Risk Reduction Projects	√	√	√
Non-Localized Flood Risk Reduction Projects	√	√	
Structural Retrofitting of Existing Buildings	√	√	√
Non-structural Retrofitting of Existing Buildings and Facilities	√	√	√
Safe Room Construction	√	√	
Wind Retrofit for One- and Two-Family Residences	√	√	
Infrastructure Retrofit	√	√	√
Soil Stabilization	√	√	√
Wildland fire Mitigation	√	√	
Post-Disaster Code Enforcement	√		
Advance Assistance	√		
5 Percent Initiative Projects*	√		
Aquifer and Storage Recovery**	√	√	√
Flood Diversion and Storage**	√	√	√
Floodplain and Stream Restoration**	√	√	√
Green Infrastructure**	√	√	√
Miscellaneous/Other**	√	√	√
<b>Hazard Mitigation Planning</b>	√	√	√
<b>Technical Assistance</b>			√
<b>Management Costs</b>	√	√	√

\* FEMA allows increasing the 5% initiative amount under the Hazard Mitigation Grant Program up to 10% for a presidential major disaster declaration. The additional 5% initiative funding can be used for activities that promote disaster-resistant codes for all hazards. As a condition of the award, either a disaster-resistant building code must be adopted, or an improved Building Code Effectiveness Grading Schedule is required.

\*\* Indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.



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## ***Material Previously Developed for This Annex***

### Capability Assessment Section—Planning and Regulatory Capability Table, Fiscal Capability Table, Administrative and Technical Capability Table, Education and Outreach Table, and Community Classification Table

Review these tables and consider the following:

- For any capability that you do not currently have, consider whether your jurisdiction should have this capability. If so, consider including an action to develop/acquire the capability.
- For any capability that you do currently have, consider whether this capability can be leveraged to increase or improve hazard mitigation in the jurisdiction.
- If any capabilities listed in the Planning and Regulatory Capabilities table have not been updated in more than 10 years, consider an action to review and update the capability and, as appropriate, incorporate hazard mitigation principles or information obtained in the risk assessment.
- Consider including actions that are identified in other plans and programs (capital improvement plans, strategic plans, etc.) as actions in this plan.

### Capability Assessment Section—National Flood Insurance Program Compliance table

Review the table and consider the following:

- If you have no certified floodplain managers and you have flood risk, consider adding an action to provide key staff members with training to obtain certification.
- If your flood damage prevention was last updated in or before 2004, you should identify an action to update your ordinance to ensure it is compliant with current NFIP requirements.
- If you have any outstanding NFIP compliance issues, be sure to add an action to address them.
- If flood hazard maps do not adequately address the flood risk within your jurisdiction, consider actions to request new mapping or conduct studies.
- If you wish to begin to participate in CRS or you already to participate and would like to improve your classification, consider this as an action.
- If the number of flood insurance policies in your jurisdiction is low relative to the number of structures in the floodplain, consider an action that will promote flood insurance in your jurisdiction.

### Capability Assessment Section— Adaptive Capacity for Climate Change Table

Consider your responses to this section:

- For criteria that you listed as medium or low, think of ways you could improve this rating (see adaptive capacity portion of the mitigation best practices catalog).
- For criteria you listed as high, think about how you can leverage this capacity to improve or enhance mitigation or continue to improve this capacity.
- For criteria that you were unable to provide responses for, consider ways you could improve your understanding of this capacity (see mitigation best practices and adaptive capacity catalog).

**Integration Review Section**

Review the items you identified in this section and consider an action that specifically says what the plan, code, ordinance etc. is and how it will be integrated. For items that address land use, include them in the prepopulated action in your template that reads as follows:

“Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including \_\_\_\_\_.”

**Risk Ranking Section**

You must identify at least one mitigation action that is clearly defined and actionable (i.e. not a preparedness or response action) for every hazard that is categorized in the risk ranking as “high” or “medium” risk.

**Jurisdiction-Specific Vulnerabilities Section**

Review the vulnerability issues that you identified in this section and consider actions to address them (see mitigation best practices catalog). Two examples are shown in the table below.

<b>Table 3. Example Actions to Address Jurisdiction-Specific Vulnerabilities</b>	
<b>Noted Vulnerability</b>	<b>Example Mitigation Action</b>
About 45 percent of the population lives in the 0.2 percent annual chance flood hazard area where flood insurance is generally not required.	Implement an annual public information initiative that targets residents in the 0.2 percent annual chance flood hazard area. Provide information on the availability of relatively low-cost flood insurance policies.
An urban drainage issue results in localized flooding every time it rains.	Replace undersized culverts that are contributing to localized flooding. Priority areas include: <ul style="list-style-type: none"> <li>• The corner of Main Street and 1st Street</li> <li>• Old Oak subdivision.</li> </ul>

**Status of Previous Plan Actions Section**

If your jurisdiction participated in a previous hazard mitigation plan, be sure to include any actions that were identified as “carry over” actions.

***Other Sources***

**Mitigation Best Practices Catalog**

A catalog that includes best practices identified by FEMA and other agencies, as well as recommendations from the steering committee and other stakeholders, is included in your toolkit. Review the catalog and identify actions your jurisdiction should consider for its action plan.

**Public Input**

Review input received during the process, specifically the public survey results included in your toolkit.

**Common Actions for All Partners**

The following six actions have been prepopulated in your annex template; **these six actions should be included in every annex and should not be removed:**

- Where appropriate, support retrofitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard.
- Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions within the community.
- Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
- Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements:
  - Enforce the flood damage prevention ordinance.
  - Participate in floodplain identification and mapping updates.
  - Provide public assistance/information on floodplain requirements and impacts.
- Identify and pursue strategies to increase adaptive capacity to climate change.
- Purchase generators for critical facilities and infrastructure that lack adequate back-up power.

In addition, the core planning team recommends that every planning partner strongly consider the following actions:

- Develop and implement a program to capture perishable data after significant events (e.g. high-water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.
- Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.
- Develop a post-disaster recovery plan and a debris management plan.
- Develop and/or update plans that support or enhance continuity of operations following disasters.

The specifics of all these common actions should be adjusted as needed for the particulars of each community.

## **Complete the Table**

Complete the table titled “Hazard Mitigation Action Plan Matrix” for all the actions you have identified and would like to include in the plan:

- Enter the action number (see box on next page) and description. **If the action is carried over from your previous hazard mitigation plan, return to the “Status of Previous Plan Actions” table you completed in Phase 1 and enter the new action number in the column labeled “Action # in Update.”**
- Indicate whether the action mitigates hazards for new and/or existing assets.
- Identify the specific hazards the action will mitigate (note: you must list each hazard by name; simply indicating “all hazards” is not deemed acceptable).
- Identify by number the mitigation plan objectives that the action addresses (see toolkit).
- Indicate who will be the lead in administering the action. This will most likely be a department within your jurisdiction (e.g. planning or public works). If you wish to indicate more than one department as responsible for the action, clearly identify one as the lead agency and list the others in the “supporting agency” column.



- Enter an estimated cost in dollars if known; otherwise, enter “High,” “Medium,” or “Low,” as determined for the prioritization process described in the following section.
- Identify funding sources for the action. If it is a grant, include the grant-providing agency as well as funding sources for any required cost share. If it is another outside funding source such as a non-profit funding source or a donation, include the source and any requirements for receiving the funding. Refer to your fiscal capability assessment to identify possible sources of funding and refer to the table on page 17 of these instructions for project eligibility for FEMA’s hazard mitigation assistance grant programs.
- Indicate the timeline as “short-term” (1 to 5 years) or “long-term” (5 years or greater) or “ongoing” (a continual program)

## Mitigation Action Priority

Complete the information in the table titled “Mitigation Action Priority” as follows:

- **Action #**—Indicate the action number from the Hazard Mitigation Action Plan Matrix table.
- **# of Objectives Met**—Enter the number of objectives the action will meet.
- **Benefits**—Enter “High,” “Medium” or “Low” as follows:
  - High—Action will provide an immediate reduction of risk exposure for life and property.
  - Medium—Action will have a long-term impact on the reduction of risk exposure for life and property, or action will provide an immediate reduction in the risk exposure for property.
  - Low—Long-term benefits of the action are difficult to quantify in the short term.
- **Cost**—Enter “High,” “Medium” or “Low” as follows:
  - High—Existing funding will not cover the cost of the action; implementation would require new revenue through an alternative source (for example, outside funding sources, bonds, grants, and fee increases).

### Action Numbering

Actions are to be numbered using the three-letter code for your jurisdiction shown below, followed by a hyphen and the action’s sequential number:

- San Mateo County—SMC-1, SMC-2...
- Atherton City—ATH-1, ATH-2...
- Belmont City—BEL-1, BEL-2...
- Brisbane City—BRS-1, BRS-2...
- Burlingame City—BRL-1, BRL-2...
- Colma City—CLM-1, CLM-2...
- Daly City—DLY-1, DLY-2...
- East Palo Alto City—EPA-1, EPA-2...
- Foster City—FOS-1, FOS-2...
- Half Moon Bay City—HMB-1, HMB-2...
- Hillsborough City—HLS-1, HLS-2...
- Menlo Park City—MPK-1, MPK-2...
- Millbrae City—MLB-1, MLB-2...
- Pacifica City—PAC-1, PAC-2...
- Portola Valley City—PTV-1, PTV-2...
- Redwood City—RDW-1, RDW-2...
- San Bruno City—SBR-1, SBR-2...
- San Carlos City—SCR-1, SCR-2...
- San Mateo City—SMT-1, SMT-2...
- South San Francisco City—SSF-1, SSF-2...
- Woodside City—WDS-1, WDS-2...
- Coastside Water —CSW-1, CSW-2...
- Colma Fire —CFD-1, CFD-2...
- Flood & Sea Level —FSL-1, FSL-2...
- Harbor District —HRB-1, HBR-2
- Highland Recreational —HLD-1, HLD-2...
- Jefferson Union HS —JEF-1, JEF-2...
- Menlo Park Fire —MPF-1, MPF-2...
- Mid-Pen Reg Open Space District —MPR-1, MPR-2...
- Mid-Peninsula Water —MPW-1, MPW-2...
- Montara Water & Sewer —MWS-1, MWS-2...
- North Coast Water —NCW-1, NCW-2...
- Office of Education —OED-1, OED-2...
- San Mateo Community College —SCC-1, SCC-2...
- San Mateo RCD —SRC-1, SRC-2...
- Westborough Water —WBW-1, WBW-2...
- Woodside Fire —WFD-1, WFD-2...

- Medium—The action could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the action would have to be spread over multiple years.
  - Low—The action could be funded under the existing budget. The action is part of or can be part of an ongoing existing program.
- **Do Benefits Exceed the Cost?**—Enter “Yes” or “No.” This is a qualitative assessment. Enter “Yes” if the benefit rating (high, medium, or low) is the same as or higher than the cost rating (high benefit/high cost; high benefit/medium cost; medium benefit/low cost; etc.). Enter “No” if the benefit rating is lower than the cost rating (medium benefit/high cost, low benefit/medium cost; etc.)
  - **Is the Action Eligible for Outside Funding Sources?**—Enter “Yes” or “No.” For grant funding, refer to the fact sheet on FEMA hazard mitigation grant programs in the annex preparation toolkit and the table on page 17 of these instructions.
  - **Can Action Be Funded Under Existing Program Budgets?**—Enter “Yes” or “No.” In other words, is this action currently budgeted for, or would it require a new budget authorization or funding from another outside source such as grants, non-profit funding, or donations?
  - **Implementation Priority**— Enter “High,” “Medium” or “Low” as follows:
    - High Priority—An action that meets multiple objectives, has benefits that exceed costs, and has a secured source of funding. Action can be completed in the short term (1 to 5 years).
    - Medium Priority—An action that meets multiple objectives, has benefits that exceed costs, and is eligible for funding though no funding has yet been secured for it. Action can be completed in the short term (1 to 5 years) once funding is secured. Medium-priority actions become high-priority actions once funding is secured.
    - Low Priority—An action that will mitigate the risk of a hazard, has benefits that do not exceed the costs or are difficult to quantify, has no secured source of funding, and is not eligible for any known outside funding sources. Action can be completed in the long term (1 to 10 years). Low-priority actions may be eligible for outside funding from programs that have not yet been identified.
  - **Outside Funding Source Pursuit Priority**— Enter “High,” “Medium” or “Low” as follows:
    - High Priority—An action that meets identified outside funding source eligibility requirements, has high benefits, and is listed as high or medium implementation priority; local funding options are unavailable or available local funds could be used instead for actions that are not eligible to be funded by outside sources.
    - Medium Priority—An action that meets identified outside funding source eligibility requirements, has medium or low benefits, and is listed as medium or low implementation priority; local funding options are unavailable.
    - Low Priority—An action that has not been identified as meeting any outside funding source eligibility requirements.

Actions identified as high-outside-funding-pursuit priority actions should be closely reviewed for consideration when outside funding source opportunities arise.

- **Equity Lens Priority**- Enter “High,” “Medium” or “Low” as follows:
  - High Priority—The mitigation action is designed to reduce harm to multiple socially vulnerable groups in the County from one or more of the hazards identified in the LHMP.
  - Medium Priority— The mitigation action is designed to reduce harm to a single socially vulnerable population in the County from at least one hazard identified in the LHMP.

- **Low Priority**—The mitigation action fails to advance social equity in any measurable way in the County

An equity screening tool has been provided in **Appendix B** to these instructions that can be utilized to screen each action to help prioritize each action to the above criteria. The screening of each action using this tool is considered to be optional and not required for jurisdictions applying the equity lens to their action plan prioritization scheme.

**Note:** If a jurisdiction wishes to identify an action as high priority that is outside of the prioritization scheme for high priorities, a note indicating so should be inserted and a rationale should be provided.

## Analysis of Mitigation Actions

In the table titled “Analysis of Mitigation Actions,” for each combination of hazard type and mitigation type, enter the numbers of all recommended actions that address that hazard type and can be categorized as that mitigation type. The mitigation types are as follows:

- **Prevention**—Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Property Protection**—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
- **Public Education & Awareness**—Actions to inform residents and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
- **Natural Resource Protection**—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, and green infrastructure.
- **Emergency Services**—Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
- **Structural Projects**—Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.
- **Climate Resilience**—Actions that incorporate methods to mitigate and/or adapt to the impacts of climate change. Includes aquifer storage and recovery activities, incorporating future conditions projections in project design or planning, or actions that specifically address jurisdiction-specific climate change risks, such as sea-level rise or urban heat island effect.
- **Community Capacity Building**—Actions that increase or enhance local capabilities to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. Includes staff training, memorandums of understanding, development of plans and studies, and monitoring programs.

This exercise demonstrates that the jurisdiction has selected a comprehensive range of actions. This table must show at least one action to address each “high” and “medium” ranked hazard. Planning partners should aim to identify at least one action for each mitigation type, but this is not required.



An example of a completed “Analysis of Mitigation Actions” table is provided below. Note that an action can be more than one mitigation type.

Sample Completed Table – Analysis of Mitigation Actions								
Hazard Type	Action Addressing Hazard, by Mitigation Type							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Dam Failure	EX-2, 3, 4, 5, 6	EX-1, 6	EX-4, 6		EX-8, 11			EX-3, 4, 8, 9, 10
Drought	EX-2	EX-1	EX-4					EX-3, 4, 8, 9, 10
<b>Medium-Risk Hazards</b>								
Earthquake	EX-2, 3, 4, 5, 7	EX-1, 7	EX-4		EX-8, 11			EX-3, 4, 8, 9
Flooding	EX-2, 3, 4, 5, 6, 7	EX-1, 6, 7	EX-4, 6	EX-9	EX-8, 11	EX-6		EX-3, 4, 8, 9, 10
Landslide	EX-2, 3, 4, 5, 7	EX-1, 7	EX-4		EX-8, 11			EX-3, 4, 8, 9, 10
<b>Low-Risk Hazards</b>								
Severe Weather	EX-2, 3, 4, 5, 7	EX-1, 7, 9	EX-4		EX-8, 9, 11		EX-8, 7	EX-3, 4, 8, 9, 10
Wildfire	EX-2, 3, 4, 5, 7	EX-1, 7, 9	EX-4, 9	EX-9	EX-8, 11			EX-3, 4, 8, 9, 10

## PUBLIC OUTREACH

FEMA requirements for public outreach will be met by the County’s engagement efforts and are included in the main part of the plan. These may include public meetings, a StoryMap, surveys, etc. If individual jurisdictions want to have a more robust outreach for their local community, the public outreach table in each annex may be used to memorialize those local efforts.

This table should record local public outreach efforts made by your jurisdiction to inform the community of the plan update process. Examples may include local surveys on hazard awareness/preparedness, social media blasts, press releases, and outreach to local groups (CERT, senior citizen organizations, etc.) **This section is optional.**

## INFORMATION SOURCES USED FOR THIS ANNEX

This section should describe what resources you used to complete the annex and how you used them. The sources used for Phases 1 and 2 should have been entered previously. List any additional sources used for the preparation of the Phase 3 annex. Review to ensure that all materials used in all three phases are identified. Providing this information is a requirement to pass the state and FEMA review process.

## FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

In this section, identify any future studies, analyses, reports, or surveys your jurisdiction needs to better understand its vulnerability to identified or currently unidentified risks. These could be needs based on federal or state agency mandates. **This section is optional.**

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## **ADDITIONAL COMMENTS**

Use this section to add any additional information pertinent to hazard mitigation and your jurisdiction not covered in this template. **This section is optional.**

**THIS COMPLETES PHASE 3**

## APPENDIX A— Risk Ranking Calculation Methodology

The instructions below describe the methodology for how risk rankings were derived in the “Loss Matrix” spreadsheet provided with the annex preparation toolkit. The risk-ranking for each hazard assessed its probability of occurrence and its potential impact on people, property, and the economy. Refer to the Loss Matrix spreadsheet in order to follow along.

### Probability of Occurrence

A probability factor is assigned based on how often a hazard is likely to occur. The probability of occurrence of a hazard event is generally based on past hazard events in an area, although weight can be given to expected future probability of occurrence based on established return intervals and changing climate conditions. For example, if your jurisdiction has experienced two damaging floods in the last 25 years, the probability of occurrence is high for flooding and scores a 3 under this category. If your jurisdiction has experienced no damage from landslides in the last 100 years, your probability of occurrence for landslide is low, and scores a 1 under this category. Each hazard was assigned a probability factor as follows:

- High—Hazard event is likely to occur within 25 years (Probability Factor = 3)
- Medium—Hazard event is likely to occur within 100 years (Probability Factor = 2)
- Low—Hazard event is not likely to occur within 100 years (Probability Factor = 1)
- None—There is no exposure to the hazard and no probability of occurrence (Probability Factor = 0)

### Potential Impacts of Each Hazard

The impact of each hazard is divided into three categories: impacts on people, impacts on property, and impacts on the economy. These categories are also assigned weighted values. Impact on people was assigned a weighting factor of 3, impact on property was assigned a weighting factor of 2 and impact on the economy was assigned a weighting factor of 1.

Impact factors for each category (people, property, economy) are described below:

- **People**—Values for the impact on people is based on the percentage of the population in each of the five (5) classifications for social vulnerability from the National Risk Index (NRI). Values are assigned based on the percentage of the total *population exposed* to the hazard event. The degree of impact on individuals will vary and is not measurable, so the calculation assumes for simplicity and consistency that all people exposed to a hazard because they live in a hazard zone will be equally impacted when a hazard event occurs. Impact factors were assigned as follows:
  - Very High—15 percent or more of the population is exposed to a hazard (Impact Factor = 5), less than 15% of the population exposed to a hazard (impact factor =4)
  - Relatively High—25 percent or more of the population is exposed to a hazard (Impact Factor = 4), less than 25 percent of the population exposed to a hazard (Impact Factor = 3).
  - Relatively Moderate—35 percent or more of the population is exposed to the hazard (Impact Factor = 3), less than 35 percent of the population exposed (Impact Factor =2).
  - Relatively Low—50 percent or more of the population is exposed to a hazard (Impact Factor = 2), less than 50 percent of the population exposed to a hazard (Impact Factor =1)
  - Very Low—75 percent or more of the population exposed to a hazard (Impact Factor =1), less than 75 percent of the population exposed (Impact Factor = 0).
  - No impact— No population exposed to the hazard.



The impact factors are additive. There could be multiple levels of exposure for each hazard under the five NRI social vulnerability indices. Please note that if 0 to 74 percent of the population is exposed to the “very low” classification, the risk ranking score will default to the base-line risk ranking score (Ranking result for the without equity lens option in the loss matrix).

- **Property**—Values are assigned based on the percentage of the total *property value exposed* to the hazard event:
  - High—25 percent or more of the total replacement value is exposed to a hazard (Impact Factor = 3)
  - Medium—10 percent to 24 percent of the total replacement value is exposed to a hazard (Impact Factor = 2)
  - Low—9 percent or less of the total replacement value is exposed to the hazard (Impact Factor = 1)
  - No impact—None of the total replacement value is exposed to a hazard (Impact Factor = 0)
- **Economy**—Values were assigned based on the percentage of the total *property value vulnerable* to the hazard event. Values represent estimates of the loss from a major event of each hazard in comparison to the total replacement value of the property exposed to the hazard. For some hazards, such as wildland fire and landslide, vulnerability may be considered to be the same or a portion of exposure due to the lack of loss estimation tools specific to those hazards.
  - High—Estimated loss from the hazard is 10 percent or more of the total replacement value (Impact Factor = 3)
  - Medium—Estimated loss from the hazard is 5 percent to 9 percent of the total replacement value (Impact Factor = 2)
  - Low—Estimated loss from the hazard is 4 percent or less of the total replacement value (Impact Factor = 1)
  - No impact—No loss is estimated from the hazard (Impact Factor = 0).

## **Impacts on People**

The percent of the total population exposed to each hazard of concern with a defined extent and location (e.g. floodplain) can be found in the loss estimate matrix in the **green highlighted column**. For those hazards that do not have a defined extent and location the entire population or a portion of the population is considered to be exposed, depending on the hazard. For the drought hazard, it is common for jurisdictions to list “low” or “none,” because all people in the planning area would be exposed to drought, but impacts to the health and safety of individuals are expected to be minimal.

## **Impacts on Property**

The percent of the total value exposed to each hazard of concern with a defined extent and location (e.g. floodplain) can be found in the loss estimate matrix in the **blue highlighted column**. For those hazards that do not have a defined extent and location (e.g. severe weather) the entire building stock is generally considered to be exposed. For the drought hazard, it is common for jurisdictions to list “low” or “none,” because all structures in the planning area would be exposed to drought but impacts to structures are expected to be minimal.

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## **Impacts on the Economy**

The loss estimates for each hazard of concern that was modeled (i.e. dam failure, flood, earthquake) can be found in the loss estimate matrix in the **orange highlighted column**. For those hazards that have a defined extent and location, but do not have modelled loss results, loss estimates can be the same as exposure or a portion thereof. For example, a large percentage of the building stock may be exposed to landslide or wildland fire risk, but it would not be expected that one event that resulted in loss to all exposed structures would occur. For those hazards that do not have a defined extent and location, exposure is based on the hazard type.

## **Risk Rating for Each Hazard**

A risk rating for each hazard was determined by multiplying the assigned probability factor by the sum of the weighted impact factors for people, property, and the economy:

$$\text{Risk Rating} = \text{Probability Factor} \times \text{Weighted Impact Factor \{people + property + economy\}}$$

This is the number that is shown in the risk ranking table in your template. Generally, score of 30 or greater receive a “high” rating, score between 15 and 30 receive a “medium” rating, and score of less than 15 receives a “low” rating.

<b>APPENDIX B— Equity Lens Screening Tool</b>			
	<b>Procedural</b>	<b>Distributive</b>	<b>Structural</b>
<b>Programs/ Services</b>	<p>How was the target audience included in the design of the program?</p> <p>What actions will be taken to ensure that services and programs are physically and programmatically accessible and inclusive?</p> <p>What are the criteria for participation or receipt of benefits?</p>	<p>Is the program or service designed to meet the needs of underserved and underrepresented communities? If not, what would need to be changed to ensure their equitable participation?</p> <p>How will program dollars be allocated to ensure inclusive and accessible service delivery?</p> <p>Does the cost structure of the program result in disparate use? /Does the fee structure of the service result in increased burdens for low-income communities?</p>	<p>Does this program/service create unintended consequences for communities that are underserved and underrepresented? How will they be mitigated?</p> <p>Is there an opportunity to extend additional benefits through this program/service that can help support the healing of past harms to communities?</p> <p>Does the program empower and build capacity of a community?</p>
<b>Capital Investments</b>	<p>What are the criteria for prioritizing projects and investments?</p> <p>Does the data and information used consider the demographic, geographic and real-world experience of residents and businesses in the area?</p> <p>If data gaps exist, what are you using to guide decisions?</p> <p>What process will be used to get input from the community?</p> <p>How will you reach underserved populations?</p>	<p>Will the investment provide improved safety, health, access, or opportunity for the communities who need it most?</p> <p>How will the underserved people who currently live and work in the area benefit from the investment?</p>	<p>What measures will be taken to mitigate the potential impacts of involuntary displacement in the project?</p> <p>How will business or employment opportunity created through the project be extended to communities of color, people with disabilities, and low-income people?</p> <p>How will community benefits be negotiated?</p>
<b>Regulation</b>	<p>Has analysis been done on the impacts to communities of color, people with disabilities, low-income populations, seniors, children, renters, and other historically underserved or excluded groups?</p> <p>How will impacted communities be able to learn about and understand changes with the regulation?</p> <p>How will the regulation be enforced?</p>	<p>Will the regulation provide improved safety, health, access, or opportunity for the communities who need it most?</p> <p>How will the regulation alleviate any cost-burden for those who are already in a position where it is difficult to pay?</p>	<p>Does the regulation create or inhibit opportunity for communities of color, people with disabilities, and low-income populations?</p> <p>Will enforcement disproportionately negatively affect low-income communities or communities of color?</p> <p>How will this be mitigated?</p>
<b>Planning</b>	<p>How will impacted communities be involved in the planning process?</p> <p>What measures will be taken to ensure the process is fair and inclusive?</p>	<p>How does the plan prioritize and address the needs of the most impacted or vulnerable in the community?</p> <p>Does the plan improve safety, health, access, or opportunity for the communities who need it most?</p> <p>How will resources shift to ensure equitable implementation of the plan?</p>	<p>What measures will be taken to mitigate the potential impacts of involuntary displacement?</p> <p>How will policies support community development?</p> <p>What support is needed to build the community's ownership and self-determination with the plan?</p>

- a. Procedural equity—ensuring that processes are fair and inclusive in the development and implementation of any program or policy
- b. Distributive equity—ensuring that resources or benefits and burdens of a policy or program are distributed fairly, prioritizing those with highest need first.
- c. Structural equity—a commitment and action to correct past harms and prevent future negative consequences by institutionalizing accountability and decision-making structures that aim to sustain positive outcomes



**Table 2.0. Equity Screening Question Matrix**

Evaluation Question	Response
1. What issue/problem/risk is the action designed to address? And what are the expected benefits?	Issue: Benefits:
2. Who is the target audience/beneficiary for this action? Who is affected if no action is taken?	
3. How would you classify the mitigation action? (Programs/Service; Capital Investment; Regulation; Planning). Refer to questions in table above based on your answer to this question.	
4. Will any community groups be involved in the design/implementation of this action? (i.e. potential partners)	
5. Will this action reduce risk from natural hazards for the following groups? How? Communities of color Persons with disabilities and/or access and functional needs Households with limited English Proficiency Renters Economically disadvantaged families Seniors (age 65 or older) Children (under 15 years of age)	
6. How could this action benefit the following groups? Or How could this action be modified so that there are benefits? Communities of color Persons with disabilities and/or access and functional needs Households with limited English Proficiency Renters Economically disadvantaged families Seniors (age 65 or older) Children (under 15 years of age)	
7. How could this action burden/negatively impact/leave out the following groups, for example through communication, transportation, physical or programmatic barriers? Communities of color Persons with disabilities and/or access and functional needs Households with limited English Proficiency Renters Economically disadvantaged families Seniors (age 65 or older) Children (under 15 years of age)	
8. If you have identified burdens, barriers, or negative impacts, or opportunities for benefits please <u>revisit the action</u> to identify strategies to reduce or eliminate burdens or negative impacts; remove communication, transportation, physical or programmatic barriers; or enhance potential benefits.	
9. Have you identified a performance metric for evaluating progress on this action? How will you know when this action is complete? (please provide) Have you considered outcomes for communities of color, people with disabilities, low-income families, people with limited English proficiency, renters, seniors, and children?	

**ANNEX TEMPLATE FOR CITIES  
AND COUNTY**





# 1. JURISDICTION NAME

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## 1.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Name, Title  
Street Address  
City, State ZIP  
Telephone: xxx-xxx-xxxx  
e-mail Address: xxx@xxx.xxx

### Alternate Point of Contact

Name, Title  
Street Address  
City, State ZIP  
Telephone: xxx-xxx-xxxx  
e-mail Address: xxx@xxx.xxx

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 1-1.

**Table 1-1. Local Hazard Mitigation Planning Team Members**

Name	Title

## 1.2 JURISDICTION PROFILE

### 1.2.1 Location and Features

[jurisdiction name] is in [general location description]

The current boundaries generally extend from [describe], encompassing an area of [area in square miles].

[general description of key features]

### 1.2.2 History

[jurisdiction name] was incorporated in [date]. [brief historical summary]

### 1.2.3 Governing Body Format

[general description].

The [name of adopting body] assumes responsibility for the adoption of this plan; [name of oversight agency] will oversee its implementation.

## 1.3 CURRENT TRENDS

### 1.3.1 Population

According to [identify data source], the population of [jurisdiction name] as of [month year] was [population]. Since [year], the population has grown at an average annual rate of [number] percent.

### 1.3.2 Development

DESCRIBE TRENDS IN GENERAL.

Identifying previous and future development trends is achieved through a comprehensive review of permitting since completion of the previous plan and in anticipation of future development. Tracking previous and future growth in potential hazard areas provides an overview of increased exposure to a hazard within a community. Table 1-2 summarizes development trends in the performance period since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

**Table 1-2. Recent and Expected Future Development Trends**

Criterion	Response																														
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan? <i>If yes, give the estimated area annexed and estimated number of parcels or structures.</i>	Yes/No																														
Is your jurisdiction expected to annex any areas during the performance period of this plan? <i>If yes, describe land areas and dominant uses. If yes, who currently has permitting authority over these areas?</i>	Yes/No																														
Are any areas targeted for development or major redevelopment in the next five years? <i>If yes, briefly describe, including whether any of the areas are in known hazard risk areas</i>	Yes/No																														
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?	<table border="1"> <thead> <tr> <th></th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> </tr> </thead> <tbody> <tr> <td>Single Family</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Multi-Family</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		2016	2017	2018	2019	2020	Single Family						Multi-Family						Other						Total					
	2016	2017	2018	2019	2020																										
Single Family																															
Multi-Family																															
Other																															
Total																															
Provide the number of new-construction permits for each hazard area or provide a qualitative description of where development has occurred.	<ul style="list-style-type: none"> <li>• Special Flood Hazard Areas: #</li> <li>• Landslide: #</li> <li>• High Liquefaction Areas: #</li> <li>• Tsunami Inundation Area: #</li> <li>• Wildfire Risk Areas: #</li> </ul>																														

Criterion	Response
Describe the level of buildout in the jurisdiction, based on your jurisdiction’s buildable lands inventory. If no such inventory exists, provide a qualitative description.	

## 1.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 1-3.
- Development and permitting capabilities are presented in Table 1-4.
- An assessment of fiscal capabilities is presented in Table 1-5.
- An assessment of administrative and technical capabilities is presented in Table 1-6.
- An assessment of education and outreach capabilities is presented in Table 1-7.
- Information on National Flood Insurance Program (NFIP) compliance is presented in Table 1-8.
- Classifications under various community mitigation programs are presented in Table 1-9.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 1-10.



**Table 1-3. Planning and Regulatory Capability**

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
Building Code <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Zoning Code <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Subdivisions <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Stormwater Management <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Post-Disaster Recovery <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Real Estate Disclosure <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Growth Management <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Site Plan Review <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Environmental Protection <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Flood Damage Prevention <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Emergency Management <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Climate Change <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Other <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
<b>Planning Documents</b>				
General Plan <i>Is the plan compliant with Assembly Bill 2140? Yes/No</i> <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Capital Improvement Plan <i>How often is the plan updated? [Redacted]</i> <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Disaster Debris Management Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Floodplain or Watershed Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Stormwater Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Urban Water Management Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
Habitat Conservation Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Economic Development Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Shoreline Management Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Community Wildfire Protection Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Forest Management Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Climate Action Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Comprehensive Emergency Management Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Threat & Hazard Identification & Risk Assessment (THIRA) <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Post-Disaster Recovery Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Continuity of Operations Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Public Health Plan <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No
Other <i>Comment: Enter Comment</i>	Yes/No	Yes/No	Yes/No	Yes/No

**Table 1-4. Development and Permitting Capability**

Criterion	Response
Does your jurisdiction issue development permits? <i>If no, who does? If yes, which department? Enter Response</i>	Yes/No
Does your jurisdiction have the ability to track permits by hazard area?	Yes/No
Does your jurisdiction have a buildable lands inventory?	Yes/No

**Table 1-5. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes/No
Capital Improvements Project Funding	Yes/No
Authority to Levy Taxes for Specific Purposes	Yes/No
User Fees for Water, Sewer, Gas or Electric Service	Yes/No
<i>If yes, specify:</i> Enter Response	
Incur Debt through General Obligation Bonds	Yes/No
Incur Debt through Special Tax Bonds	Yes/No
Incur Debt through Private Activity Bonds	Yes/No
Withhold Public Expenditures in Hazard-Prone Areas	Yes/No
State-Sponsored Grant Programs	Yes/No
Development Impact Fees for Homebuyers or Developers	Yes/No
Other	Yes/No
<i>If yes, specify:</i> Enter Response	

**Table 1-6. Administrative and Technical Capability**

Staff/Personnel Resource	Available?
Planners or engineers with knowledge of land development and land management practices	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Engineers or professionals trained in building or infrastructure construction practices	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Planners or engineers with an understanding of natural hazards	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Staff with training in benefit/cost analysis	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Surveyors	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Personnel skilled or trained in GIS applications	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Scientist familiar with natural hazards in local area	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Emergency manager	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Grant writers	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	
Other	Yes/No
<i>If Yes, Department /Position:</i> Enter Response	



**Table 1-7. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes/No
Do you have personnel skilled or trained in website development?	Yes/No
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe:</i> Enter Response	Yes/No
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe:</i> Enter Response	Yes/No
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe:</i> Enter Response	Yes/No
Do you have any other programs in place that could be used to communicate hazard-related information? <i>If yes, briefly describe:</i> Enter Response	Yes/No
Do you have any established warning systems for hazard events? <i>If yes, briefly describe:</i> Enter Response	Yes/No

**Table 1-8. National Flood Insurance Program Compliance**

Criterion	Response
What local department is responsible for floodplain management?	Enter Response
Who is your floodplain administrator? (department/position)	Enter Response
Are any certified floodplain managers on staff in your jurisdiction?	Yes/No
What is the date that your flood damage prevention ordinance was last amended?	Enter Response
Does your floodplain management program meet or exceed minimum requirements? <i>If exceeds, in what ways?</i> Enter Response	Meets/Exceeds
When was the most recent Community Assistance Visit or Community Assistance Contact?	Enter Response
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? <i>If so, state what they are.</i> Enter Response	Yes/No
Are any RiskMAP projects currently underway in your jurisdiction? <i>If so, state what they are.</i> Enter Response	Yes/No
Do your flood hazard maps adequately address the flood risk within your jurisdiction? <i>If no, state why.</i> Enter Response	Yes/No
Does your floodplain management staff need any assistance or training to support its floodplain management program? <i>If so, what type of assistance/training is needed?</i> Enter Response	Yes/No
Does your jurisdiction participate in the Community Rating System (CRS)? <i>If yes, is your jurisdiction interested in improving its CRS Classification?</i> Yes/No <i>If no, is your jurisdiction interested in joining the CRS program?</i> Yes/No	Yes/No
How many flood insurance policies are in force in your jurisdiction? <sup>a</sup> <i>What is the insurance in force?</i> \$ _____ <i>What is the premium in force?</i> \$ _____	Enter Response

Criterion	Response
How many total loss claims have been filed in your jurisdiction? <sup>a</sup>	Enter Response
How many claims are still open or were closed without payment?	Enter Response
What were the total payments for losses? \$	

a. According to FEMA statistics as of MONTH XX, 20XX

**Table 1-9. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes/No		Date
DUNS #	Yes/No		Date
Community Rating System	Yes/No		Date
Building Code Effectiveness Grading Schedule	Yes/No		Date
Public Protection	Yes/No		Date
Storm Ready	Yes/No		Date
Firewise	Yes/No		Date
Tsunami Ready	Yes/No		Date

**Table 1-10. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Jurisdiction-level monitoring of climate change impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Enter Comment</i>	High/Medium/Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Enter Comment</i>	High/Medium/Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Participation in regional groups addressing climate risks <i>Comment: Enter Comment</i>	High/Medium/Low
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Enter Comment</i>	High/Medium/Low
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Enter Comment</i>	High/Medium/Low
Identified strategies for adaptation to impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Champions for climate action in local government departments <i>Comment: Enter Comment</i>	High/Medium/Low

Criterion	Jurisdiction Rating <sup>a</sup>
Political support for implementing climate change adaptation strategies <i>Comment: Enter Comment</i>	High/Medium/Low
Financial resources devoted to climate change adaptation <i>Comment: Enter Comment</i>	High/Medium/Low
Local authority over sectors likely to be negative impacted <i>Comment: Enter Comment</i>	High/Medium/Low
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Enter Comment</i>	High/Medium/Low
Local residents support of adaptation efforts <i>Comment: Enter Comment</i>	High/Medium/Low
Local residents' capacity to adapt to climate impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Local economy current capacity to adapt to climate impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Local ecosystems capacity to adapt to climate impacts <i>Comment: Enter Comment</i>	High/Medium/Low

- a. High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 1.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as general planning and capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 1.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Plan or Program Name**—Description
- **Plan or Program Name**—Description
- **Plan or Program Name**—Description
- **Plan or Program Name**—Description
- **Plan or Program Name**—Description



### 1.5.2 Opportunities for Future Integration

The capability assessment presented in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- Plan or Program Name—Description
- Plan or Program Name—Description
- Plan or Program Name—Description
- Plan or Program Name—Description
- Plan or Program Name—Description

Taking action to integrate each of these programs with the hazard mitigation plan was considered as a mitigation action to include in the action plan presented in this annex.

## 1.6 RISK ASSESSMENT

### 1.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 1-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Type of Event	FEMA Disaster #	Date	Damage Assessment
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$

### 1.6.2 Hazard Risk Ranking

Table 1-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy. Mitigation actions target hazards with high and medium rankings.

**Table 1-12. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1			High/Medium/Low
2			High/Medium/Low
3			High/Medium/Low
4			High/Medium/Low
5			High/Medium/Low
6			High/Medium/Low
7			High/Medium/Low
8			High/Medium/Low
9			High/Medium/Low

### 1.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

#### **Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: XX
- Number of FEMA-identified Severe-Repetitive-Loss Properties: XX
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: XX

#### **Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Insert as appropriate.
- Insert as appropriate.
- Insert as appropriate.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in this annex.

## 1.7 STATUS OF PREVIOUS PLAN ACTIONS

If your jurisdiction has no previous hazard mitigation plan, please enter an “X” in the box at right and do not complete this section.

Table 1-13 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 1-13. Status of Previous Plan Actions**

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
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Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				



## 1.8 HAZARD MITIGATION ACTION PLAN

Table 1-14 lists the identified actions, which make up the hazard mitigation action plan for this jurisdiction. Table 1-15 identifies the priority for each action. Table 1-16 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 1-14. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action xxx-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas. <i>Hazards Mitigated:</i> Enter Response						
Existing	Enter Response	Enter Response	Enter Response	High	HMGP, PDM, FMA	Short-term
<b>Action xxx-2</b> — Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including [redacted]. <i>Hazards Mitigated:</i> Enter Response						
New & Existing	Enter Response	Enter Response	Enter Response	Low	Staff Time, General Funds	Ongoing
<b>Action xxx-3</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan. <i>Hazards Mitigated:</i> Enter Response						
New & Existing	Enter Response	Enter Response	Enter Response	Low	Staff Time, General Funds	Short-term
<b>Action xxx-4</b> —Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: <ul style="list-style-type: none"> <li>Enforce the flood damage prevention ordinance.</li> <li>Participate in floodplain identification and mapping updates.</li> <li>Provide public assistance/information on floodplain requirements and impacts.</li> </ul> <i>Hazards Mitigated:</i> Enter Response						
New & Existing	Enter Response	Enter Response	Enter Response	Low	Staff Time, General Funds	Ongoing
<b>Action xxx-5</b> —Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to the following: <ul style="list-style-type: none"> <li>[redacted].</li> </ul> <i>Hazards Mitigated:</i> Enter Response						
New & Existing	Enter Response	Enter Response	Enter Response	Low	Staff Time, General Funds	Short-term
<b>Action xxx-6</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power, including [redacted]. <i>Hazards Mitigated:</i> Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire						
Existing	Enter Response	Enter Response	Enter Response			
<b>Action xxx-7</b> —Description <i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response
<b>Action xxx-8</b> —Description <i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action xxx-9—Description</b>						
<i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response
<b>Action xxx-10—Description</b>						
<i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response
<b>Action xxx-11—Description</b>						
<i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
 Acronyms used here are defined at the beginning of this volume.

**Table 1-15. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Grant Pursuit Priority <sup>a</sup>
1	3	High	High	Yes	Yes	No	Medium	High
2	7	Medium	Low	Yes	No	Yes	High	Low
3	3	Low	Low	Yes	No	Yes	High	Low
4	6	Medium	Low	Yes	No	Yes	High	Low
5	7	Medium	Low	Yes	No	Yes	High	Medium
6	3	High	Medium	Yes	Yes	No	Medium	High
7								
8								
9								
10								
11								

a. See the introduction to this volume for explanation of priorities.

**Table 1-16. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
<b>Medium-Risk Hazards</b>								
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
<b>Low-Risk Hazards</b>								
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

a. See the introduction to this volume for explanation of mitigation types.

## 1.9 PUBLIC OUTREACH

Table 1-17 lists public outreach activities for this jurisdiction.

Local Outreach Activity	Date	Number of People Involved
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

## 1.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **[jurisdiction name] Municipal Code**—The municipal code was reviewed for the full capability assessment and for identifying opportunities for action plan integration.
- **[jurisdiction name] Flood Damage Prevention Ordinance**—The flood damage prevention ordinance was reviewed for compliance with the National Flood Insurance Program.
- <INSERT PLAN/PROGRAM AND DESCRIPTION OF HOW IT WAS USED>
- <INSERT PLAN/PROGRAM AND DESCRIPTION OF HOW IT WAS USED>
- <INSERT PLAN/PROGRAM AND DESCRIPTION OF HOW IT WAS USED>
- <INSERT PLAN/PROGRAM AND DESCRIPTION OF HOW IT WAS USED>

The following outside resources and references were reviewed:



- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- <INSERT DOCUMENT AND DESCRIPTION OF HOW IT WAS USED>

## 1.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Insert text, if any; otherwise, delete section

## 1.12 ADDITIONAL COMMENTS

Insert text, if any; otherwise, delete section

**INSTRUCTIONS FOR COMPLETING  
ANNEXES FOR SPECIAL-PURPOSE  
DISTRICTS**





# INSTRUCTIONS FOR COMPLETING SPECIAL-PURPOSE DISTRICT ANNEX TEMPLATE

Jurisdictional annex templates for the 2021 San Mateo Multijurisdictional Local Hazard Mitigation Plan update will be completed in three phases. **This document provides instructions for completing all phases of the template for special-purpose districts.**

The target timeline for completion is as follows:

- **Phase 1**—Team, Profile, Trends, and Previous Plan Status
  - **Deployed:** February 19, 2021
  - **Due:** March 19, 2021 by close of business
- **Phase 2**—Capability Assessment, Integration Review, and Information Sources
  - **Deployed:** April 2, 2021
  - **Due:** May 21, 2021 by close of business
- **Phase 3**—Risk Assessment, Action Plan, Information Sources, Future Needs, and Additional Comments
  - **Deployed:** June 11, 2021
  - **Mandatory Phase 3 Workshops:** Targeted for the week of June 14. We will schedule multiple workshops during that week to provide options for attendance
  - **Due:** July 23, 2021 by close of business, Pacific Time

Direct any questions about your Phase 3 template to:

**Bart Spencer**  
Tetra Tech  
Phone: (650) 324-1810  
E-mail: [bart.spencer@tetrattech.com](mailto:bart.spencer@tetrattech.com)

Submit your completed Phase 3 template in electronic format to:

**Megan Brotherton**  
Tetra Tech  
Phone: (808) 339-9119  
E-mail: [megan.brotherton@tetrattech.com](mailto:megan.brotherton@tetrattech.com)

## A Note About Formatting

The template for the annex is a Microsoft Word document in a format that will be used in the final plan. Partners are asked to use this template so that a uniform product will be completed for each partner.

Content should be entered directly into the template rather than creating text in another document and pasting it into the template. Text from another source may alter the formatting of the document.

**DO NOT** covert this document to a PDF.

The section and table numbering in the document will be updated when completed annexes are combined into the final document. Please do not adjust any of the numbering.

For planning partners who participated in the 2016 planning effort, relevant information has been brought over to the 2021 template. Fields that require attention have been highlighted using the following color coding:

- **Green:** Text has been brought over from 2016 Plan and should be reviewed and updated as needed.
- **Blue:** This is a new field that will require information that was not included in 2016.

**Please un-highlight each field that you update so that reviewers will know an edit has been made.**

New planning partners will need to complete the template in its entirety.

## IMPORTANT! READ THIS FIRST

Phase 1 and Phase 2 templates were previously provided to your jurisdiction for completion.

If your jurisdiction returned the completed Phase 1 & 2 templates:

- The Phase 1 & 2 content you provided is already incorporated into your Phase 3 template.
- Review the template to see if we have inserted any comments requesting further work to be done on Phase 1 or 2
  - ***If any comments are included, address them.*** Then, begin your work on Phase 3 following the Phase 3 instructions beginning on page 12.
  - If no comments are included, then you **DO NOT** need to do any further work on the Phase 1 or Phase 2 content. ***Go directly to the instructions for Phase 3, beginning on page 12.***

If your jurisdiction has **NOT** yet done any work on the Phase 1 or Phase 2 template:

- Follow the instructions beginning on page 3 for providing the Phase 1 and Phase 2 information.
- Then proceed with the Phase 3 instructions beginning on page 12.

If your jurisdiction started work on the Phase 1 or 2 template but never completed and submitted it, copy the work you had completed so far into the new template. Then complete Phases 1, 2, and 3 following the instructions provided here.

## PHASE 1 INSTRUCTIONS

### CHAPTER TITLE

In the chapter title at the top of Page 1, type in the complete official name of your district (e.g. West County Fire Protection District #1, Johnsonville Flood Protection District). Do not change the chapter number. Revise only the jurisdiction name. If your jurisdiction's name has already been entered, verify that wording and spelling are correct; revise as needed.

### LOCAL HAZARD MITIGATION PLANNING TEAM

#### Points of Contact

Provide the name, title, mailing address, telephone number, and e-mail address for the primary point of contact for your jurisdiction. This should be the person responsible for monitoring, evaluating, and updating the annex for your jurisdiction. This person should also be the principle liaison between your jurisdiction and the Steering Committee overseeing development of this plan.

In addition, designate an alternate point of contact. This would be a person to contact should the primary point of contact be unavailable or no longer employed by the jurisdiction.

*Note: Both of these contacts should match the contacts that were designated in your jurisdiction's letter of intent to participate in this planning process. If you have changed the primary or secondary contact, let the planning team know by inserting a comment into the document.*

#### Participating Planning Team

Populate Table 1-1 with the names of staff from your jurisdiction who participated in preparing this annex or otherwise contributed to the planning process for this hazard mitigation plan.

### JURISDICTION PROFILE

#### Overview

Provide a brief summary description of the following:

- The purpose of the jurisdiction
- The date of inception
- The type of organization
- The number of employees
- Funding sources
- The type of governing body, and who has adoptive authority.

This should be information that is specific to your jurisdiction and will not be provided in the overall, planning area-wide mitigation plan document. Provide a statement similar to the example below:



**EXAMPLE:** *The Johnsonville Community Services District is a special district created in 1952 to provide water and sewer service. A five-member elected Board of Directors governs the District. The Board assumes responsibility for the adoption of this plan; the General Manager will oversee its implementation. The District currently employs a staff of 21. Funding comes primarily through rates and revenue bonds.*

## **Service Area**

Provide a brief description of the following:

- Who the District’s customers are and an approximation of how many are currently served
- The area served, in square miles
- The geographic extent of the service area

This should be information that is specific to your jurisdiction and will not be provided in the overall, planning area-wide mitigation plan document. Provide a statement similar to the example below:

**EXAMPLE:** *The Johnsonville Community Services District serves unincorporated areas of Jones County east of the City of Smithburg, including the communities of Johnsonville, Creeks Corner, Jones Hill, Fields Landing, King Salmon, and Freshwater. The current total service area is 3.3 square miles. As of April 30, 2020, the District serves 7,305 water connections and 6,108 sewer connections.*

## **Assets**

List District-owned assets in the categories shown on the table (and described in the sections below). Include an approximate value for each asset and a subtotal value for identified assets in each category.

### **Property**

Provide an approximate value for any land owned by the District.

### **Equipment**

List equipment owned by the District that is used in times of emergency or that, if incapacitated, could severely impact the service area (vehicles, generators, pumps, etc.). Provide an approximate replacement value for each item. Equipment of similar type may be listed as a single category (e.g., “3 diesel-powered generators”). For water and sewer districts, include mileage of pipeline under this category.

### **Critical Facilities**

List District-owned facilities that are vital to maintain services to the service area. Include the address of each facility. Provide an approximate replacement value for each line. Critical facilities are generally defined as facilities owned by the District that are critical to District operations and to public health or safety and that are especially important following hazard events, including but not limited to the following:

- Structures or facilities that produce, use, or store hazardous materials (highly volatile, flammable, explosive, toxic and/or water-reactive materials)

- Hospitals, nursing homes, and housing facilities likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a natural hazard event
- Mass gathering facilities that may be used as evacuation shelters (such as schools or community centers)
- Transportation infrastructure such as roads, bridges and airports that provide sources for evacuation before, during and after natural hazard events
- Police stations, fire stations, government facilities, vehicle equipment and storage facilities, and emergency operation centers that are needed for response activities before, during and after a natural hazard event
- Public utility facilities such as drinking water, stormwater, and wastewater systems that are vital to providing normal services to damaged areas before, during and after natural hazard events.

The table below shows an example of assets to be listed in this section.

Sample Completed Table – Special District Assets	
Asset	Value
<b>Property</b>	
11.5 Acres	\$5,750,000
<b>Equipment</b>	
Total length of pipe 40 miles ( \$1.32 million per mile X 40 miles)	\$52,800,000
4 Emergency Generators	\$250,000
<b>Total:</b>	<b>\$53,050,000</b>
<b>Critical Facilities</b>	
Administrative Buildings – 357 S. Jones Street	\$2,750,000
Philips Pump Station – 111 Fifth Avenue N.	\$377,000
<b>Total:</b>	<b>\$3,127,000</b>

**NOTE:** Placeholders in the table of assets request **ADDRESSES** for critical facilities. These addresses will not be included in the final published annex, but are needed in order to perform risk mapping and risk analysis for the hazard mitigation plan. Include the addresses in the table if convenient. If not, then provide a separate document listing all critical facilities and addresses for use in development of the hazard mitigation plan.

## CURRENT TRENDS

Provide a brief description of previous growth trends in the service area and anticipated future increase or decrease in services (if applicable). This should be information that is specific to your jurisdiction and will not be provided in the overall, planning area-wide mitigation plan document. Provide a statement similar to the example below:

**EXAMPLE:** *The Johnsonville Community Services District originally was formed to serve only the Johnsonville area. The District’s service area expanded throughout the years to include the full area served today. Total customers have increased by 3 percent since 2010. Population in the service area is not projected to change significantly over the next 10 years, and the District has no plans to expand its service area.*

## STATUS OF PREVIOUS PLAN ACTIONS

*Note that this section applies only to jurisdictions that are conducting updates to previously approved hazard mitigation plans. If your jurisdiction has not previously participated in an approved plan, enter an “X” in the box at the beginning of this section and do not complete the section. We will remove this section from your final annex.*

*Also note that this section is further back in the annex than the rest of the Phase 1 content. Some Phase 2 sections are included before it.*

The hazard mitigation plan update must describe the status of all action items from each jurisdiction’s previous hazard mitigation plan. Each action item must be marked as ONE of the options below by checking the appropriate box (place an X) and providing the following information:

- **Completed**—If an action has been completed since the prior plan was prepared, check the “Completed” box and **provide a date of completion in the comment section**. If an action has been initiated and is an ongoing program (e.g. annual outreach event), you may mark it as completed and **note that it is ongoing in the comments**. If an action addresses an ongoing program you would like to continue to include in your action plan, see the “Carried Over to Plan Update” bullet below.
- **Removed**—If action items are to be removed because they are no longer feasible, a reason must be given. Lack of funding does not mean that it is no longer feasible, unless the sole source of funding for an action is no longer available. **Place a comment in the comment section explaining why the action is no longer feasible or barriers that prevented the action from being implemented (e.g., “Action no longer considered feasible due to lack of political support.”)**. If the wording and/or intent of a previously identified action is unclear, this can be a reason for removal. A change in community priorities may also be a reason for removal and should be discussed in the comments.
- **Carried Over to Plan Update**—If an action is in progress, is ongoing, or has not been initiated and you would like to carry it over to the plan update, check the “Check if Yes” column under “Carried Over to Plan Update.” Selecting this option indicates that the action will be included in the mitigation action plan for this update. If you are carrying over an action to the update, **include a comment describing any action that has been taken or why the action was not taken** (specifically, any barriers or obstacles that prevented the action from moving forward or slowed progress). Leave the last column, “Action # in Update,” blank at this point. This will be filled in after completing the updated action plan in Phase 3.

Ensure that you have provided **a status and a comment for each action**.

### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, all action items from your jurisdiction’s previous hazard mitigation plan that are marked as “Carried Over to Plan Update” will need to be included in the action plan.

**THIS COMPLETES PHASE 1**



**PHASE 2 INSTRUCTIONS**

## CAPABILITY ASSESSMENT

*Note that it is unlikely that one person will be able to complete all sections of the capability assessment alone. The primary preparer will likely need to reach out to other departments within the local government for information. It may be beneficial to provide these individuals with background information about this planning process, as input from them will be needed again during Phase 3 of the annex development.*

### Planning and Regulatory Capability

List any federal, state, local or district ordinances, plans, or policies that apply to your jurisdiction and relate to hazard mitigation. Provide the date of last update and any comments as appropriate. The table below shows an example of items to be listed in this section.

Sample Completed Table – Planning and Regulatory Capability		
Plan, Study or Program	Date of Most Recent Update	Comment
District Design Standards	2010	
Capital Improvement Program	Updated annually	covers 5 year timeframe
Emergency Operations Plan	2000	
Facility Maintenance Manual	1990	
State Building Code	2016	
Division of State Architects		Review of all building and site design features is required prior to construction

### Fiscal Capability

Complete the table titled “Fiscal Capability” by indicating whether each of the listed financial resources is accessible to your jurisdiction. Enter “Yes” if the resource is fully accessible to your jurisdiction. Enter “No” if there are limitations or prerequisites that may hinder your use of this resource.

### Administrative and Technical Capability

Complete the table titled “Administrative and Technical Capability” by indicating whether your jurisdiction has access to each of the listed personnel resources. Enter “Yes” or “No” in the column labeled “Available?”. If yes, then enter the department and position title. If you have contract support with these capabilities, you can still answer “Yes.” Indicate in the department row that this resource is provided through contract.

### Education and Outreach Capability

Complete the table titled “Education and Outreach.”

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, review all the above capability assessment tables and consider including actions to provide a capability that your jurisdiction does not currently have, update a capability that your jurisdiction does have, or implement an action that is recommended in an existing plan or program.

## Community Classifications

Complete the table titled “Community Classifications” to indicate your jurisdiction’s participation in various national programs related to natural hazard mitigation. For each program enter “Yes” or “No” in the second column to indicate whether your jurisdiction participates. If yes, then enter the classification that your jurisdiction has earned under the program in the third column and the date on which that classification was issued in the fourth column; enter “N/A” in the third and fourth columns if your jurisdiction is not participating. If you do not know your current classification, information is available at the following websites:

- **FIPS Code**— <https://www.census.gov/geographies/reference-files/2018/demo/popest/2018-fips.html>
- **DUNS #**— <https://www.dnb.com/duns-number.html>
- **Community Rating System**— <https://www.fema.gov/floodplain-management/community-rating-system>
- **Building Code Effectiveness Grading Schedule**— <https://www.isomitigation.com/bcegs/iso-s-building-code-effectiveness-grading-schedule-bcegs.html>
- **Public Protection Classification**— <https://www.isomitigation.com/ppc/>
- **Storm Ready**— <https://www.weather.gov/stormready/communities>
- **Firewise**— <http://www.firewise.org/usa-recognition-program/map-of-active-participants.aspx>
- **Tsunami Ready**— <https://www.weather.gov/tsunamiready/communities>

## Adaptive Capacity for Climate Change

Consider climate change impact concerns such as the following:

- Reduced snowpack
- Increased wildfires
- Sea level rise
- Inland flooding
- Threats to sensitive species
- Loss in agricultural productivity
- Public health and safety.

With those impacts in mind, complete the table titled “Adaptive Capacity for Climate Change” by indicating your jurisdiction’s capacity for each listed criterion as follows:

- **High**—The capacity exists and is in use.
- **Medium**—The capacity may exist, but is not used or could use some improvement.
- **Low**—The capacity does not exist or could use substantial improvement.
- **Unsure**—Not enough information is known to assign a rating.

This is a subjective assessment, but providing a few words of explanation is useful. It is highly recommended that you complete this table with an internal planning team after reviewing the results of the other capability assessment tables.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, review all the adaptive capacity criteria and consider including actions to improve the rating for those rated medium or low, to make use of the capacity for those rated high, or to acquire additional information for those rated unsure.

## INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. FEMA recommends integration as follows:

- Integrate hazard mitigation plan goals with community objectives (e.g. incorporate the goals for risk reduction and safety into the policies of other plans).
- Use the risk assessment to inform plans and policies (e.g. incorporate risk assessment findings into emergency operations plans).
- Implement mitigation actions through existing mechanisms (e.g. include mitigation projects in the capital improvement plan).
- Think about mitigation before and after a disaster (e.g. build recovery planning on existing mitigation plans and goals).

After reviewing the plans, programs and ordinances identified in the capability assessment tables, identify all plans and programs that have already been integrated with the hazard mitigation plan, and those that offer opportunities for future integration.

## Existing Integration

In the highlighted bullet list, provide a brief description of integrated plans or ordinances and how each is integrated. Consider listing items marked as Completed in the “Status of Previous Plan Actions” table if they were indicated as being ongoing actions. Examples are as follows:

- **Capital Improvement Plan**—The capital improvement plan includes projects that can help mitigate potential hazards. The District will act to ensure consistency between the hazard mitigation plan and the current and future capital improvement plans. The hazard mitigation plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.
- **Emergency Operations Plan**—The results of the risk assessment were used in the development of the emergency operations plan.



- **Facilities Plan**—The results of the risk assessment and mapped hazard areas are used in facility planning for the District. Potential sites are reviewed for hazard risks, and appropriate mitigation measures are considered in building and site design.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, any plans that fall into the “Existing Integration” category should be reviewed and elements from them should be included in the action plan as appropriate.

## Opportunities for Future Integration

List any plans or programs that offer the potential for future integration and describe the process by which integration will occur. Examples follow:

- **Capital Improvement Projects**—Capital improvement project proposals may take into consideration hazard mitigation potential as a means of evaluating project prioritization.
- **Post-Disaster Recovery Plan**—The District does not have a recovery plan and intends to develop one as a mitigation planning action during the next five years. The plan will build on the mitigation goals and objectives identified in the mitigation plan.

Consider other programs you may have in place in your jurisdiction that include routine consideration and management of hazard risk. Examples of such programs may include: tree pruning programs, right-of-way mowing programs, erosion control or stream maintenance programs, etc. Add any such programs to the integration discussion and provide a brief description of how these program manage (or could be adapted to manage) risk from hazards.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, an action to integrate any identified “Opportunities for Future Integration” should be considered for inclusion in the action plan.

## INFORMATION SOURCES USED FOR THIS ANNEX

*Note that this section will ultimately describe all information sources used to develop this annex, but that only the sources used for Phases 1 and 2 will be listed at this point. Additional sources will be added with the preparation of the Phase 3 annex.*

This section should describe what resources you used to complete the annex and how you used them. Several items are started for you, but be sure to update and enhance any descriptions. Providing this information is a requirement to pass the state and FEMA review process.

**THIS COMPLETES PHASE 2**



We recommend including most large-scale disasters, unless you know that there were no impacts on your jurisdiction. Specifically, we recommend that you include these events if you have damage estimate information or can provide a brief description of impacts that occurred within your community. In addition to these events, refer to the NOAA storm events database included in the toolkit. We recommend conducting a search for the name of your jurisdiction in order to identify events with known impacts. Other potential sources of damage information include the following

- Preliminary damage estimates your jurisdiction filed with the county or state
- Insurance claims data
- Newspaper archives
- Emergency management documents (general plan safety element, emergency response plan, etc.)
- Resident input.

If you do not have estimates for costs of damage caused, list “Not Available” in the “Damage Assessment” column or list a brief description of the damage rather than a dollar value (e.g., Main Street closed as a result of flooding, downed trees and residential damage). Note that tracking such damage is a valid and useful mitigation action if your jurisdiction does not currently track such information.

## Hazard Risk Ranking

Risk ranking identifies which hazards pose the greatest risk to the community, based on how likely it is for each hazard to occur (this is called the community’s exposure) and how great an impact each hazard will have if it does occur (this is called the community’s vulnerability). Every jurisdiction has differing degrees of risk exposure and vulnerability and therefore needs to rank risk for its own area. Risk rankings for cities and the county have been calculated in the “Loss Matrix” spreadsheet included in the annex preparation toolkit. These rankings are on the basis of risk ranking scores for each hazard that were calculated based on the hazard’s probability of occurrence and its potential impact on people, property and the economy.

The risk ranking methodology used for cities and counties is not usable for special-purpose districts because the risk-related mapping generally does not align with the boundaries of districts. To rank risk for your District, use the following procedure:

- Find the risk ranking scores in the Loss Matrix spreadsheet (on the “Risk Ranking Summary” tab) for the county overall and for any cities whose area overlaps that of your District.
- For each hazard, generate a risk ranking score for your District by calculating the average of the scores for those other jurisdictions.
- Rank the hazards based on those average scores:
  - Assign the rank of 1 to the hazard with the highest risk ranking score, the rank of 2 to the hazard with the second highest ranking score; and so on.
  - Assign the same rank to any two hazards with equal risk ranking scores
- If the resulting ranking differs from what you know based on substantiated data and documentation, alter the scores and ranking as needed based on this knowledge.



- Assign each hazard to the risk category of “High,” Medium,” or “Low” based on the risk rating score:
  - Low for scores of 0 to 15
  - Medium for scores of 16 to 30
  - High for scores greater than 30

Enter the results of this analysis in the “Hazard Risk Ranking” table in the template; enter the hazards in order of ranking, with 1 at the top of the table.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, you will need to have at least one mitigation action for each hazard ranked as “high” or “medium.”

## Jurisdiction-Specific Vulnerabilities

Review the results of the risk assessment included in the toolkit, your jurisdiction’s natural events history, and any relevant public comments/input, then develop a few sentences that discuss specific hazard vulnerabilities. You do not need to develop a sentence for every hazard, but identify a few issues you would like to highlight. Also list any known hazard vulnerabilities in your jurisdiction that may not be apparent from the risk assessment and other information provided.

Spending some time thinking about the results of the risk assessment and other noted vulnerabilities will be a big help in the development of your hazard mitigation action plan. The following are examples of vulnerabilities you could identify through this exercise:

- Over the past 10 years, the jurisdiction has experienced more than \$1 million in damage to critical assets from severe storm events.
- 17 critical assets are in areas that would be permanently inundated with 12 inches of sea level rise.
- One significant District asset is not equipped with a generator and four District buildings are unreinforced masonry or soft-story construction.
- An area along the river is eroding and threatening a District-owned treatment facility.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, consider including actions to address the jurisdiction-specific vulnerabilities listed in this section.

## HAZARD MITIGATION ACTION PLAN

### Hazard Mitigation Action Plan Matrix

The hazard mitigation action plan is the heart of your jurisdictional annex. This is where you will identify the actions your jurisdiction would like to pursue with this plan.

## **Select Recommended Actions**

All of the work that you have done thus far should provide you with ideas for actions. Throughout these instructions, green boxes labeled “Hazard Mitigation Action Plan Input” have indicated information that needs to be considered in the selection of mitigation actions. The following sections describe how to consider these and other information sources to develop a list of potential actions.

Be sure to consider the following factors in your selection of actions:

- Select actions that are consistent with the overall purpose, goals, and objectives of the hazard mitigation plan.
- Identify actions where benefits exceed costs.
- Include any action that your jurisdiction has committed to pursuing, regardless of eligibility from outside funding sources (grants, non-profit funding, donations, etc.).
- Know what is and is not eligible for funding under various federal programs (see the fact sheet on FEMA hazard mitigation grant programs in the toolkit and the table on the next page).

## ***Material Previously Developed for This Annex***

### **Capability Assessment Section—Planning and Regulatory Capability Table, Fiscal Capability Table, Administrative and Technical Capability Table, and Education and Outreach Table**

Review these tables and consider the following:

- For any capability that you do not currently have, consider whether your jurisdiction should have this capability. If so, consider including an action to develop/acquire the capability.
- For any capability that you do currently have, consider whether this capability can be leveraged to increase or improve hazard mitigation in the jurisdiction.
- If any items listed in the Planning and Regulatory Capabilities table have not been updated in more than 10 years, consider an action to review and update the capability and, as appropriate, incorporate hazard mitigation principles or information obtained in the risk assessment.
- Consider including actions that are identified in other plans and programs (capital improvement plans, strategic plans, etc.) as actions in this plan.

### **Capability Assessment Section— Adaptive Capacity for Climate Change Table**

Consider your responses to this section:

- For criteria that you listed as medium or low, think of ways you could improve this rating (see adaptive capacity portion of the mitigation best practices catalog).
- For criteria you listed as high, think about how you can leverage this capacity to improve or enhance mitigation or continue to improve this capacity.
- For criteria that you were unable to provide responses for, consider ways you could improve your understanding of this capacity (see mitigation best practices and adaptive capacity catalog).

**Table 2. Federal Hazard Mitigation Grant Program Eligibility by Action Type**

Eligible Activities	Hazard Mitigation Grant Program	Pre-Disaster Mitigation	Flood Mitigation Assistance
<b>Mitigation Projects</b>			
Property Acquisition and Structure Demolition	√	√	√
Property Acquisition and Structure Relocation	√	√	√
Structure Elevation	√	√	√
Mitigation Reconstruction	√	√	√
Dry Floodproofing of Non-residential Structures	√	√	√
Generators	√	√	
Localized Flood Risk Reduction Projects	√	√	√
Non-Localized Flood Risk Reduction Projects	√	√	
Structural Retrofitting of Existing Buildings	√	√	√
Non-structural Retrofitting of Existing Buildings and Facilities	√	√	√
Safe Room Construction	√	√	
Infrastructure Retrofit	√	√	√
Soil Stabilization	√	√	√
Wildfire Mitigation	√	√	
Post-Disaster Code Enforcement	√		
Advance Assistance	√		
5 Percent Initiative Projects*	√		
Aquifer and Storage Recovery**	√	√	√
Flood Diversion and Storage**	√	√	√
Floodplain and Stream Restoration**	√	√	√
Green Infrastructure**	√	√	√
Miscellaneous/Other**	√	√	√
<b>Hazard Mitigation Planning</b>	√	√	√
<b>Technical Assistance</b>			√
<b>Management Costs</b>	√	√	√

\* FEMA allows increasing the 5% initiative amount under the Hazard Mitigation Grant Program up to 10% for a presidential major disaster declaration. The additional 5% initiative funding can be used for activities that promote disaster-resistant codes for all hazards. As a condition of the award, either a disaster-resistant building code must be adopted or an improved Building Code Effectiveness Grading Schedule is required.

\*\* Indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.

**Integration Review Section**

Review the items you identified in this section and consider an action that specifically says what the plan, code, ordinance etc. is and how it will be integrated.

**Risk Ranking Section**

You must identify at least one mitigation action that is clearly defined and actionable (i.e. not a preparedness or response action) for every hazard that is categorized in the risk ranking as “high” or “medium” risk.



### Jurisdiction-Specific Vulnerabilities Section

Review the vulnerability issues that you identified in this section and consider actions to address them (see mitigation best practices catalog).

### Status of Previous Plan Actions Section

If your jurisdiction participated in a previous hazard mitigation plan, be sure to include any actions that were identified as “carry over” actions.

### ***Other Sources***

#### Mitigation Best Practices Catalog

A catalog that includes best practices identified by FEMA and other agencies, as well as recommendations from the steering committee and other stakeholders, is included in your toolkit. Review the catalog and identify actions your jurisdiction should consider for its action plan.

#### Public Input

Review input received during the process, specifically the public survey results included in your toolkit.

#### Common Actions for All Partners

The following three actions have been prepopulated in your annex template; **these three actions should be included in every annex and should not be removed:**

- Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard.
- Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
- Purchase generators for critical facilities and infrastructure that lack adequate back-up power.

In addition, the core planning team recommends that every planning partner strongly consider the following actions:

- Identify and pursue strategies to increase adaptive capacity to climate change.
- Develop and implement a program to capture perishable data after significant events (e.g. high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.
- Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.
- Develop a post-disaster recovery plan and a debris management plan.
- Develop and/or update plans that support or enhance continuity of operations following disasters.

The specifics of all these common actions should be adjusted as needed for the particulars of each community.

## Complete the Table

Complete the table titled “Hazard Mitigation Action Plan Matrix” for all the actions you have identified and would like to include in the plan:

- Enter the action number (see box at right) and description. **If the action is carried over from your previous hazard mitigation plan, return to the “Status of Previous Plan Actions” table you completed in Phase 1 and enter the new action number in the column labeled “Action # in Update.”**
- Indicate whether the action mitigates hazards for new and/or existing assets.
- Identify the specific hazards the action will mitigate (note: you must list each hazard by name; simply indicating “all hazards” is not deemed acceptable).
- Identify by number the mitigation plan objectives that the action addresses (see toolkit).
- Indicate who will be the lead in administering the action. This will most likely be a department within your jurisdiction (e.g. planning or public works). If you wish to indicate more than one department as responsible for the action, clearly identify one as the lead agency and list the others in the “supporting agency” column.
- Enter an estimated cost in dollars if known; otherwise, enter “High,” “Medium,” or “Low,” as determined for the prioritization process described in the following section.
- Identify funding sources for the action. If it is a grant, include the grant-providing agency as well as funding sources for any required cost share. If it is another outside funding source such as a non-profit funding source or a donation, include the source and any requirements for receiving the funding. Refer to your fiscal capability assessment to identify possible sources of funding and refer to the table on page 15 of these instructions for project eligibility for FEMA’s hazard mitigation assistance grant programs.
- Indicate the time line as “short-term” (1 to 5 years) or “long-term” (5 years or greater) or “ongoing” (a continual program)

**Action Numbering**

Actions are to be numbered using the three-letter code for your jurisdiction shown below, followed by a hyphen and the action’s sequential number:

- San Mateo County—SMC-1, SMC-2...
- Atherton City—ATH-1, ATH-2...
- Belmont City—BEL-1, BEL-2...
- Brisbane City—BRS-1, BRS-2...
- Burlingame City—BRL-1, BRL-2...
- Colma City—CLM-1, CLM-2...
- Daly City—DLY-1, DLY-2...
- East Palo Alto City—EPA-1, EPA-2...
- Foster City—FOS-1, FOS-2...
- Half Moon Bay City—HMB-1, HMB-2...
- Hillsborough City—HLS-1, HLS-2...
- Menlo Park City—MPK-1, MPK-2...
- Millbrae City—MLB-1, MLB-2...
- Pacifica City—PAC-1, PAC-2...
- Portola Valley City—PTV-1, PTV-2...
- Redwood City—RDW-1, RDW-2...
- San Bruno City—SBR-1, SBR-2...
- San Carlos City—SCR-1, SCR-2...
- San Mateo City—SMT-1, SMT-2...
- South San Francisco City—SSF-1, SSF-2...
- Woodside City—WDS-1, WDS-2...
- Coastside Water —CSW-1, CSW-2...
- Colma Fire —CFD-1, CFD-2...
- Flood & Sea Level —FSL-1, FSL-2...
- Harbor District —HRB-1, HBR-2
- Highland Recreational —HLD-1, HLD-2...
- Jefferson Union HS —JEF-1, JEF-2...
- Menlo Park Fire —MPF-1, MPF-2...
- Mid-Pen Reg Open Space District —MPR-1, MPR-2...
- Mid-Peninsula Water —MPW-1, MPW-2...
- Montara Water & Sewer —MWS-1, MWS-2...
- North Coast Water —NCW-1, NCW-2...
- Office of Education —OED-1, OED-2...
- San Mateo Community College —SCC-1, SCC-2...
- San Mateo RCD —SRC-1, SRC-2...
- Westborough Water —WBW-1, WBW-2...
- Woodside Fire —WFD-1, WFD-2...

## Mitigation Action Priority

Complete the information in the table titled “Mitigation Action Priority” as follows:

- **Action #**—Indicate the action number from the Hazard Mitigation Action Plan Matrix table.
- **# of Objectives Met**—Enter the number of objectives the action will meet.
- **Benefits**—Enter “High,” “Medium” or “Low” as follows:
  - High—Action will provide an immediate reduction of risk exposure for life and property.
  - Medium—Action will have a long-term impact on the reduction of risk exposure for life and property, or action will provide an immediate reduction in the risk exposure for property.
  - Low—Long-term benefits of the action are difficult to quantify in the short term.
- **Cost**—Enter “High,” “Medium” or “Low” as follows:
  - High—Existing funding will not cover the cost of the action; implementation would require new revenue through an alternative source (for example, outside funding sources, bonds, grants, and fee increases).
  - Medium—The action could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the action would have to be spread over multiple years.
  - Low—The action could be funded under the existing budget. The action is part of or can be part of an ongoing existing program.
- **Do Benefits Exceed the Cost?**—Enter “Yes” or “No.” This is a qualitative assessment. Enter “Yes” if the benefit rating (high, medium or low) is the same as or higher than the cost rating (high benefit/high cost; high benefit/medium cost; medium benefit/low cost; etc.). Enter “No” if the benefit rating is lower than the cost rating (medium benefit/high cost, low benefit/medium cost; etc.)
- **Is the Action Eligible for Outside Funding Sources?**—Enter “Yes” or “No.” For grant funding, refer to the fact sheet on FEMA hazard mitigation grant programs in the annex preparation toolkit and the table on page 15 of these instructions.
- **Can Action Be Funded Under Existing Program Budgets?**—Enter “Yes” or “No.” In other words, is this action currently budgeted for, or would it require a new budget authorization or funding from another source such as grants, non-profit funding, or donations?
- **Implementation Priority**— Enter “High,” “Medium” or “Low” as follows:
  - High Priority—An action that meets multiple objectives, has benefits that exceed costs, and has a secured source of funding. Action can be completed in the short term (1 to 5 years).
  - Medium Priority—An action that meets multiple objectives, has benefits that exceed costs, and is eligible for funding though no funding has yet been secured for it. Action can be completed in the short term (1 to 5 years), once funding is secured. Medium-priority actions become high-priority actions once funding is secured.
  - Low Priority—An action that will mitigate the risk of a hazard, has benefits that do not exceed the costs or are difficult to quantify, has no secured source of funding, and is not eligible for any known outside funding sources. Action can be completed in the long term (1 to 10 years). Low-priority actions may be eligible for outside funding from programs that have not yet been identified.
- **Outside Funding Source Pursuit Priority**— Enter “High,” “Medium” or “Low” as follows:



- **High Priority**—An action that meets identified outside funding source eligibility requirements, has high benefits, and is listed as high or medium implementation priority; local funding options are unavailable or available local funds could be used instead for actions that are not eligible to be funded by outside sources.
- **Medium Priority**—An action that meets identified outside funding source eligibility requirements, has medium or low benefits, and is listed as medium or low implementation priority; local funding options are unavailable.
- **Low Priority**—An action that has not been identified as meeting any outside funding source eligibility requirements.

Actions identified as high-outside-funding-pursuit priority actions should be closely reviewed for consideration when outside funding source opportunities arise.

**Note:** If a jurisdiction wishes to identify an action as high priority that is outside of the prioritization scheme for high priorities, a note indicating so should be inserted and a rationale should be provided.

## Analysis of Mitigation Actions

In the table titled “Analysis of Mitigation Actions,” for each combination of hazard type and mitigation type, enter the numbers of all recommended actions that address that hazard type and can be categorized as that mitigation type. The mitigation types are as follows:

- **Prevention**—Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Property Protection**—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
- **Public Education & Awareness**—Actions to inform residents and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
- **Natural Resource Protection**—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, and green infrastructure.
- **Emergency Services**—Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
- **Structural Projects**—Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.
- **Climate Resilience**—Actions that incorporate methods to mitigate and/or adapt to the impacts of climate change. Includes aquifer storage and recovery activities, incorporating future conditions projections in project design or planning, or actions that specifically address jurisdiction-specific climate change risks, such as sea-level rise or urban heat island effect.
- **Community Capacity Building**—Actions that increase or enhance local capabilities to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. Includes staff

training, memorandums of understanding, development of plans and studies, and monitoring programs.

This exercise demonstrates that the jurisdiction has selected a comprehensive range of actions. This table must show at least one action to address each “high” and “medium” ranked hazard. Planning partners should aim to identify at least one action for each mitigation type, but this is not required.

An example of a completed “Analysis of Mitigation Actions” table is provided below. Note that an action can be more than one mitigation type.

Sample Completed Table – Analysis of Mitigation Actions								
Hazard Type	Action Addressing Hazard, by Mitigation Type							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Dam Failure	EX-2, 3, 4, 5, 6	EX-1, 6	EX-4, 6		EX-8, 11			EX-3, 4, 8, 9, 10
Drought	EX-2	EX-1	EX-4					EX-3, 4, 8, 9, 10
<b>Medium-Risk Hazards</b>								
Earthquake	EX-2, 3, 4, 5, 7	EX-1, 7	EX-4		EX-8, 11			EX-3, 4, 8, 9
Flooding	EX-2, 3, 4, 5, 6, 7	EX-1, 6, 7	EX-4, 6	EX-9	EX-8, 11	EX-6		EX-3, 4, 8, 9, 10
Landslide	EX-2, 3, 4, 5, 7	EX-1, 7	EX-4		EX-8, 11			EX-3, 4, 8, 9, 10
<b>Low-Risk Hazards</b>								
Severe Weather	EX-2, 3, 4, 5, 7	EX-1, 7, 9	EX-4		EX-8, 9, 11		EX-8, 7	EX-3, 4, 8, 9, 10
Wildfire	EX-2, 3, 4, 5, 7	EX-1, 7, 9	EX-4, 9	EX-9	EX-8, 11			EX-3, 4, 8, 9, 10

## PUBLIC OUTREACH

FEMA requirements for public outreach will be met by the County’s engagement efforts and are included in the main part of the plan. These may include public meetings, a StoryMap, surveys, etc. If individual jurisdictions want to have a more robust outreach for their local community, the public outreach table in each annex may be used to memorialize those local efforts.

This table should record local public outreach efforts made by your jurisdiction to inform the community of the plan update process. Examples may include local surveys on hazard awareness/preparedness, social media blasts, press releases, and outreach to local groups (CERT, senior citizen organizations, etc.) **This section is optional.**

## INFORMATION SOURCES USED FOR THIS ANNEX

This section should describe what resources you used to complete the annex and how you used them. The sources used for Phases 1 and 2 should have been entered previously. List any additional sources used for the preparation of the Phase 3 annex. Review to ensure that all materials used in all three phases are identified. Providing this information is a requirement to pass the state and FEMA review process.

## **FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY**

In this section, identify any future studies, analyses, reports, or surveys your jurisdiction needs to better understand its vulnerability to identified or currently unidentified risks. These could be needs based on federal or state agency mandates. **This section is optional.**

## **ADDITIONAL COMMENTS**

Use this section to add any additional information pertinent to hazard mitigation and your jurisdiction not covered in this template. **This section is optional.**

**THIS COMPLETES PHASE 3**





**INSTRUCTIONS FOR COMPLETING  
ANNEXES WITH EQUITY LENS  
FOR SPECIAL-PURPOSE  
DISTRICTS**





# INSTRUCTIONS FOR COMPLETING SPECIAL-PURPOSE DISTRICT ANNEX TEMPLATE WITH EQUITY LENS

**Note Regarding Equity Lensing.** The Core Planning Team and Steering Committee for the 2021 San Mateo County Multijurisdictional Local Hazard Mitigation Plan update have decided to add another layer of resolution to the risk assessment and action planning portions of this plan update, applying an “equity lens”. An equity lens is defined as a critical thinking approach to undoing institutional and structural biases, which evaluates burdens, benefits, and outcomes to underserved communities. Application of the equity lens to risk ranking and action plan prioritization was determined to be “optional” for all planning partners. These instructions have been enhanced to include the equity lens options for Risk Ranking and Action Plan prioritization.

Jurisdictional annex templates for the 2021 San Mateo Multijurisdictional Local Hazard Mitigation Plan update will be completed in three phases. **This document provides instructions for completing all phases of the template for special-purpose districts.**

The target timeline for completion is as follows:

- **Phase 1**—Team, Profile, Trends, and Previous Plan Status
  - **Deployed:** February 19, 2021
  - **Due:** March 19, 2021 by close of business
- **Phase 2**—Capability Assessment, Integration Review, and Information Sources
  - **Deployed:** April 2, 2021
  - **Due:** May 21, 2021 by close of business
- **Phase 3**—Risk Assessment, Action Plan, Information Sources, Future Needs, and Additional Comments
  - **Deployed:** June 11, 2021

## A Note About Formatting

The template for the annex is a Microsoft Word document in a format that will be used in the final plan. Partners are asked to use this template so that a uniform product will be completed for each partner.

Content should be entered directly into the template rather than creating text in another document and pasting it into the template. Text from another source may alter the formatting of the document.

**DO NOT** convert this document to a PDF.

The section and table numbering in the document will be updated when completed annexes are combined into the final document. Please do not adjust any of the numbering.

For planning partners who participated in the 2016 planning effort, relevant information has been brought over to the 2021 template. Fields that require attention have been highlighted using the following color coding:

- **Green:** Text has been brought over from 2016 Plan and should be reviewed and updated as needed.
- **Blue:** This is a new field that will require information that was not included in 2016.

***Please un-highlight each field that you update so that reviewers will know an edit has been made.***

New planning partners will need to complete the template in its entirety.

- **Mandatory Phase 3 Workshops:** Targeted for the week of June 14. We will schedule multiple workshops during that week to provide options for attendance
- **Due: July 23, 2021 by close of business, Pacific Time**

Direct any questions about your Phase 3 template to:

**Bart Spencer**  
Tetra Tech  
Phone: (650) 324-1810  
E-mail: [bart.spencer@tetrattech.com](mailto:bart.spencer@tetrattech.com)

Submit your completed Phase 3 template in electronic format to:

**Megan Brotherton**  
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## IMPORTANT! READ THIS FIRST

Phase 1 and Phase 2 templates were previously provided to your jurisdiction for completion.

If your jurisdiction returned the completed Phase 1 & 2 templates:

- The Phase 1 & 2 content you provided is already incorporated into your Phase 3 template.
- Review the template to see if we have inserted any comments requesting further work to be done on Phase 1 or 2
  - ***If any comments are included, address them.*** Then, begin your work on Phase 3 following the Phase 3 instructions beginning on page 12.
  - If no comments are included, then you **DO NOT** need to do any further work on the Phase 1 or Phase 2 content. ***Go directly to the instructions for Phase 3, beginning on page 12.***

If your jurisdiction has **NOT** yet done any work on the Phase 1 or Phase 2 template:

- Follow the instructions beginning on page 3 for providing the Phase 1 and Phase 2 information.
- Then proceed with the Phase 3 instructions beginning on page 12.

If your jurisdiction started work on the Phase 1 or 2 template but never completed and submitted it, copy the work you had completed so far into the new template. Then complete Phases 1, 2, and 3 following the instructions provided here.



## PHASE 1 INSTRUCTIONS

### CHAPTER TITLE

In the chapter title at the top of Page 1, type in the complete official name of your district (e.g. West County Fire Protection District #1, Johnsonville Flood Protection District). Do not change the chapter number. Revise only the jurisdiction name. If your jurisdiction's name has already been entered, verify that wording and spelling are correct; revise as needed.

### LOCAL HAZARD MITIGATION PLANNING TEAM

#### Points of Contact

Provide the name, title, mailing address, telephone number, and e-mail address for the primary point of contact for your jurisdiction. This should be the person responsible for monitoring, evaluating, and updating the annex for your jurisdiction. This person should also be the principle liaison between your jurisdiction and the Steering Committee overseeing development of this plan.

In addition, designate an alternate point of contact. This would be a person to contact should the primary point of contact be unavailable or no longer employed by the jurisdiction.

*Note: Both of these contacts should match the contacts that were designated in your jurisdiction's letter of intent to participate in this planning process. If you have changed the primary or secondary contact, let the planning team know by inserting a comment into the document.*

#### Participating Planning Team

Populate Table 1-1 with the names of staff from your jurisdiction who participated in preparing this annex or otherwise contributed to the planning process for this hazard mitigation plan.

### JURISDICTION PROFILE

#### Overview

Provide a brief summary description of the following:

- The purpose of the jurisdiction
- The date of inception
- The type of organization
- The number of employees
- Funding sources
- The type of governing body, and who has adoptive authority.

This should be information that is specific to your jurisdiction and will not be provided in the overall, planning area-wide mitigation plan document. Provide a statement similar to the example below:

**EXAMPLE:** *The Johnsonville Community Services District is a special district created in 1952 to provide water and sewer service. A five-member elected Board of Directors governs the District. The Board assumes responsibility for the adoption of this plan; the General Manager will oversee its implementation. The District currently employs a staff of 21. Funding comes primarily through rates and revenue bonds.*

## **Service Area**

Provide a brief description of the following:

- Who the District’s customers are and an approximation of how many are currently served
- The area served, in square miles
- The geographic extent of the service area

This should be information that is specific to your jurisdiction and will not be provided in the overall, planning area-wide mitigation plan document. Provide a statement similar to the example below:

**EXAMPLE:** *The Johnsonville Community Services District serves unincorporated areas of Jones County east of the City of Smithburg, including the communities of Johnsonville, Creeks Corner, Jones Hill, Fields Landing, King Salmon, and Freshwater. The current total service area is 3.3 square miles. As of April 30, 2020, the District serves 7,305 water connections and 6,108 sewer connections.*

## **Assets**

List District-owned assets in the categories shown on the table (and described in the sections below). Include an approximate value for each asset and a subtotal value for identified assets in each category.

### **Property**

Provide an approximate value for any land owned by the District.

### **Equipment**

List equipment owned by the District that is used in times of emergency or that, if incapacitated, could severely impact the service area (vehicles, generators, pumps, etc.). Provide an approximate replacement value for each item. Equipment of similar type may be listed as a single category (e.g., “3 diesel-powered generators”). For water and sewer districts, include mileage of pipeline under this category.

### **Critical Facilities**

List District-owned facilities that are vital to maintain services to the service area. Include the address of each facility. Provide an approximate replacement value for each line. Critical facilities are generally defined as facilities owned by the District that are critical to District operations and to public health or safety and that are especially important following hazard events, including but not limited to the following:

- Structures or facilities that produce, use, or store hazardous materials (highly volatile, flammable, explosive, toxic and/or water-reactive materials)

- Hospitals, nursing homes, and housing facilities likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a natural hazard event
- Mass gathering facilities that may be used as evacuation shelters (such as schools or community centers)
- Transportation infrastructure such as roads, bridges and airports that provide sources for evacuation before, during and after natural hazard events
- Police stations, fire stations, government facilities, vehicle equipment and storage facilities, and emergency operation centers that are needed for response activities before, during and after a natural hazard event
- Public utility facilities such as drinking water, stormwater, and wastewater systems that are vital to providing normal services to damaged areas before, during and after natural hazard events.

The table below shows an example of assets to be listed in this section.

Sample Completed Table – Special District Assets	
Asset	Value
<b>Property</b>	
11.5 Acres	\$5,750,000
<b>Equipment</b>	
Total length of pipe 40 miles ( \$1.32 million per mile X 40 miles)	\$52,800,000
4 Emergency Generators	\$250,000
<b>Total:</b>	<b>\$53,050,000</b>
<b>Critical Facilities</b>	
Administrative Buildings – 357 S. Jones Street	\$2,750,000
Philips Pump Station – 111 Fifth Avenue N.	\$377,000
<b>Total:</b>	<b>\$3,127,000</b>

**NOTE:** Placeholders in the table of assets request **ADDRESSES** for critical facilities. These addresses will not be included in the final published annex, but are needed in order to perform risk mapping and risk analysis for the hazard mitigation plan. Include the addresses in the table if convenient. If not, then provide a separate document listing all critical facilities and addresses for use in development of the hazard mitigation plan.

## CURRENT TRENDS

Provide a brief description of previous growth trends in the service area and anticipated future increase or decrease in services (if applicable). This should be information that is specific to your jurisdiction and will not be provided in the overall, planning area-wide mitigation plan document. Provide a statement similar to the example below:

**EXAMPLE:** *The Johnsonville Community Services District originally was formed to serve only the Johnsonville area. The District’s service area expanded throughout the years to include the full area served today. Total customers have increased by 3 percent since 2010. Population in the service area is not projected to change significantly over the next 10 years, and the District has no plans to expand its service area.*



## STATUS OF PREVIOUS PLAN ACTIONS

*Note that this section applies only to jurisdictions that are conducting updates to previously approved hazard mitigation plans. If your jurisdiction has not previously participated in an approved plan, enter an “X” in the box at the beginning of this section and do not complete the section. We will remove this section from your final annex.*

*Also note that this section is further back in the annex than the rest of the Phase 1 content. Some Phase 2 sections are included before it.*

The hazard mitigation plan update must describe the status of all action items from each jurisdiction’s previous hazard mitigation plan. Each action item must be marked as ONE of the options below by checking the appropriate box (place an X) and providing the following information:

- **Completed**—If an action has been completed since the prior plan was prepared, check the “Completed” box and **provide a date of completion in the comment section**. If an action has been initiated and is an ongoing program (e.g. annual outreach event), you may mark it as completed and **note that it is ongoing in the comments**. If an action addresses an ongoing program you would like to continue to include in your action plan, see the “Carried Over to Plan Update” bullet below.
- **Removed**—If action items are to be removed because they are no longer feasible, a reason must be given. Lack of funding does not mean that it is no longer feasible, unless the sole source of funding for an action is no longer available. **Place a comment in the comment section explaining why the action is no longer feasible or barriers that prevented the action from being implemented (e.g., “Action no longer considered feasible due to lack of political support.”)**. If the wording and/or intent of a previously identified action is unclear, this can be a reason for removal. A change in community priorities may also be a reason for removal and should be discussed in the comments.
- **Carried Over to Plan Update**—If an action is in progress, is ongoing, or has not been initiated and you would like to carry it over to the plan update, check the “Check if Yes” column under “Carried Over to Plan Update.” Selecting this option indicates that the action will be included in the mitigation action plan for this update. If you are carrying over an action to the update, **include a comment describing any action that has been taken or why the action was not taken** (specifically, any barriers or obstacles that prevented the action from moving forward or slowed progress). Leave the last column, “Action # in Update,” blank at this point. This will be filled in after completing the updated action plan in Phase 3.

Ensure that you have provided **a status and a comment for each action**.

### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, all action items from your jurisdiction’s previous hazard mitigation plan that are marked as “Carried Over to Plan Update” will need to be included in the action plan.

**THIS COMPLETES PHASE 1**

**PHASE 2 INSTRUCTIONS**

## CAPABILITY ASSESSMENT

*Note that it is unlikely that one person will be able to complete all sections of the capability assessment alone. The primary preparer will likely need to reach out to other departments within the local government for information. It may be beneficial to provide these individuals with background information about this planning process, as input from them will be needed again during Phase 3 of the annex development.*

### Planning and Regulatory Capability

List any federal, state, local or district ordinances, plans, or policies that apply to your jurisdiction and relate to hazard mitigation. Provide the date of last update and any comments as appropriate. The table below shows an example of items to be listed in this section.

Sample Completed Table – Planning and Regulatory Capability		
Plan, Study or Program	Date of Most Recent Update	Comment
District Design Standards	2010	
Capital Improvement Program	Updated annually	covers 5 year timeframe
Emergency Operations Plan	2000	
Facility Maintenance Manual	1990	
State Building Code	2016	
Division of State Architects		Review of all building and site design features is required prior to construction

### Fiscal Capability

Complete the table titled “Fiscal Capability” by indicating whether each of the listed financial resources is accessible to your jurisdiction. Enter “Yes” if the resource is fully accessible to your jurisdiction. Enter “No” if there are limitations or prerequisites that may hinder your use of this resource.

### Administrative and Technical Capability

Complete the table titled “Administrative and Technical Capability” by indicating whether your jurisdiction has access to each of the listed personnel resources. Enter “Yes” or “No” in the column labeled “Available?”. If yes, then enter the department and position title. If you have contract support with these capabilities, you can still answer “Yes.” Indicate in the department row that this resource is provided through contract.

### Education and Outreach Capability

Complete the table titled “Education and Outreach.”

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, review all the above capability assessment tables and consider including actions to provide a capability that your jurisdiction does not currently have, update a capability that your jurisdiction does have, or implement an action that is recommended in an existing plan or program.

## Community Classifications

Complete the table titled “Community Classifications” to indicate your jurisdiction’s participation in various national programs related to natural hazard mitigation. For each program enter “Yes” or “No” in the second column to indicate whether your jurisdiction participates. If yes, then enter the classification that your jurisdiction has earned under the program in the third column and the date on which that classification was issued in the fourth column; enter “N/A” in the third and fourth columns if your jurisdiction is not participating. If you do not know your current classification, information is available at the following websites:

- **FIPS Code**— <https://www.census.gov/geographies/reference-files/2018/demo/popest/2018-fips.html>
- **DUNS #**— <https://www.dnb.com/duns-number.html>
- **Community Rating System**— <https://www.fema.gov/floodplain-management/community-rating-system>
- **Building Code Effectiveness Grading Schedule**— <https://www.isomitigation.com/bcegs/iso-s-building-code-effectiveness-grading-schedule-bcegs.html>
- **Public Protection Classification**— <https://www.isomitigation.com/ppc/>
- **Storm Ready**— <https://www.weather.gov/stormready/communities>
- **Firewise**— <http://www.firewise.org/usa-recognition-program/map-of-active-participants.aspx>
- **Tsunami Ready**— <https://www.weather.gov/tsunamiready/communities>

## Adaptive Capacity for Climate Change

Consider climate change impact concerns such as the following:

- Reduced snowpack
- Increased wildfires
- Sea level rise
- Inland flooding
- Threats to sensitive species
- Loss in agricultural productivity
- Public health and safety.

With those impacts in mind, complete the table titled “Adaptive Capacity for Climate Change” by indicating your jurisdiction’s capacity for each listed criterion as follows:

- **High**—The capacity exists and is in use.
- **Medium**—The capacity may exist, but is not used or could use some improvement.
- **Low**—The capacity does not exist or could use substantial improvement.
- **Unsure**—Not enough information is known to assign a rating.



This is a subjective assessment, but providing a few words of explanation is useful. It is highly recommended that you complete this table with an internal planning team after reviewing the results of the other capability assessment tables.

#### HAZARD MITIGATION ACTION PLAN INPUT

When preparing the hazard mitigation action plan in Phase 3, review all the adaptive capacity criteria and consider including actions to improve the rating for those rated medium or low, to make use of the capacity for those rated high, or to acquire additional information for those rated unsure.

## INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. FEMA recommends integration as follows:

- Integrate hazard mitigation plan goals with community objectives (e.g. incorporate the goals for risk reduction and safety into the policies of other plans).
- Use the risk assessment to inform plans and policies (e.g. incorporate risk assessment findings into emergency operations plans).
- Implement mitigation actions through existing mechanisms (e.g. include mitigation projects in the capital improvement plan).
- Think about mitigation before and after a disaster (e.g. build recovery planning on existing mitigation plans and goals).

After reviewing the plans, programs and ordinances identified in the capability assessment tables, identify all plans and programs that have already been integrated with the hazard mitigation plan, and those that offer opportunities for future integration.

## Existing Integration

In the highlighted bullet list, provide a brief description of integrated plans or ordinances and how each is integrated. Consider listing items marked as Completed in the “Status of Previous Plan Actions” table if they were indicated as being ongoing actions. Examples are as follows:

- **Capital Improvement Plan**—The capital improvement plan includes projects that can help mitigate potential hazards. The District will act to ensure consistency between the hazard mitigation plan and the current and future capital improvement plans. The hazard mitigation plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.
- **Emergency Operations Plan**—The results of the risk assessment were used in the development of the emergency operations plan.

- **Facilities Plan**—The results of the risk assessment and mapped hazard areas are used in facility planning for the District. Potential sites are reviewed for hazard risks, and appropriate mitigation measures are considered in building and site design.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, any plans that fall into the “Existing Integration” category should be reviewed and elements from them should be included in the action plan as appropriate.

## Opportunities for Future Integration

List any plans or programs that offer the potential for future integration and describe the process by which integration will occur. Examples follow:

- **Capital Improvement Projects**—Capital improvement project proposals may take into consideration hazard mitigation potential as a means of evaluating project prioritization.
- **Post-Disaster Recovery Plan**—The District does not have a recovery plan and intends to develop one as a mitigation planning action during the next five years. The plan will build on the mitigation goals and objectives identified in the mitigation plan.

Consider other programs you may have in place in your jurisdiction that include routine consideration and management of hazard risk. Examples of such programs may include: tree pruning programs, right-of-way mowing programs, erosion control or stream maintenance programs, etc. Add any such programs to the integration discussion and provide a brief description of how these program manage (or could be adapted to manage) risk from hazards.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, an action to integrate any identified “Opportunities for Future Integration” should be considered for inclusion in the action plan.

## INFORMATION SOURCES USED FOR THIS ANNEX

*Note that this section will ultimately describe all information sources used to develop this annex, but that only the sources used for Phases 1 and 2 will be listed at this point. Additional sources will be added with the preparation of the Phase 3 annex.*

This section should describe what resources you used to complete the annex and how you used them. Several items are started for you, but be sure to update and enhance any descriptions. Providing this information is a requirement to pass the state and FEMA review process.

**THIS COMPLETES PHASE 2**





We recommend including most large-scale disasters, unless you know that there were no impacts on your jurisdiction. Specifically, we recommend that you include these events if you have damage estimate information or can provide a brief description of impacts that occurred within your community. In addition to these events, refer to the NOAA storm events database included in the toolkit. We recommend conducting a search for the name of your jurisdiction in order to identify events with known impacts. Other potential sources of damage information include the following

- Preliminary damage estimates your jurisdiction filed with the county or state
- Insurance claims data
- Newspaper archives
- Emergency management documents (general plan safety element, emergency response plan, etc.)
- Resident input.

If you do not have estimates for costs of damage caused, list “Not Available” in the “Damage Assessment” column or list a brief description of the damage rather than a dollar value (e.g., Main Street closed as a result of flooding, downed trees and residential damage). Note that tracking such damage is a valid and useful mitigation action if your jurisdiction does not currently track such information.

## Hazard Risk Ranking

Risk ranking identifies which hazards pose the greatest risk to the community, based on how likely it is for each hazard to occur (this is called the community’s exposure) and how great an impact each hazard will have if it does occur (this is called the community’s vulnerability). Every jurisdiction has differing degrees of risk exposure and vulnerability and therefore needs to rank risk for its own area. The risk ranking for each jurisdiction has been calculated in the “Loss Matrix” spreadsheet included in the annex preparation toolkit. Two sets of ranking are provided. One ranking is the base ranking that utilizes the raw percentage of population exposed to each hazard to rank the impacts to population. The second ranking uses the social vulnerability metrics established by FEMA’s National Risk Index (NRI) to add an equity lens to the impact on population factor for the risk ranking application. Those planning partners applying the equity lens option should utilize the “Social Equity Version” for risk ranking provided in the loss matrix. The ranking is on the basis of risk ranking scores for each hazard that were calculated based on the hazard’s probability of occurrence and its potential impact on people, property and the economy.

The risk ranking methodology used for cities and counties is not usable for special-purpose districts because the risk-related mapping generally does not align with the boundaries of districts. To rank risk for your District, use the following procedure:

- Find the risk ranking scores in the Loss Matrix spreadsheet (on the “Risk Ranking Summary” tab) for the county overall and for any cities whose area overlaps that of your District.
- For each hazard, generate a risk ranking score for your District by calculating the average of the scores for those other jurisdictions.
- Rank the hazards based on those average scores:
  - Assign the rank of 1 to the hazard with the highest risk ranking score, the rank of 2 to the hazard with the second highest ranking score; and so on.
  - Assign the same rank to any two hazards with equal risk ranking scores

- If the resulting ranking differs from what you know based on substantiated data and documentation, alter the scores and ranking as needed based on this knowledge.
- Assign each hazard to the risk category of “High,” Medium,” or “Low” based on the risk rating score:
  - Low for scores of 0 to 15
  - Medium for scores of 16 to 32
  - High for scores greater than 33

Enter the results of this analysis in the “Hazard Risk Ranking” table in the template; enter the hazards in order of ranking, with 1 at the top of the table.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, you will need to have at least one mitigation action for each hazard ranked as “high” or “medium.”

## Jurisdiction-Specific Vulnerabilities

Review the results of the risk assessment included in the toolkit, your jurisdiction’s natural events history, and any relevant public comments/input, then develop a few sentences that discuss specific hazard vulnerabilities. You do not need to develop a sentence for every hazard, but identify a few issues you would like to highlight. Also list any known hazard vulnerabilities in your jurisdiction that may not be apparent from the risk assessment and other information provided.

Spending some time thinking about the results of the risk assessment and other noted vulnerabilities will be a big help in the development of your hazard mitigation action plan. The following are examples of vulnerabilities you could identify through this exercise:

- Over the past 10 years, the jurisdiction has experienced more than \$1 million in damage to critical assets from severe storm events.
- 17 critical assets are in areas that would be permanently inundated with 12 inches of sea level rise.
- One significant District asset is not equipped with a generator and four District buildings are unreinforced masonry or soft-story construction.
- An area along the river is eroding and threatening a District-owned treatment facility.

**HAZARD MITIGATION ACTION PLAN INPUT**

When preparing the hazard mitigation action plan in Phase 3, consider including actions to address the jurisdiction-specific vulnerabilities listed in this section.

## HAZARD MITIGATION ACTION PLAN

### Hazard Mitigation Action Plan Matrix

The hazard mitigation action plan is the heart of your jurisdictional annex. This is where you will identify the actions your jurisdiction would like to pursue with this plan.

## **Select Recommended Actions**

All of the work that you have done thus far should provide you with ideas for actions. Throughout these instructions, green boxes labeled “Hazard Mitigation Action Plan Input” have indicated information that needs to be considered in the selection of mitigation actions. The following sections describe how to consider these and other information sources to develop a list of potential actions.

Be sure to consider the following factors in your selection of actions:

- Select actions that are consistent with the overall purpose, goals, and objectives of the hazard mitigation plan.
- Identify actions where benefits exceed costs.
- Include any action that your jurisdiction has committed to pursuing, regardless of eligibility from outside funding sources (grants, non-profit funding, donations, etc.).
- Know what is and is not eligible for funding under various federal programs (see the fact sheet on FEMA hazard mitigation grant programs in the toolkit and the table on the next page).

## ***Material Previously Developed for This Annex***

### **Capability Assessment Section—Planning and Regulatory Capability Table, Fiscal Capability Table, Administrative and Technical Capability Table, and Education and Outreach Table**

Review these tables and consider the following:

- For any capability that you do not currently have, consider whether your jurisdiction should have this capability. If so, consider including an action to develop/acquire the capability.
- For any capability that you do currently have, consider whether this capability can be leveraged to increase or improve hazard mitigation in the jurisdiction.
- If any items listed in the Planning and Regulatory Capabilities table have not been updated in more than 10 years, consider an action to review and update the capability and, as appropriate, incorporate hazard mitigation principles or information obtained in the risk assessment.
- Consider including actions that are identified in other plans and programs (capital improvement plans, strategic plans, etc.) as actions in this plan.

### **Capability Assessment Section— Adaptive Capacity for Climate Change Table**

Consider your responses to this section:

- For criteria that you listed as medium or low, think of ways you could improve this rating (see adaptive capacity portion of the mitigation best practices catalog).
- For criteria you listed as high, think about how you can leverage this capacity to improve or enhance mitigation or continue to improve this capacity.
- For criteria that you were unable to provide responses for, consider ways you could improve your understanding of this capacity (see mitigation best practices and adaptive capacity catalog).



**Table 2. Federal Hazard Mitigation Grant Program Eligibility by Action Type**

Eligible Activities	Hazard Mitigation Grant Program	Pre-Disaster Mitigation	Flood Mitigation Assistance
<b>Mitigation Projects</b>			
Property Acquisition and Structure Demolition	√	√	√
Property Acquisition and Structure Relocation	√	√	√
Structure Elevation	√	√	√
Mitigation Reconstruction	√	√	√
Dry Floodproofing of Non-residential Structures	√	√	√
Generators	√	√	
Localized Flood Risk Reduction Projects	√	√	√
Non-Localized Flood Risk Reduction Projects	√	√	
Structural Retrofitting of Existing Buildings	√	√	√
Non-structural Retrofitting of Existing Buildings and Facilities	√	√	√
Safe Room Construction	√	√	
Infrastructure Retrofit	√	√	√
Soil Stabilization	√	√	√
Wildfire Mitigation	√	√	
Post-Disaster Code Enforcement	√		
Advance Assistance	√		
5 Percent Initiative Projects*	√		
Aquifer and Storage Recovery**	√	√	√
Flood Diversion and Storage**	√	√	√
Floodplain and Stream Restoration**	√	√	√
Green Infrastructure**	√	√	√
Miscellaneous/Other**	√	√	√
<b>Hazard Mitigation Planning</b>	√	√	√
<b>Technical Assistance</b>			√
<b>Management Costs</b>	√	√	√

\* FEMA allows increasing the 5% initiative amount under the Hazard Mitigation Grant Program up to 10% for a presidential major disaster declaration. The additional 5% initiative funding can be used for activities that promote disaster-resistant codes for all hazards. As a condition of the award, either a disaster-resistant building code must be adopted or an improved Building Code Effectiveness Grading Schedule is required.

\*\* Indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.

### Integration Review Section

Review the items you identified in this section and consider an action that specifically says what the plan, code, ordinance etc. is and how it will be integrated.

### Risk Ranking Section

You must identify at least one mitigation action that is clearly defined and actionable (i.e. not a preparedness or response action) for every hazard that is categorized in the risk ranking as “high” or “medium” risk.

### Jurisdiction-Specific Vulnerabilities Section

Review the vulnerability issues that you identified in this section and consider actions to address them (see mitigation best practices catalog).

### Status of Previous Plan Actions Section

If your jurisdiction participated in a previous hazard mitigation plan, be sure to include any actions that were identified as “carry over” actions.

## ***Other Sources***

### Mitigation Best Practices Catalog

A catalog that includes best practices identified by FEMA and other agencies, as well as recommendations from the steering committee and other stakeholders, is included in your toolkit. Review the catalog and identify actions your jurisdiction should consider for its action plan.

### Public Input

Review input received during the process, specifically the public survey results included in your toolkit.

### Common Actions for All Partners

The following three actions have been prepopulated in your annex template; **these three actions should be included in every annex and should not be removed:**

- Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard.
- Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.
- Purchase generators for critical facilities and infrastructure that lack adequate back-up power.

In addition, the core planning team recommends that every planning partner strongly consider the following actions:

- Identify and pursue strategies to increase adaptive capacity to climate change.
- Develop and implement a program to capture perishable data after significant events (e.g. high water marks, preliminary damage estimates, damage photos) to support future mitigation efforts including the implementation and maintenance of the hazard mitigation plan.
- Support the County-wide initiatives identified in Volume I of the hazard mitigation plan.
- Develop a post-disaster recovery plan and a debris management plan.
- Develop and/or update plans that support or enhance continuity of operations following disasters.

The specifics of all these common actions should be adjusted as needed for the particulars of each community.

## Complete the Table

Complete the table titled “Hazard Mitigation Action Plan Matrix” for all the actions you have identified and would like to include in the plan:

- Enter the action number (see box at right) and description. **If the action is carried over from your previous hazard mitigation plan, return to the “Status of Previous Plan Actions” table you completed in Phase 1 and enter the new action number in the column labeled “Action # in Update.”**
- Indicate whether the action mitigates hazards for new and/or existing assets.
- Identify the specific hazards the action will mitigate (note: you must list each hazard by name; simply indicating “all hazards” is not deemed acceptable).
- Identify by number the mitigation plan objectives that the action addresses (see toolkit).
- Indicate who will be the lead in administering the action. This will most likely be a department within your jurisdiction (e.g. planning or public works). If you wish to indicate more than one department as responsible for the action, clearly identify one as the lead agency and list the others in the “supporting agency” column.
- Enter an estimated cost in dollars if known; otherwise, enter “High,” “Medium,” or “Low,” as determined for the prioritization process described in the following section.
- Identify funding sources for the action. If it is a grant, include the grant-providing agency as well as funding sources for any required cost share. If it is another outside funding source such as a non-profit funding source or a donation, include the source and any requirements for receiving the funding. Refer to your fiscal capability assessment to identify possible sources of funding and refer to the table on page 16 of these instructions for project eligibility for FEMA’s hazard mitigation assistance grant programs.
- Indicate the time line as “short-term” (1 to 5 years) or “long-term” (5 years or greater) or “ongoing” (a continual program)

**Action Numbering**

Actions are to be numbered using the three-letter code for your jurisdiction shown below, followed by a hyphen and the action’s sequential number:

- San Mateo County—SMC-1, SMC-2...
- Atherton City—ATH-1, ATH-2...
- Belmont City—BEL-1, BEL-2...
- Brisbane City—BRS-1, BRS-2...
- Burlingame City—BRL-1, BRL-2...
- Colma City—CLM-1, CLM-2...
- Daly City—DLY-1, DLY-2...
- East Palo Alto City—EPA-1, EPA-2...
- Foster City—FOS-1, FOS-2...
- Half Moon Bay City—HMB-1, HMB-2...
- Hillsborough City—HLS-1, HLS-2...
- Menlo Park City—MPK-1, MPK-2...
- Millbrae City—MLB-1, MLB-2...
- Pacifica City—PAC-1, PAC-2...
- Portola Valley City—PTV-1, PTV-2...
- Redwood City—RDW-1, RDW-2...
- San Bruno City—SBR-1, SBR-2...
- San Carlos City—SCR-1, SCR-2...
- San Mateo City—SMT-1, SMT-2...
- South San Francisco City—SSF-1, SSF-2...
- Woodside City—WDS-1, WDS-2...
- Coastside Water —CSW-1, CSW-2...
- Colma Fire —CFD-1, CFD-2...
- Flood & Sea Level —FSL-1, FSL-2...
- Harbor District —HRB-1, HBR-2
- Highland Recreational —HLD-1, HLD-2...
- Jefferson Union HS —JEF-1, JEF-2...
- Menlo Park Fire —MPF-1, MPF-2...
- Mid-Pen Reg Open Space District —MPR-1, MPR-2...
- Mid-Peninsula Water —MPW-1, MPW-2...
- Montara Water & Sewer —MWS-1, MWS-2...
- North Coast Water —NCW-1, NCW-2...
- Office of Education —OED-1, OED-2...
- San Mateo Community College —SCC-1, SCC-2...
- San Mateo RCD —SRC-1, SRC-2...
- Westborough Water —WBW-1, WBW-2...
- Woodside Fire —WFD-1, WFD-2...



## Mitigation Action Priority

Complete the information in the table titled “Mitigation Action Priority” as follows:

- **Action #**—Indicate the action number from the Hazard Mitigation Action Plan Matrix table.
- **# of Objectives Met**—Enter the number of objectives the action will meet.
- **Benefits**—Enter “High,” “Medium” or “Low” as follows:
  - High—Action will provide an immediate reduction of risk exposure for life and property.
  - Medium—Action will have a long-term impact on the reduction of risk exposure for life and property, or action will provide an immediate reduction in the risk exposure for property.
  - Low—Long-term benefits of the action are difficult to quantify in the short term.
- **Cost**—Enter “High,” “Medium” or “Low” as follows:
  - High—Existing funding will not cover the cost of the action; implementation would require new revenue through an alternative source (for example, outside funding sources, bonds, grants, and fee increases).
  - Medium—The action could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the action would have to be spread over multiple years.
  - Low—The action could be funded under the existing budget. The action is part of or can be part of an ongoing existing program.
- **Do Benefits Exceed the Cost?**—Enter “Yes” or “No.” This is a qualitative assessment. Enter “Yes” if the benefit rating (high, medium or low) is the same as or higher than the cost rating (high benefit/high cost; high benefit/medium cost; medium benefit/low cost; etc.). Enter “No” if the benefit rating is lower than the cost rating (medium benefit/high cost, low benefit/medium cost; etc.)
- **Is the Action Eligible for Outside Funding Sources?**—Enter “Yes” or “No.” For grant funding, refer to the fact sheet on FEMA hazard mitigation grant programs in the annex preparation toolkit and the table on page 16 of these instructions.
- **Can Action Be Funded Under Existing Program Budgets?**—Enter “Yes” or “No.” In other words, is this action currently budgeted for, or would it require a new budget authorization or funding from another source such as grants, non-profit funding, or donations?
- **Implementation Priority**— Enter “High,” “Medium” or “Low” as follows:
  - High Priority—An action that meets multiple objectives, has benefits that exceed costs, and has a secured source of funding. Action can be completed in the short term (1 to 5 years).
  - Medium Priority—An action that meets multiple objectives, has benefits that exceed costs, and is eligible for funding though no funding has yet been secured for it. Action can be completed in the short term (1 to 5 years), once funding is secured. Medium-priority actions become high-priority actions once funding is secured.
  - Low Priority—An action that will mitigate the risk of a hazard, has benefits that do not exceed the costs or are difficult to quantify, has no secured source of funding, and is not eligible for any known outside funding sources. Action can be completed in the long term (1 to 10 years). Low-priority actions may be eligible for outside funding from programs that have not yet been identified.
- **Outside Funding Source Pursuit Priority**— Enter “High,” “Medium” or “Low” as follows:

- High Priority—An action that meets identified outside funding source eligibility requirements, has high benefits, and is listed as high or medium implementation priority; local funding options are unavailable or available local funds could be used instead for actions that are not eligible to be funded by outside sources.
- Medium Priority—An action that meets identified outside funding source eligibility requirements, has medium or low benefits, and is listed as medium or low implementation priority; local funding options are unavailable.
- Low Priority—An action that has not been identified as meeting any outside funding source eligibility requirements.

Actions identified as high-outside-funding-pursuit priority actions should be closely reviewed for consideration when outside funding source opportunities arise.

- **Equity Lens Priority-** Enter “High,” “Medium” or “Low” as follows:
  - High Priority—The mitigation action is designed to reduce harm to multiple socially vulnerable groups in the County from one or more of the hazards identified in the LHMP.
  - Medium Priority— The mitigation action is designed to reduce harm to a single socially vulnerable population in the County from at least one hazard identified in the LHMP.
  - Low Priority—The mitigation action fails to advance social equity in any measurable way in the County

An equity screening tool has been provided in **Appendix B** to these instructions that can be utilized to screen each action to help prioritize each action to the above criteria. The screening of each action using this tool is considered to be optional and not required for jurisdictions applying the equity lens to their action plan prioritization scheme.

**Note:** If a jurisdiction wishes to identify an action as high priority that is outside of the prioritization scheme for high priorities, a note indicating so should be inserted and a rationale should be provided.

## Analysis of Mitigation Actions

In the table titled “Analysis of Mitigation Actions,” for each combination of hazard type and mitigation type, enter the numbers of all recommended actions that address that hazard type and can be categorized as that mitigation type. The mitigation types are as follows:

- **Prevention**—Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Property Protection**—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
- **Public Education & Awareness**—Actions to inform residents and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
- **Natural Resource Protection**—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, and green infrastructure.

- **Emergency Services**—Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
- **Structural Projects**—Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.
- **Climate Resilience**—Actions that incorporate methods to mitigate and/or adapt to the impacts of climate change. Includes aquifer storage and recovery activities, incorporating future conditions projections in project design or planning, or actions that specifically address jurisdiction-specific climate change risks, such as sea-level rise or urban heat island effect.
- **Community Capacity Building**—Actions that increase or enhance local capabilities to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. Includes staff training, memorandums of understanding, development of plans and studies, and monitoring programs.

This exercise demonstrates that the jurisdiction has selected a comprehensive range of actions. This table must show at least one action to address each “high” and “medium” ranked hazard. Planning partners should aim to identify at least one action for each mitigation type, but this is not required.

An example of a completed “Analysis of Mitigation Actions” table is provided below. Note that an action can be more than one mitigation type.

Sample Completed Table – Analysis of Mitigation Actions								
Hazard Type	Action Addressing Hazard, by Mitigation Type							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilience	Community Capacity Building
<b>High-Risk Hazards</b>								
Dam Failure	EX-2, 3, 4, 5, 6	EX-1, 6	EX-4, 6		EX-8, 11			EX-3, 4, 8, 9, 10
Drought	EX-2	EX-1	EX-4					EX-3, 4, 8, 9, 10
<b>Medium-Risk Hazards</b>								
Earthquake	EX-2, 3, 4, 5, 7	EX-1, 7	EX-4		EX-8, 11			EX-3, 4, 8, 9
Flooding	EX-2, 3, 4, 5, 6, 7	EX-1, 6, 7	EX-4, 6	EX-9	EX-8, 11	EX-6		EX-3, 4, 8, 9, 10
Landslide	EX-2, 3, 4, 5, 7	EX-1, 7	EX-4		EX-8, 11			EX-3, 4, 8, 9, 10
<b>Low-Risk Hazards</b>								
Severe Weather	EX-2, 3, 4, 5, 7	EX-1, 7, 9	EX-4		EX-8, 9, 11		EX-8, 7	EX-3, 4, 8, 9, 10
Wildfire	EX-2, 3, 4, 5, 7	EX-1, 7, 9	EX-4, 9	EX-9	EX-8, 11			EX-3, 4, 8, 9, 10

## PUBLIC OUTREACH

FEMA requirements for public outreach will be met by the County’s engagement efforts and are included in the main part of the plan. These may include public meetings, a StoryMap, surveys, etc. If individual jurisdictions want to have a more robust outreach for their local community, the public outreach table in each annex may be used to memorialize those local efforts.

This table should record local public outreach efforts made by your jurisdiction to inform the community of the plan update process. Examples may include local surveys on hazard awareness/preparedness, social media blasts, press releases, and outreach to local groups (CERT, senior citizen organizations, etc.) **This section is optional.**



## **INFORMATION SOURCES USED FOR THIS ANNEX**

This section should describe what resources you used to complete the annex and how you used them. The sources used for Phases 1 and 2 should have been entered previously. List any additional sources used for the preparation of the Phase 3 annex. Review to ensure that all materials used in all three phases are identified. Providing this information is a requirement to pass the state and FEMA review process.

## **FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY**

In this section, identify any future studies, analyses, reports, or surveys your jurisdiction needs to better understand its vulnerability to identified or currently unidentified risks. These could be needs based on federal or state agency mandates. **This section is optional.**

## **ADDITIONAL COMMENTS**

Use this section to add any additional information pertinent to hazard mitigation and your jurisdiction not covered in this template. **This section is optional.**

**THIS COMPLETES PHASE 3**

## APPENDIX A— Risk Ranking Calculation Methodology

The instructions below describe the methodology for how risk rankings were derived in the “Loss Matrix” spreadsheet provided with the annex preparation toolkit. The risk-ranking for each hazard assessed its probability of occurrence and its potential impact on people, property, and the economy. Refer to the Loss Matrix spreadsheet in order to follow along.

### Probability of Occurrence

A probability factor is assigned based on how often a hazard is likely to occur. The probability of occurrence of a hazard event is generally based on past hazard events in an area, although weight can be given to expected future probability of occurrence based on established return intervals and changing climate conditions. For example, if your jurisdiction has experienced two damaging floods in the last 25 years, the probability of occurrence is high for flooding and scores a 3 under this category. If your jurisdiction has experienced no damage from landslides in the last 100 years, your probability of occurrence for landslide is low, and scores a 1 under this category. Each hazard was assigned a probability factor as follows:

- High—Hazard event is likely to occur within 25 years (Probability Factor = 3)
- Medium—Hazard event is likely to occur within 100 years (Probability Factor = 2)
- Low—Hazard event is not likely to occur within 100 years (Probability Factor = 1)
- None—There is no exposure to the hazard and no probability of occurrence (Probability Factor = 0)

### Potential Impacts of Each Hazard

The impact of each hazard is divided into three categories: impacts on people, impacts on property, and impacts on the economy. These categories are also assigned weighted values. Impact on people was assigned a weighting factor of 3, impact on property was assigned a weighting factor of 2 and impact on the economy was assigned a weighting factor of 1.

Impact factors for each category (people, property, economy) are described below:

- **People**—Values for the impact on people is based on the percentage of the population in each of the five (5) classifications for social vulnerability from the National Risk Index (NRI). Values are assigned based on the percentage of the total *population exposed* to the hazard event. The degree of impact on individuals will vary and is not measurable, so the calculation assumes for simplicity and consistency that all people exposed to a hazard because they live in a hazard zone will be equally impacted when a hazard event occurs. Impact factors were assigned as follows:
  - Very High—15 percent or more of the population is exposed to a hazard (Impact Factor = 5), less than 15% of the population exposed to a hazard (impact factor =4)
  - Relatively High—25 percent of more of the population is exposed to a hazard (Impact Factor = 4), less than 25 percent of the population exposed to a hazard (Impact Factor = 3).
  - Relatively Moderate—35 percent or more of the population is exposed to the hazard (Impact Factor = 3), less than 35 percent of the population exposed (Impact Factor =2).
  - a) Relatively Low—50 percent of more of the population is exposed to a hazard (Impact Factor = 2), less than 50 percent of the population exposed to a hazard (Impact Factor =1)
  - Very Low—75 percent of more of the population exposed to a hazard (Impact Factor =1), less than 75 percent of the population exposed (Impact Factor = 0).
  - No impact— No population exposed to the hazard.

The impact factors are additive. There could be multiple levels of exposure for each hazard under the five NRI social vulnerability indices. Please note that if 0 to 74 percent of the population is exposed to

the “very low” classification, the risk ranking score will default to the base-line risk ranking score (Ranking result for the without equity lens option in the loss matrix).

- **Property**—Values are assigned based on the percentage of the total *District Assets exposed* to the hazard event:
  - High—25 percent or more of the total replacement value of the District’s assets are exposed to a hazard (Impact Factor = 3)
  - Medium—10 percent to 24 percent of the total replacement value of the District’s assets are exposed to a hazard (Impact Factor = 2)
  - Low—9 percent or less of the total replacement value of the District’s assets are exposed to the hazard (Impact Factor = 1)
  - No impact—None of the total replacement value of the Districts are exposed to a hazard (Impact Factor = 0)
- **Economy**— How long it will take your District to become 100-percent operable after a hazard event? This is a subjective assessment based on the loss estimation you observe for your service area in the Los Matric.
  - High—Functional downtime of 365 days or more (Impact Factor = 3)
  - Medium—Functional downtime of 180 to 364 days (Impact Factor = 2)
  - Low—Functional downtime of 180 days or less (Impact Factor = 1)
  - No impact—No functional downtime is estimated from the hazard (Impact Factor = 0).

### **Impacts on People**

The percent of the total population exposed to each hazard of concern with a defined extent and location (e.g. floodplain) can be found in the loss estimate matrix in the **green highlighted column**. For those hazards that do not have a defined extent and location the entire population or a portion of the population is considered to be exposed, depending on the hazard. For the drought hazard, it is common for jurisdictions to list “low” or “none,” because all people in the planning area would be exposed to drought, but impacts to the health and safety of individuals are expected to be minimal.

### **Impacts on Property**

The percent of the total value exposed to each hazard of concern with a defined extent and location (e.g. floodplain) can be found in the loss estimate matrix in the **blue highlighted column**. For those hazards that do not have a defined extent and location (e.g. severe weather) the entire building stock is generally considered to be exposed. For the drought hazard, it is common for jurisdictions to list “low” or “none,” because all structures in the planning area would be exposed to drought but impacts to structures are expected to be minimal.

### **Impacts on the Economy**

The loss estimates for each hazard of concern that was modeled (i.e. dam failure, flood, earthquake) can be found in the loss estimate matrix in the **orange highlighted column**. For those hazards that have a defined extent and location, but do not have modelled loss results, loss estimates can be the same as exposure or a portion thereof. For example, a large percentage of the building stock may be exposed to landslide or wildland fire risk, but it would not be expected that one event that resulted in loss to all exposed structures would occur. For those hazards that do not have a defined extent and location, exposure is based on the hazard type.



## **Risk Rating for Each Hazard**

A risk rating for each hazard was determined by multiplying the assigned probability factor by the sum of the weighted impact factors for people, property, and the economy:

$$\text{Risk Rating} = \text{Probability Factor} \times \text{Weighted Impact Factor \{people + property + economy\}}$$

This is the number that is shown in the risk ranking table in your template. Generally, score of 30 or greater receive a “high” rating, score between 15 and 30 receive a “medium” rating, and score of less than 15 receives a “low” rating.

<b>APPENDIX B— Equity Lens Screening Tool</b>			
	Procedural	Distributive	Structural
<b>Programs/ Services</b>	How was the target audience included in the design of the program? What actions will be taken to ensure that services and programs are physically and programmatically accessible and inclusive? What are the criteria for participation or receipt of benefits?	Is the program or service designed to meet the needs of underserved and underrepresented communities? If not, what would need to be changed to ensure their equitable participation? How will program dollars be allocated to ensure inclusive and accessible service delivery? Does the cost structure of the program result in disparate use? /Does the fee structure of the service result in increased burdens for low-income communities?	Does this program/service create unintended consequences for communities that are underserved and underrepresented? How will they be mitigated? Is there an opportunity to extend additional benefits through this program/service that can help support the healing of past harms to communities? Does the program empower and build capacity of a community?
<b>Capital Investments</b>	What are the criteria for prioritizing projects and investments? Does the data and information used consider the demographic, geographic and real-world experience of residents and businesses in the area? If data gaps exist, what are you using to guide decisions? What process will be used to get input from the community? How will you reach underserved populations?	Will the investment provide improved safety, health, access, or opportunity for the communities who need it most? How will the underserved people who currently live and work in the area benefit from the investment?	What measures will be taken to mitigate the potential impacts of involuntary displacement in the project? How will business or employment opportunity created through the project be extended to communities of color, people with disabilities, and low-income people? How will community benefits be negotiated?
<b>Regulation</b>	Has analysis been done on the impacts to communities of color, people with disabilities, low-income populations, seniors, children, renters, and other historically underserved or excluded groups? How will impacted communities be able to learn about and understand changes with the regulation? How will the regulation be enforced?	Will the regulation provide improved safety, health, access, or opportunity for the communities who need it most? How will the regulation alleviate any cost-burden for those who are already in a position where it is difficult to pay?	Does the regulation create or inhibit opportunity for communities of color, people with disabilities, and low-income populations? Will enforcement disproportionately negatively affect low-income communities or communities of color? How will this be mitigated?
<b>Planning</b>	How will impacted communities be involved in the planning process? What measures will be taken to ensure the process is fair and inclusive?	How does the plan prioritize and address the needs of the most impacted or vulnerable in the community? Does the plan improve safety, health, access, or opportunity for the communities who need it most? How will resources shift to ensure equitable implementation of the plan?	What measures will be taken to mitigate the potential impacts of involuntary displacement? How will policies support community development? What support is needed to build the community's ownership and self-determination with the plan?

- a. Procedural equity—ensuring that processes are fair and inclusive in the development and implementation of any program or policy
- b. Distributive equity—ensuring that resources or benefits and burdens of a policy or program are distributed fairly, prioritizing those with highest need first.
- c. Structural equity—a commitment and action to correct past harms and prevent future negative consequences by institutionalizing accountability and decision-making structures that aim to sustain positive outcomes

**Table 2.0. Equity Screening Question Matrix**

Evaluation Question	Response
1. What issue/problem/risk is the action designed to address? And what are the expected benefits?	Issue: Benefits:
2. Who is the target audience/beneficiary for this action? Who is affected if no action is taken?	
3. How would you classify the mitigation action? (Programs/Service; Capital Investment; Regulation; Planning). <i>Refer to questions in table above based on your answer to this question.</i>	
4. Will any community groups be involved in the design/implementation of this action? (i.e. potential partners)	
5. Will this action reduce risk from natural hazards for the following groups? How? Communities of color Persons with disabilities and/or access and functional needs Households with limited English Proficiency Renters Economically disadvantaged families Seniors (age 65 or older) Children (under 15 years of age)	
6. How could this action benefit the following groups? Or How could this action be modified so that there are benefits? Communities of color Persons with disabilities and/or access and functional needs Households with limited English Proficiency Renters Economically disadvantaged families Seniors (age 65 or older) Children (under 15 years of age)	
7. How could this action burden/negatively impact/leave out the following groups, for example through communication, transportation, physical or programmatic barriers? Communities of color Persons with disabilities and/or access and functional needs Households with limited English Proficiency Renters Economically disadvantaged families Seniors (age 65 or older) Children (under 15 years of age)	
8. If you have identified burdens, barriers, or negative impacts, or opportunities for benefits please <u>revisit the action</u> to identify strategies to reduce or eliminate burdens or negative impacts; remove communication, transportation, physical or programmatic barriers; or enhance potential benefits.	
9. Have you identified a performance metric for evaluating progress on this action? How will you know when this action is complete? (please provide) Have you considered outcomes for communities of color, people with disabilities, low-income families, people with limited English proficiency, renters, seniors, and children?	





**ANNEX TEMPLATE FOR  
SPECIAL-PURPOSE DISTRICTS**





# 1. DISTRICT NAME

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## 1.1 LOCAL HAZARD MITIGATION PLANNING TEAM

### Primary Point of Contact

Name, Title  
Street Address  
City, State ZIP  
Telephone: xxx-xxx-xxxx  
e-mail Address: xxx@xxx.xxx

### Alternate Point of Contact

Name, Title  
Street Address  
City, State ZIP  
Telephone: xxx-xxx-xxxx  
e-mail Address: xxx@xxx.xxx

This annex was developed by the local hazard mitigation planning team, whose members are listed in Table 1-1.

**Table 1-1. Local Hazard Mitigation Planning Team Members**

Name	Title

## 1.2 JURISDICTION PROFILE

### 1.2.1 Overview

Insert Narrative Profile Information, per Instructions.

The [name of adopting body] assumes responsibility for the adoption of this plan; [name of oversight agency] will oversee its implementation.

All fire districts should include the following sentence (non-fire special purpose districts should delete the sentence):

The District participates/does not participate in the Public Protection Class Rating System and currently has a rating of #.

### 1.2.2 Service Area

The District service area covers      [area in square miles]     , serving a population of      population     .

### 1.2.3 Assets

Table 1-2 summarizes the assets of the District and their value.

Table 1-2. Special Purpose District Assets	
Asset	Value
<b>Property</b>	
<u>    </u> number <u>    </u> acres of land	\$ <u>    </u> value <u>    </u>
<b>Equipment</b>	
<u>    </u> description <u>    </u>	\$ <u>    </u> value <u>    </u>
<u>    </u> description <u>    </u>	\$ <u>    </u> value <u>    </u>
<u>    </u> description <u>    </u>	\$ <u>    </u> value <u>    </u>
<u>    </u> description <u>    </u>	\$ <u>    </u> value <u>    </u>
<u>    </u> description <u>    </u>	\$ <u>    </u> value <u>    </u>
<i>Total:</i>	\$ <u>    </u> value <u>    </u>
<b>Critical Facilities</b>	
<u>    </u> description - Include Address <u>    </u>	\$ <u>    </u> value <u>    </u>
<u>    </u> description - Include Address <u>    </u>	\$ <u>    </u> value <u>    </u>
<u>    </u> description - Include Address <u>    </u>	\$ <u>    </u> value <u>    </u>
<u>    </u> description - Include Address <u>    </u>	\$ <u>    </u> value <u>    </u>
<i>Total:</i>	\$ <u>    </u> value <u>    </u>

## 1.3 CURRENT TRENDS

     Insert summary description of service trends.     

## 1.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.

Findings of the capability assessment were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan. The “Analysis of Mitigation Actions” table in this annex identifies these as community capacity building mitigation actions. The findings of the assessment are presented as follows:

- An assessment of planning and regulatory capabilities is presented in Table 1-3.
- An assessment of fiscal capabilities is presented in Table 1-4.
- An assessment of administrative and technical capabilities is presented in Table 1-5.
- An assessment of education and outreach capabilities is presented in Table 1-6.

- Classifications under various community mitigation programs are presented in Table 1-7.
- The community’s adaptive capacity for the impacts of climate change is presented in Table 1-8.

**Table 1-3. Planning and Regulatory Capability**

Plan, Study or Program	Date of Most Recent Update	Comment
Name of code, ordinance, policy, program or plan		
Name of code, ordinance, policy, program or plan		
Name of code, ordinance, policy, program or plan		
Name of code, ordinance, policy, program or plan		
Name of code, ordinance, policy, program or plan		

**Table 1-4. Fiscal Capability**

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes/No
Capital Improvements Project Funding	Yes/No
Authority to Levy Taxes for Specific Purposes	Yes/No
User Fees for Water, Sewer, Gas or Electric Service <i>If yes, specify: Enter Response</i>	Yes/No
Incur Debt through General Obligation Bonds	Yes/No
Incur Debt through Special Tax Bonds	Yes/No
Incur Debt through Private Activity Bonds	Yes/No
Withhold Public Expenditures in Hazard-Prone Areas	Yes/No
State-Sponsored Grant Programs	Yes/No
Development Impact Fees for Homebuyers or Developers	Yes/No
Other <i>If yes, specify: Enter Response</i>	Yes/No



**Table 1-5. Administrative and Technical Capability**

Staff/Personnel Resource	Available?
Planners or engineers with knowledge of land development and land management practices <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Engineers or professionals trained in building or infrastructure construction practices <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Planners or engineers with an understanding of natural hazards <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Staff with training in benefit/cost analysis <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Surveyors <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Personnel skilled or trained in GIS applications <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Scientist familiar with natural hazards in local area <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Emergency manager <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Grant writers <i>If Yes, Department /Position:</i> Enter Response	Yes/No
Other <i>If Yes, Department /Position:</i> Enter Response	Yes/No

**Table 1-6. Education and Outreach Capability**

Criterion	Response
Do you have a public information officer or communications office?	Yes/No
Do you have personnel skilled or trained in website development?	Yes/No
Do you have hazard mitigation information available on your website? <i>If yes, briefly describe:</i> Enter Response	Yes/No
Do you use social media for hazard mitigation education and outreach? <i>If yes, briefly describe:</i> Enter Response	Yes/No
Do you have any citizen boards or commissions that address issues related to hazard mitigation? <i>If yes, briefly describe:</i> Enter Response	Yes/No
Do you have any other programs in place that could be used to communicate hazard-related information? <i>If yes, briefly describe:</i> Enter Response	Yes/No
Do you have any established warning systems for hazard events? <i>If yes, briefly describe:</i> Enter Response	Yes/No

**Table 1-7. Community Classifications**

	Participating?	Classification	Date Classified
FIPS Code	Yes/No		Date
DUNS#	Yes/No		Date
Community Rating System	Yes/No		Date
Building Code Effectiveness Grading Schedule	Yes/No		Date
Public Protection	Yes/No		Date
Storm Ready	Yes/No		Date
Firewise	Yes/No		Date
Tsunami Ready	Yes/No		Date

**Table 1-8. Adaptive Capacity for Climate Change**

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Jurisdiction-level monitoring of climate change impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Technical resources to assess proposed strategies for feasibility and externalities <i>Comment: Enter Comment</i>	High/Medium/Low
Jurisdiction-level capacity for development of greenhouse gas emissions inventory <i>Comment: Enter Comment</i>	High/Medium/Low
Capital planning and land use decisions informed by potential climate impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Participation in regional groups addressing climate risks <i>Comment: Enter Comment</i>	High/Medium/Low
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes <i>Comment: Enter Comment</i>	High/Medium/Low
Identified strategies for greenhouse gas mitigation efforts <i>Comment: Enter Comment</i>	High/Medium/Low
Identified strategies for adaptation to impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Champions for climate action in local government departments <i>Comment: Enter Comment</i>	High/Medium/Low
Political support for implementing climate change adaptation strategies <i>Comment: Enter Comment</i>	High/Medium/Low
Financial resources devoted to climate change adaptation <i>Comment: Enter Comment</i>	High/Medium/Low
Local authority over sectors likely to be negative impacted <i>Comment: Enter Comment</i>	High/Medium/Low

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Public Capacity</b>	
Local residents knowledge of and understanding of climate risk <i>Comment: Enter Comment</i>	High/Medium/Low
Local residents support of adaptation efforts <i>Comment: Enter Comment</i>	High/Medium/Low
Local residents' capacity to adapt to climate impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Local economy current capacity to adapt to climate impacts <i>Comment: Enter Comment</i>	High/Medium/Low
Local ecosystems capacity to adapt to climate impacts <i>Comment: Enter Comment</i>	High/Medium/Low

- a. High = Capacity exists and is in use; Medium = Capacity may exist, but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 1.5 INTEGRATION REVIEW

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 1.5.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- **Plan or Program Name—Description**
- **Plan or Program Name—Description**
- **Plan or Program Name—Description**
- **Plan or Program Name—Description**
- **Plan or Program Name—Description**

### 1.5.2 Opportunities for Future Integration

The capability assessment presented in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:



- Plan or Program Name—Description
- Plan or Program Name—Description
- Plan or Program Name—Description
- Plan or Program Name—Description
- Plan or Program Name—Description

Taking action to integrate each of these programs with the hazard mitigation plan was considered as a mitigation action to include in the action plan presented in this annex.

## 1.6 RISK ASSESSMENT

### 1.6.1 Jurisdiction-Specific Natural Hazard Event History

Table 1-8 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 1-8. Past Natural Hazard Events			
Type of Event	FEMA Disaster #	Date	Damage Assessment
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$
Insert event type		Date	\$

### 1.6.2 Hazard Risk Ranking

Table 1-9 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and district operations. Mitigation actions target hazards with high and medium rankings.

**Table 1-9. Hazard Risk Ranking**

Rank	Hazard	Risk Ranking Score	Risk Category
1			High/Medium/Low
2			High/Medium/Low
3			High/Medium/Low
4			High/Medium/Low
5			High/Medium/Low
6			High/Medium/Low
7			High/Medium/Low
8			High/Medium/Low
9			High/Medium/Low

### 1.6.3 Jurisdiction-Specific Vulnerabilities

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Insert as appropriate.
- Insert as appropriate.
- Insert as appropriate.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in this annex.

### 1.7 STATUS OF PREVIOUS PLAN ACTIONS

If your jurisdiction has no previous hazard mitigation plan, please enter an “X” in the box at right and do not complete this section.

Table 1-10 summarizes the actions that were recommended in the previous version of the hazard mitigation plan and their implementation status at the time this update was prepared.

**Table 1-10. Status of Previous Plan Actions**

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				

Action Item from Previous Plan	Completed	Removed; No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Update
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				
Insert Action Number & Text Comment: Enter Comment				

### 1.8 HAZARD MITIGATION ACTION PLAN

Table 1-11 lists the actions that make up the hazard mitigation action plan for this jurisdiction. Table 1-12 identifies the priority for each action. Table 1-13 summarizes the mitigation actions by hazard of concern and mitigation type.

**Table 1-11. Hazard Mitigation Action Plan Matrix**

Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action xxx-1</b> —Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are located in high- or medium-risk hazard areas.						
<i>Hazards Mitigated:</i> Enter Response						
Existing	Enter Response	Enter Response	Enter Response	High	HMGP, PDM, FMA	Short-term



Benefits New or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline <sup>a</sup>
<b>Action xxx-2</b> —Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.						
<i>Hazards Mitigated:</i> All hazards						
New & Existing	Enter Response	Enter Response	Enter Response	Low	Staff Time, General Funds	Short-term
<b>Action xxx-3</b> — Purchase generators for critical facilities and infrastructure that lack adequate backup power, including [redacted].						
<i>Hazards Mitigated:</i> Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire						
Existing	Enter Response	Enter Response	Enter Response			
<b>Action xxx-4</b> —Description						
<i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response
<b>Action xxx-5</b> —Description						
<i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response
<b>Action xxx-6</b> —Description						
<i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response
<b>Action xxx-7</b> —Description						
<i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response
<b>Action xxx-8</b> —Description						
<i>Hazards Mitigated:</i> Enter Response						
Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response	Enter Response

a. Short-term = Completion within 5 years; Long-term = Completion within 10 years; Ongoing= Continuing new or existing program with no completion date  
Acronyms used here are defined at the beginning of this volume.

**Table 1-12. Mitigation Action Priority**

Action #	# of Objectives Met	Benefits	Costs	Do Benefits Equal or Exceed Cost?	Is Project Grant-Eligible?	Can Project Be Funded Under Existing Programs/ Budgets?	Implementation Priority <sup>a</sup>	Grant Pursuit Priority <sup>a</sup>
1	3	High	High	Yes	Yes	No	Medium	High
2	3	Low	Low	Yes	No	Yes	High	Low
3	3	High	Medium	Yes	Yes	No	Medium	High
4	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
5	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
6	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
7	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
8	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
9	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

a. See the introduction to this volume for explanation of priorities.

**Table 1-13. Analysis of Mitigation Actions**

Hazard Type	Action Addressing Hazard, by Mitigation Type <sup>a</sup>							
	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resilient	Community Capacity Building
<b>High-Risk Hazards</b>								
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
<b>Medium-Risk Hazards</b>								
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
<b>Low-Risk Hazards</b>								
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]

a. See the introduction to this volume for explanation of mitigation types.

## 1.9 PUBLIC OUTREACH

Table 1-14 lists public outreach activities for this jurisdiction.

**Table 1-14. Local Public Outreach**

Local Outreach Activity	Date	Number of People Involved
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]

## 1.10 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- <INSERT PLAN/PROGRAM AND DESCRIPTION OF HOW IT WAS USED>
- <INSERT PLAN/PROGRAM AND DESCRIPTION OF HOW IT WAS USED>
- <INSERT PLAN/PROGRAM AND DESCRIPTION OF HOW IT WAS USED>

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.
- <INSERT DOCUMENT AND DESCRIPTION OF HOW IT WAS USED>

## 1.11 FUTURE NEEDS TO BETTER UNDERSTAND RISK/VULNERABILITY

Insert text, if any; otherwise, delete section

## 1.12 ADDITIONAL COMMENTS

Insert text, if any; otherwise, delete section