



Local Hazard Mitigation Plan

San Mateo County, California

**City of Millbrae
Annex**

2026

DRAFT



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This Annex details the hazard mitigation elements specific to the City of Millbrae, a participating jurisdiction of the 2026 San Mateo County Local Hazard Mitigation Plan (LHMP or the Plan) update. This Annex is not intended to be a standalone document but supplements the information contained in **Volume 1 (Countywide Planning Elements)**. Therefore, all sections of **Volume 1**, including the planning process, hazard identification and risk assessment, mitigation strategy (includes mitigation goals and objectives), and plan maintenance, apply to and were met by the City of Millbrae. This Annex provides additional information specific to the City, with a focus on providing further details on the hazard risk assessment and mitigation strategy (i.e., mitigation actions) for this community.

1. HAZARD MITIGATION LOCAL PLANNING TEAM

The following individuals have been identified as the City of Millbrae Local Planning Team for the 2026 LHMP. These individuals participated in all aspects of the planning process and developed a risk and vulnerability assessment, capability assessment, and mitigation strategy (including mitigation actions) specific to the jurisdiction.

Name	Title	Department
Bill Reilly	Emergency Manager	San Mateo County Sheriff's Office
Ahmad Haya	City Engineer and CIP Manager	Public Works

2. JURISDICTION PROFILE

The City of Millbrae is a community located 15 miles south of San Francisco. It covers an area of 3.25 square miles and has a population of around 23,000 residents. The boundaries of the City extend roughly 1.7 miles from the Bayshore Freeway on the east to Skyline Boulevard on the west. The distance between the north and south city limit line is approximately 2.05 miles. The City borders the City of Burlingame to the south, San Andreas Lake and the Santa Cruz Mountains to the west, the cities of San Bruno and South San Francisco to the north, and the San Francisco International Airport and the Bay to the east. Millbrae is known for its charming downtown area and excellent schools.

Millbrae is also home to the largest intermodal center west of the Mississippi, connected to the San Francisco International Airport, BART, SamTrans, and Caltrain, providing easy, direct access to the region as well as foreign and domestic destinations.

The City of Millbrae enjoys a typical Mediterranean climate, featuring cool, wet winters and mild, dry summers. Night and morning fog are common during the summer months. Frequent, westerly sea breezes keep temperatures relatively mild throughout the year, with winter highs in the mid-50s and lows in the low-40s, and summer highs in the low-70s and lows in the low-50s. Annual precipitation ranges from 20 inches in the lowlands to 32 inches in the hills near Skyline Boulevard and Interstate 280; most of the rainfall occurs between November and April. Snow is very rare; the last measurable occurrence was on February 5, 1976.



2.1. Brief 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 II. Southern Pacific Railroad, the 40-line streetcar line, El Camino Real, and Skyline Road (in the approximate location of Interstate 280) linked the settlement to nearby towns and the City of San Francisco. Between 1920 and 1950, the City began its transformation from a farming village supplying San Francisco produce markets to a small town. The town's development was largely governed by transportation features, including the railway, streetcar line, highways, and airport.

2.2. 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 (5) 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 adopting this Plan; the City Manager will oversee its implementation.

2.3. Population

In 2024, the City of Millbrae had a population of 23,321, a 0.5% increase from the estimated 2020 population of 23,212. **Table 1** summarizes population distribution between 2010 and 2024, and the percentage of the 2024 population that is under five (5) years old, over 65 years old, and living below the poverty level.¹

Table 1. Population Trends

Population				Underserved Population		
2010	2020	2024	Population Change (2020 - 2024)	Youth (Under 5 years old)	Elderly (Over 65 years old)	Below Poverty Level
21,532	23,212	23,321	0.5%	5.8%	20.3%	6.0%

3. CHANGES IN DEVELOPMENT

California Law requires counties and cities to prepare and adopt a General Plan, a comprehensive long-range plan to guide community development. The General Plan must contain seven (7) state-mandated elements – land use, circulation, housing, conservation, open space, noise, and safety – and may contain

¹ United States Census Bureau. (2024). QuickFacts: City of Millbrae, California. Retrieved from <https://www.census.gov/quickfacts/fact/table/millbraecitycalifornia/>.



additional elements as a jurisdiction sees fit. Counties and cities that have identified disadvantaged communities must also address environmental justice in their general plans, including air quality. Additionally, the General Plan must comprise an integrated and internally consistent set of goals, policies, and implementation measures. The City of Millbrae adopted its General Plan under this law and has updated various elements several times over the years, including most recently, when the City Council adopted the 2040 City of Millbrae General Plan in December 2022.

Over the past five (5) years, additional structures and public infrastructure have been built within the jurisdiction, including a new transit center. In the next five (5) years, the City expects an intensification of land use, accompanied by the development of bigger structures and new public infrastructure. The increased risks from new development and population growth must be mitigated through additional onsite and offsite improvements. The City will reduce risks by replacing older structures and enforcing compliance with new building codes and City standards. The City is also planning a new recycled water facility with associated transmission infrastructure to further reduce risks.

Table 2 summarizes development trends during the performance period since the previous LHMP was developed (i.e., past five (5) years), as well as expected future development trends (i.e., the next five (5) years).

Table 2. Recent and Expected Development Trends

Criteria	Description
<p>Has your jurisdiction annexed any land since the development of the previous Local Hazard Mitigation Plan? <i>If yes, give the estimated area annexed and the estimated number of parcels or structures.</i></p>	No
<p>Is your jurisdiction expected to annex any areas during the performance period of this Plan?</p>	No
<p>Has your jurisdiction had any significant changes in development over the past five (5) years that have occurred in hazard-prone areas? <i>If yes, briefly describe.</i></p>	The City of Millbrae has had two significant mixed-use projects (one has residential, the other has life science) built within hazard-prone areas in the past five years. Both projects are located in flood hazard zones near the Millbrae transit station.
<p>Are there any areas targeted for development or major redevelopment in the next five (5) years that will occur in hazard-prone areas? <i>If yes, briefly describe.</i></p>	The City does not anticipate new development or major redevelopment in any flood zone or high fire severity zone within the next five years.



Criteria	Description
<p>Provide the number of permits for each hazard area or provide a qualitative description of where development has occurred.</p>	<p>The City has had two significant mixed-use projects, the Alexandria Center for Life Science and Gateway. Both projects are located near the Millbrae transit station.</p> <p>The Alexandria Center for Life Science is a life science campus that will consist of four buildings totaling approximately 570,000 square feet, containing laboratory, office, and amenity space, as well as associated open space, circulation and parking, infrastructure improvements, and realignment of City right-of-way/property.</p> <p>Gateway's first building is a mixed-use project comprised of a seven-story, 320-unit apartment building with 13,749 square feet of retail space. Gateway's three other components include a 151,538 square foot office building with 22,534 square feet of retail, an 80-unit affordable housing building, and a 164-room hotel with 7,840 square feet of retail space.</p>

3.1. Changes in Priority

Changes in priorities for the City of Millbrae include adapting to sea level rise and reducing its impacts. The City has been collaborating with the San Mateo County Flood and Sea Level Resilience District (OneShoreline) on the Millbrae and Burlingame Shoreline Resilience Project. The Project's goal is to provide long-term climate resilience against sea level rise and extreme storms for developed, natural, and public access areas along the Millbrae and Burlingame Bay shoreline. OneShoreline is leading the construction of this Project, implementing protective measures, and providing regional sea level rise guidelines. OneShoreline was established in 2020 as a countywide agency to address sea level rise, flooding, coastal erosion, and regional stormwater infrastructure.

The City has also focused on improving its transportation systems and now has a new transit center that will house the San Mateo County Transportation Authority. Additionally, new State Fire Marshall wildfire maps were adopted in 2025.

4. CAPABILITY ASSESSMENT

Federal regulations require hazard mitigation plans to identify goals for reducing long-term vulnerabilities to the identified hazards in the planning area (Section 201.6(c)(3)(i)). A critical step in developing specific hazard mitigation actions and projects is assessing existing authorities, policies, programs, and resources and capabilities, and using or modifying local tools to reduce losses and vulnerability from profiled hazards.

A capability assessment was conducted for the City of Millbrae's authorities, policies, programs, and resources. Goals and mitigation actions were developed using input from this assessment. Information regarding the City's implementation of and continued participation in the National Flood Insurance Program (NFIP) can be found in Section 5 of this Annex.



The Local Planning Team assessed the City of Millbrae's capabilities that can contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include the following categories:

- Planning and Regulatory Capabilities
- Administrative and Technical Capabilities
- Fiscal Capabilities
- Education and Outreach Capabilities

Additionally, ways to expand and improve these existing policies and programs to integrate hazard mitigation into the City's day-to-day activities were considered.

4.1. Planning and Regulatory Capabilities

Table 3 includes local ordinances, policies, and laws to manage growth and development (e.g., land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes, and zoning ordinances).

Table 3. Planning and Regulatory Capabilities

Capability Category	Yes/No	Authority (local, county, state, federal)	Responsible Department/ Agency	Code Citation and Comments (e.g., Code Chapter, name of plan, explanation of authority, etc.)
Planning Capacity				
Comprehensive Plan / General Plan	Yes	Local	Community Development Department	2040 General Plan (December 2022)
Capital Improvement Plan	Yes	Local	Finance Department, Public Works Department	Updated Annually
Floodplain Management / Basin Plan	Yes	State	Public Works Department	Updated Annually
Stormwater Management Plan	Yes	Local	Public Works Department, Community Development Department	
Open Space Plan	No	n/a	n/a	n/a
Stream Corridor Management Plan	No	n/a	n/a	n/a
Watershed Management or Protection Plan	No	n/a	n/a	n/a
Economic Development Plan	Yes	Local	Community Development Department	



Capability Category	Yes/No	Authority (local, county, state, federal)	Responsible Department/ Agency	Code Citation and Comments (e.g., Code Chapter, name of plan, explanation of authority, etc.)
Comprehensive Emergency Management Plan	No	n/a	n/a	n/a
Emergency Operations Plan	Yes	County	San Mateo County Department of Emergency Management	
Evacuation Plan	No	n/a	n/a	n/a
Post-Disaster Recovery Plan	Yes	County	San Mateo County Department of Emergency Management	Included in the Emergency Operations Plan (undergoing update)
Transportation Plan	Yes	Local	Community Development Department	Active Transportation Plan (2021)
Strategic Recovery Planning Report	No	n/a	n/a	n/a
Climate Adaptation Plan	Yes	Local	Public Works Department, Community Development Department	Climate Action Plan (2020)
Resilience Plan	No	n/a	n/a	n/a
Community Wildfire Protection Plan	Yes	County	Central County Fire Department	Updated in 2022
Public Health Plan	Yes	County	San Mateo County Health System	
Urban Water Management Plan	Yes	State	Mid-Peninsula Water District	Adopted in 2020
Regulatory Capability				
Building Code	Yes	Local	Community Development Department	Title 9 of the City Code
Zoning Code	Yes	Local	Community Development Department	Title 10, Chapter 10.05 of the City Code
Subdivision Code	Yes	Local	Public Works Department, Community Development Department	Title 10, Chapter 10.15 of the City Code
Flood Damage Prevention Ordinance	Yes	Local	Public Works Department	Title 8, Chapter 8.5 of the City Code



Capability Category	Yes/No	Authority (local, county, state, federal)	Responsible Department/ Agency	Code Citation and Comments (e.g., Code Chapter, name of plan, explanation of authority, etc.)
Cumulative Substantial Damage Ordinance	No	n/a	n/a	n/a
Freeboard	No	n/a	n/a	n/a
Growth Management Ordinance	Yes	Local	Community Development Department	General Plan, Chapter 2: Land Use and Built Environment (2022)
Site Plan Review	Yes	Local	Community Development Department	General Plan, Chapter 2: Land Use and Built Environment (2022)
Stormwater Management Ordinance	Yes	Local	Public Works Department	Title 8, Chapter 8.7 of the City Code
Municipal Separate Storm Sewer System (MS4)	No	n/a	n/a	n/a
Natural Hazard Ordinance	No	n/a	n/a	n/a
Post-Disaster Recovery Ordinance	Yes	County	Community Development Department, Public Works Department	San Mateo County Public Works Mutual Aid Resolution San Mateo County Operational Area Building Safety Inspection Program Mutual Aid Agreement
Real Estate Disclosure Requirement	Yes	State	California Department of Real Estate	Section 1102 of the California Civil Code

4.2. Administrative and Technical Capabilities

The administrative and technical capabilities listed in **Table 4** include community (i.e., public and private) staff, their skills, and tools that can be used for mitigation planning and implementation. This capability includes engineers, planners, emergency managers, Geographic Information System (GIS) analysts, building inspectors, grant writers, and floodplain managers. Small communities may rely on other government entities, such as counties or special districts, for resources.

Table 4. Administration and Technical Capabilities

Capability	Yes/No	Comments (e.g., position, department, agency, explanation)
Administrative Capabilities		
Planning Board	Yes	Planning Division
Mitigation Planning Committee	No	n/a
Environmental Board/Commission	No	n/a
Open Space Board/Committee	Yes	Parks and Recreation Commission



Capability	Yes/No	Comments <i>(e.g., position, department, agency, explanation)</i>
Economic Development Commission/Committee	Yes	Economic Development Advisory Committee
Maintenance programs to reduce risk	No	n/a
Mutual Aid Agreements	No	n/a
Technical/Staffing Capabilities		
Planner(s) or engineer(s) with knowledge of land development and land management practices	Yes	Community Development Department Public Works Department Contract Support
Engineer(s) or professional(s) trained in building or infrastructure construction practices	Yes	Community Development Department Public Works Department Contract Support
Planners or engineers with an understanding of natural hazards	Yes	Public Works Department Local Support Contract Support
NFIP Floodplain Administrator	Yes	Public Works Department
Surveyor(s)	Yes	San Mateo County Public Works
Personnel skilled or trained in GIS applications	Yes	Community Development Department Public Works Department Local Support Contract Support
A scientist familiar with natural hazards	Yes	Local Support Contract Support
Warning systems/services	Yes	SMC Alert, in partnership with the San Mateo County Department of Emergency Management
Emergency manager	No	n/a
Grantwriter(s)	Yes	Public Works Department Local Support Contract Support
Staff with expertise or training in benefit cost analysis	Yes	Local Support Contract Support
Professionals trained in conducting damage assessments	Yes	Community Development Department Public Works Department Contract Support

4.3. Fiscal Capabilities

Table 5 lists fiscal capabilities available to the City of Millbrae that may be used to implement mitigation activities to reduce risk and enhance resiliency. This capability includes available funding sources from local budgets, state and federal grants, potential cost-sharing arrangements with private entities, existing insurance policies, and the ability to generate additional revenue through mitigation-related fees and bonds.



Table 5. Financial Capabilities

Capability	Accessible or Eligible to Use
Community Development Block Grants (CDBG, CDBG-DR)	No
Federal Hazard Mitigation Assistance Program <i>(i.e., Hazard Mitigation Grant Program (HMGP), HMGP Post Fire, Flood Mitigation Assistance (FMA) Program)</i>	Yes
Capital improvements project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open space acquisition funding programs	No

4.4. Education and Outreach Capabilities

Table 6 lists the City’s education and public outreach capabilities that can be used to inform residents about potential hazards, educate on mitigation strategies, and encourage proactive actions to reduce the community’s impacts to disasters. These capabilities include fire safety programs, hazard awareness campaigns, public information, and communications offices.

Table 6. Education and Outreach Capabilities

Capability	Yes/No	Comments <i>(e.g., position, department, agency, explanation)</i>
Public Information Officer	Yes	City Manager's Office San Mateo County Sheriff's Office
Personnel skilled or trained in website development	Yes	Personnel within each city department
Hazard mitigation information is available on the jurisdiction's website	Yes	Link to the last Hazard Mitigation Annex and Emergency Preparedness information
Utilize social media for hazard mitigation education and outreach	Yes	Nextdoor: nextdoor.com/agency-detail/ca/millbrae/city-of-millbrae/ Facebook: facebook.com/cityofmillbrae Instagram: instagram.com/cityofmillbrae/ X: x.com/CityofMillbrae
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Emergency Services Disaster Board Citizen's Oversight Committee
Other programs already in place that could be used to communicate hazard-related information	Yes	Community Emergency Response Team (CERT) Program



Capability	Yes/No	Comments <i>(e.g., position, department, agency, explanation)</i>
An established warning system for hazard events	Yes	SMC Alert, in partnership with the San Mateo County Department of Emergency Management AWS Telephone Emergency Warning System (TENS)

4.5. Community Classifications

The community classification relates to the community’s ability to provide effective services to reduce its vulnerability to the identified hazards. These classifications can be viewed as indicators of the community’s capabilities across all phases of emergency management (i.e., preparedness, response, recovery, and mitigation) and are used as underwriting parameters to determine the costs of various forms of insurance. **Table 7** summarizes the classifications of community programs available to the City of Millbrae.

Table 7. Community Classifications

Program	Yes/No	Classification <i>(if applicable)</i>	Date Classified <i>(if applicable)</i>
Community Rating System (CRS)	No	n/a	n/a
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	TBD	TBD
Public Protection (ISO Fire Protection Classes 1 to 10)	No	n/a	n/a
NWS StormReady®	No	n/a	n/a
NWS TsunamiReady®	No	n/a	n/a
Firewise USA®	No	n/a	n/a

4.6. Needs to Expand/Improve Capabilities

The City of Millbrae identified existing authorities, policies, programs, funding, and/or resources that need to be expanded and/or improved to support the implementation of the hazard mitigation initiatives identified in this Plan (e.g., mitigation actions).

- To increase the City's capability to identify and apply for hazard mitigation grants and fund the local match for hazard mitigation grants, the City needs to expand its grant writing capabilities by potentially hiring more grant writers.
- City codes and ordinances (e.g., building, zoning, land use, fire) should be reviewed based on developing trends in identified hazards and mitigation measures that can make them more effective at preventing losses.
- Enhance the City's GIS capabilities to more effectively integrate current hazard data, improve vulnerability mapping accuracy, and better prioritize mitigation projects.



5. NATIONAL FLOOD INSURANCE PROGRAM

The City of Millbrae is a member of the National Flood Insurance Program (NFIP) but has chosen not to participate in the NFIP Community Rating System (CRS) Program. The City is in good standing with the NFIP through adoption and enforcement of floodplain management requirements (e.g., regulating all new and substantially improved construction in Special Hazard Flood Areas), floodplain identification and mapping, and flood insurance outreach to the community. The City’s NFIP participation information is listed in **Table 8**.

Table 8. NFIP Participation Information

Community ID	NFIP Participation Date	Current Effective FIRM Date	CRS Entry Date	CRS Current Effective Date	CRS Class
065045	7/19/1974	4/5/2019	n/a	n/a	n/a

5.1. NFIP Floodplain Administrator

All NFIP participating jurisdictions have a designated Floodplain Administrator who is charged with enforcing floodplain regulations, routinely monitoring the floodplains, and providing community assistance, such as encouraging owners to maintain flood insurance. The City of Millbrae Floodplain Administrator information is listed in **Table 9**.

Table 9. Floodplain Administrator

Name	Title	Department	Phone Number
Ahmad Haya	City Engineer	Public Works Department	(650) 259-2462

5.2. Repetitive Loss and Severe Repetitive Loss Property

FEMA defines a Repetitive Loss property as an NFIP-insured property meeting at least one (1) of the following paid loss criteria since 1978, regardless of any changes in ownership:

- Four (4) or more separate claims payments greater than \$5,000 each (including building and contents payment).
- Two (2) or more separate flood insurance claims payments (building payments only), where the total of the payments is greater than the property’s current value.

Additionally, to receive a designation, at least two (2) of the claim payments must occur within 10 years of one another.²

² Federal Emergency Management Agency, National Flood Insurance Program. (2023). A Policyholder’s Guide to Severe Repetitive Loss. Retrieved from https://agents.floodsmart.gov/sites/default/files/fema_nfip-policyholders-guide-severe-repetitive-loss_brochure_07-2023.pdf.



A Severe Repetitive Loss property is defined by FEMA as any NFIP-insured single-family or multi-family residential building meeting at least one (1) of the following paid loss criteria since 1978 or from a building constructed after 1978, regardless of any changes in ownership:³

- That has incurred flood-related damage for which four (4) or more separate claims payments have been made, with the amount of each claim (including building and contents payments) exceeding \$5,000, and with the cumulative amount of such claims payments exceeding \$20,000.
- For which at least two (2) separate claims payments (building payments only) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the building.

Table 10 summarizes FEMA Repetitive Loss and Severe Repetitive Loss properties within the City of Millbrae.

Table 10. Repetitive Loss and Severe Repetitive Loss Properties

Repetitive Loss Properties		Severe Repetitive Loss Properties	
Total	Occupancy	Total	Occupancy
3	2 Single Family Residential Building 1 Non-Residential Building	1	1 Single Family Residential Building
<p>Occupancy Type: Single Family = Single family residence • Two (2)-Four (4) Unit Residential Building = Two (2)-four (4) unit residential building • More Than Four (4) Units Residential Building = Residential building with more than four (4) units • Non-Residential Building = Non-residential building • Non-Residential Business = Non-residential business • Single Family Residential Building = Single-family residential building with the exception of a mobile home or a single residential unit within a multi-unit building • Residential (2, 3, or 4 units) Non-Condo Building = Residential non-condo building with two (2), three (3), or four (4) units seeking insurance on all units • Residential (5 or more units) Non-Condo Building = Residential non-condo building with 5 or more units seeking insurance on all units • Residential Mobile/Manufactured Home = Residential mobile/manufactured home • Residential Condo Association = Residential condo association seeking coverage on a building with one (1) or more units • Single Residential Unit = Single residential unit within a multi-unit building • Non-Residential Mobile/manufactured Home = Non-residential mobile/manufactured home • Non-Residential Building = Non-residential building • Non-Residential Unit = Non-residential unit within a multi-unit building</p>			

Table 11 summarizes NFIP active policies and coverage in force data for the City of Millbrae.

Table 11. NFIP Policies

NFIP Policies	Insurance in Force	Total Claims Paid	Sum of Claims Paid
77	\$26,498,000	14	\$159,205

5.3. Participation Activities

The City of Millbrae's NFIP participation over the last five (5) years includes the following:

- Community staff provide the following services – permit reviews, GIS, inspections, and engineering capability.

³ Federal Emergency Management Agency, National Flood Insurance Program. (2021). National Flood Insurance Program: Flood Insurance Manual. Retrieved from https://www.fema.gov/sites/default/files/documents/fema_nfip-all-flood-insurance-manual-apr-2021.pdf.



- The community teaches property owners or other stakeholders about the importance of flood insurance through public outreach events, workshops, and/or seminars.
- The community enforces local floodplain regulations and monitors compliance.
- The community's floodplain development regulations meet or exceed Federal Emergency Management Agency (FEMA) or State minimum requirements.

5.3.1. Substantial Damage

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50% of the market value of the structure before the damage occurred. (Title 8, Chapter 8.5 of the City Code)

5.3.2. Substantial Improvement

Substantial improvement means any repair, rehabilitation, addition or other proposed new development of a structure, the cost of which equals or exceeds 50% of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage," regardless of the actual repair work performed. The term does not, however, include either:

- Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions.
- Any alteration of a "historic structure" provided that the alteration will not preclude the structure's continued designation as a "historic structure." (Title 8, Chapter 8.5 of the City Code)

5.3.3. Substantial Damage/Substantial Improvement Determination Process

The City of Millbrae's Substantial Damage/Substantial Improvement determination process ensures compliance with the NFIP and the local floodplain management ordinances. To determine whether a structure has sustained Substantial Damage/Substantial Improvement after a flood event, the City will use the FEMA Substantial Damage Estimator tool, along with a collaborative review conducted by the Codes Inspectors, the Public Works Department, Fire Marshal, the Engineering Department floodplain manager, and other relevant officials.

6. HAZARD MITIGATION PLAN INTEGRATION

For a community to successfully reduce long-term risk, hazard mitigation must be integrated into day-to-day planning mechanisms and initiatives. Plan integration is the process by which communities critically assess the existing planning framework and align efforts to reduce long-term risks and build a more resilient community. It involves a two (2) way exchange of information and incorporation of ideas and concepts between hazard mitigation plans and other community plans. In particular, plan integration involves incorporating hazard mitigation principles and actions into other plans and integrating planning mechanisms into hazard mitigation plans. Plan integration involves community plans, policies, codes, and programs that guide development and define roles and responsibilities for implementing these



capabilities. Additionally, plan integration is achieved through the involvement of key staff and community officials in collaborative hazard mitigation planning.

6.1. Existing Plan Integration

A hazard mitigation plan must explain how the jurisdiction incorporated the previous Plan update over the last five (5) years to demonstrate progress in local mitigation efforts. During the performance period since the adoption of the previous LHMP, the City of Millbrae has made progress in integrating components of the hazard mitigation strategy (e.g., goals, objectives, and actions) into planning initiatives and mechanisms. **Table 12** highlights the planning mechanisms/initiatives in which the previous Plan was integrated and the information integrated.

Table 12. Existing Plan Integration

Planning Initiative	Current Integration Description
City General Plan	Hazard data and mitigation priorities from the LHMP informed the Safety Element policies and the assessment of climate-related risks. The LHMP served as a crucial tool in shaping policies and actions within the General Plan.
Capital Improvement Plan	Hazard data and mitigation priorities from the LHMP inform capital project prioritization and align mitigation projects with funding opportunities, including FEMA grant programs. Integration occurs through coordinated review with other agencies and special districts, ensuring that mitigation goals are embedded in both long-range planning and day-to-day operations.
Emergency Operations Plan	The Emergency Operations Plan (EOP) integrates mitigation considerations in its response actions to reduce risk exposure to the community. The LHMP is currently used as an essential tool to update the City EOP.

6.2. Potential Future Integration

A hazard mitigation plan must explain how the jurisdiction intends to incorporate this Plan update into planning mechanisms over the next five (5) years. The capability assessment presented in Section 4 of this Annex identifies codes, plans, and programs that provide opportunities for integration. **Table 13** outlines planning mechanisms/initiatives that do not currently integrate the goals and recommendations of this Plan but provide opportunities to do so in the future.

Table 13. Potential Future Integration

Planning Initiative	Current Integration Description
City General Plan	This LHMP will be incorporated into the General Plan Safety Element. The opportunity to incorporate additional hazard mitigation and abatement measures will be considered for inclusion in the updated General Plan. The Safety Element will be revised, and this LHMP will be used to identify new information not available during the previous revision, including hazards, climate adaptation, and resilience strategies.
Emergency Operations Plan	This LHMP will continue to be an essential tool to update the EOP. The latest hazard descriptions in this LHMP will be included in the EOP, as appropriate. Mitigation actions that are preparedness and response in nature will be analyzed for applicability and for inclusion in the description of EOP processes and procedures.



Planning Initiative	Current Integration Description
Capital Improvement Plan	The City will ensure the Capital Improvement Plan continues to use flexibility to incorporate mitigation measures into planned projects and the project evaluation criteria (public health and safety, regulatory compliance, and grant funding requirements). The LHMP may identify new funding sources for capital improvement projects, which may result in modifications to proposed projects based on the risk assessment results.
City Code	Mitigation actions and the hazard risk assessment in this LHMP can inform updates and revisions to the City Code (e.g., building, zoning). Portions of this Plan will be reviewed to consider any future improvements to the Code, if appropriate.
Stormwater Master Plan	Mitigation actions in this LHMP can inform updates and revisions to the Stormwater Master Plan. Watershed protection processes are a useful source of information for developing future mitigation actions.

The City's Local Planning Team will identify all relevant planning initiatives scheduled for update in the next year and during the annual update process of the LHMP. Additionally, the Local Planning Team will identify opportunities to integrate key elements of the LHMP, specifically relevant strategies, into the planning initiatives. Mitigation actions were identified to promote plan integration in future revisions of this Plan.

7. SIGNIFICANT PAST EVENTS

A complete risk assessment, including past incidents, for each identified hazard of concern, can be found in **Volume 1** of this Plan. A summary of past events is provided under each hazard profile and includes a chronology of events that have affected the County and its municipalities.

8. HAZARD VULNERABILITY AND IMPACT ASSESSMENT

Exposure and vulnerability to certain hazards affect the entire County, and others are geographically defined. Although the entire County may be vulnerable to these hazards, their impacts may vary depending on existing community conditions (e.g., underserved populations or those with access and functional needs may be more susceptible under certain conditions).

The Local Planning Team determined that the planning area **did not have unique vulnerabilities or impacts** from any of the County's natural hazards; rather, its vulnerabilities and impacts are consistent with those experienced throughout the County based on the hazards profiled in **Volume 1**.

- Dam Failure
- Drought
- Earthquake
- Flood (*riverine flooding, urban/flash flooding, coastal flooding*)
- Landslide



- Sea Level Rise
- Severe Weather (*heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog*)
- Tsunami
- Wildfire

Note: Severe weather and flood are profiled as the two (2) hazards. However, to conduct a more thorough risk assessment, the sub-hazards (i.e., heavy rainfall, heat wave/extreme heat, fog, severe thunderstorms, tornadoes, strong winds, riverine flooding, urban/flash flooding, and coastal flooding) were ranked individually. The hazard risk assessment methodology can be found in Chapter 4 of **Volume 1** of this Plan.

Table 14 outlines the **unique vulnerabilities and impacts** for the City of Millbrae and addresses only the hazards relevant to the jurisdiction. A complete risk assessment for each identified hazard of concern is in **Volume 1** of this Plan. Hazard mapping can be found in Appendix A of this Annex.

Table 14. Hazard Vulnerability and Impact Assessment

Hazard	Vulnerability and Impacts
Dam Failure	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from dam failure; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Drought	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from drought; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Earthquake	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from earthquakes; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from floods; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Landslide	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from landslides; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Sea Level Rise	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from sea level rise; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from severe weather; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.



Hazard	Vulnerability and Impacts
Tsunami	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from tsunamis; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.
Wildfire	The Local Planning Team determined that the City does not have unique vulnerabilities or impacts from wildfires; rather, the jurisdiction’s vulnerabilities and impacts are consistent with those experienced throughout the County.

The City evaluated whether vulnerability in hazard-prone areas had increased, decreased, or remained the same for each natural hazard identified in this LHMP. Climate change, changes in population, infrastructure expansion, and economic shifts that can affect vulnerability were considered. For example, if planned development is in an identified hazard area or is not built to the updated building codes, it may increase the community’s vulnerability to future hazards and disasters. On the other hand, if development occurred with mitigation practices in place, the vulnerability may have remained the same or decreased. Additionally, shifting demographics (e.g., underserved population) were taken into consideration.

Table 15 outlines whether climate change has increased or decreased the City’s vulnerability (i.e., exposure) and impact to each natural hazard over the past five (5) years, and the effect of climate change on the future probability of occurrence and impacts from each natural hazard

Table 15. Climate Change: Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Dam Failure	Not Applicable
Drought	Increased
Earthquake	Remained the Same
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Increased
Landslide	Increased
Sea Level Rise	Increased
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Increased
Tsunami	Increased
Wildfire	Increased
Future Vulnerability and Impact	
Dam Failure	Not Applicable
Drought	Increase
Earthquake	No Changes Anticipated
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Increase
Landslide	Increase



Hazard	Vulnerability and Impact
Sea Level Rise	Increase
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Increase
Tsunami	Increase
Wildfire	Increase

Table 16 outlines whether changes in population within the City over the past five (5) years have increased or decreased the vulnerability (i.e., exposure) and impact to these natural hazards, and the anticipated effects changes in population may have on the future probability of occurrence and impacts from these natural hazards.

Table 16. Changes in Population: Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Dam Failure	Not Applicable
Drought	Increased
Earthquake	Increased
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Increased
Landslide	Increased
Sea Level Rise	Increased
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Increased
Tsunami	Increased
Wildfire	Increased
Future Vulnerability and Impact	
Dam Failure	Not Applicable
Drought	Increase
Earthquake	Increase
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Increase
Landslide	Increase
Sea Level Rise	Increase
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Increase
Tsunami	Increase
Wildfire	Increase



Table 17 outlines whether development over the past five (5) years has increased or decreased the City’s vulnerability (i.e., exposure) and impact to these natural hazards, and the anticipated effects changes in development may have on the future probability of occurrence and impacts from these natural hazards.

Table 17. Changes in Development: Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Dam Failure	Not Applicable
Drought	Increased
Earthquake	Decreased
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	Remained the Same
Landslide	Remained the Same
Sea Level Rise	Remained the Same
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	Remained the Same
Tsunami	Remained the Same
Wildfire	Increased
Future Vulnerability and Impact	
Dam Failure	Not Applicable
Drought	Increase
Earthquake	Decrease
Flood (<i>riverine flooding, urban/flash flooding, coastal flooding</i>)	No Change Anticipated
Landslide	No Change Anticipated
Sea Level Rise	No Change Anticipated
Severe Weather (<i>heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog</i>)	No Change Anticipated
Tsunami	Increased
Wildfire	Increase

8.1. Future Major Assets

Community assets should include anything that is important to a community's character and function. Assets include people (i.e., underserved population); structures (i.e., new and existing buildings); community lifelines and other critical facilities; natural, historic, and cultural resources; and the economy and other activities that have value to the community. Although all assets may be affected by the hazards identified in this LHMP, the jurisdiction has identified future major assets that may be more vulnerable and impacted by these hazards.

- The City of Millbrae is planning for a new recycled water facility and associated transmission pumps, pipelines, and infrastructure. These new assets may be exposed or vulnerable to the



natural hazards identified in this LHMP. However, any new assets will be built to comply with the latest codes and standards and will be mitigated to protect them from identified and anticipated hazards, especially those expected to increase due to climate change.

9. HAZARD RISK RANKING

Table 18 presents the local hazard ranking for the City of Millbrae of all hazards of concern listed in **Volume 1** of this Plan. This ranking summarizes how hazards vary for this jurisdiction. As thoroughly described in **Volume 1** of this Plan, 14 factors were evaluated to provide an informed and comprehensive analysis and ranking of the hazards included in this LHMP.

- **Probability** (likelihood of annual occurrence)
- **Extent** of the hazard, including catastrophic potential
- **Vulnerability** (i.e., exposure) of the population, property (including critical infrastructure), and changes in the development (over the past five (5) years)
- **Impacts** on population and life safety, underserved population, property (including critical infrastructure), the economy, the environment, continuity of operations/delivery of services, future development, and climate change

The scores for extent, vulnerability, and impact were weighted and combined to produce a consequence score. This consequence score was then multiplied by the probability score to calculate the total risk score for each hazard. At the fundamental level, the consequence is an assessment of the potential impact(s) if the hazards incident were to occur. In this assessment, the consequence score (i.e., the consequence of an event) will be independent of the extent, vulnerability, and impacts. The probability of the hazards is not included in assessing the consequence because, without an event, there is no consequence or impact. For further details on how the probability, extent, vulnerability, and impact factors in **Table 18** were calculated, please refer to Chapter 4 in **Volume 1** of this Plan. Details of the hazard ranking results are provided in Appendix C of this Annex.

It is important to note that the sub-hazards for severe weather (i.e., heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, and fog) and flood (i.e., riverine flooding, urban/flash flooding, coastal flooding) were individually ranked in the hazard risk ranking; however, severe weather and flood are each considered as the main hazard throughout this Annex and **Volume 1**.



Table 18. City of Millbrae Hazard Risk Ranking

Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score*
Urban/Flash Flooding (Flood)	3	18	13	32	63	88
Heavy Rainfall (Severe Weather)	3	12	13	23	48	67
Earthquake	2	18	14	35	67	62
Strong Winds (Severe Weather)	3	9	13	22	44	61
Heat Wave/Extreme Heat (Severe Weather)	3	9	10	18	37	51
Wildfire	2	18	5	32	55	51
Landslide	2	9	9	30	48	44
Severe Thunderstorm (Severe Weather)	2	12	13	21	46	43
Riverine Flooding (Flood)	2	12	5	28	45	42
Sea Level Rise	3	6	5	18	29	40
Drought	1	6	11	20	37	17
Coastal Flooding (Flood)	1	6	5	21	32	15
Tornado (Severe Weather)	1	6	13	13	32	15
Fog (Severe Weather)	1	6	9	11	26	12
Tsunami	1	6	5	12	23	11
Dam Failure	0	0	0	0	0	0

Extent: Sum of the weighted Extent factors.
Vulnerability: Sum of the weighted Vulnerability factors.
Impact: Sum of the weighted Impact factors.

Consequence Score: Extent + Vulnerability + Impact (Sum of all weighted factors).
Total Risk Score = Probability x Consequence
 * Normalized to 100

Total Risk Score Legend

Classification	Probability	Extent	Vulnerability	Impact	Consequence Score	Total Risk Score
Low (L)	1	0 – 6	0 – 4	0 – 12	0 – 24	0 – 32
Medium (M)	2	7 – 12	5 – 10	13 – 26	25 – 48	33 – 66
High (H)	3	13 – 18	11 – 15	27 – 39	49 – 72	67 – 100

The **legend**—specifically the assignment of low, medium, and high—provides an additional means to qualitatively assess the probability factor, sum of weighted factors, and the total risk scores for each hazard. The **Consequence Score** represents the sum of the Extent, Vulnerability, and Impact Factors. The **Total Risk Score** is a measure of Probability and Consequence.



10. MITIGATION ACTIONS

This section includes the mitigation actions developed to address the risks and vulnerabilities to the hazards identified in this Plan. This Plan serves only to recommend mitigation measures based on the potential for risk reduction and available funding. Implementation of mitigation actions is dependent on risk reduction priorities, feasibility, and available funding. It is also dependent on the cooperation and support of the jurisdiction and/or department responsible for each action item. Additionally, all mitigation actions identified in the 2021 update or before were updated accordingly. Any new mitigation actions are listed as *New* (under Project Status).

The City of Millbrae agreed to **19** mitigation actions that apply to the jurisdiction’s properties for which it has jurisdictional responsibility and authority. A summary of the City’s mitigation actions status is listed in **Table 19**.

Note: The mitigation actions outlined in this Plan are designed only to address those natural hazards that received a risk ranking of *medium* or *high* during the hazard risk assessment (**Table 18**). Hazards that ranked *low* (dam failure, drought, tsunami) may not have specific mitigation actions detailed in this document.

Table 19. City of Millbrae Mitigation Actions Summary

Status		Mitigation Action Total	
Continuing		6	
In Progress		12	
Not Yet Started		0	
New		1	
TOTAL		19	
Completed		0	
No Longer Needed		0	
Mitigation Actions per Hazard			
Dam Failure	2	Sea Level Rise	14
Drought	5	Severe Weather <i>(heavy rainfall, severe thunderstorms, strong winds, tornadoes, heat wave/extreme heat, fog)</i>	16
Earthquake	7	Tsunami	5
Flood <i>(riverine flooding, urban/flash flooding, coastal flooding)</i>	15	Wildfire	6
Landslide	7		

A detailed explanation of the Mitigation Strategy can be found in Chapter 5 of **Volume 1**.



Mitigation Action	Where appropriate, support retrofitting, purchasing, or relocating structures located in high-hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.				
Action Number	MIL-1	Goal(s) Addressed	1, 3, 5	Prioritization Score	35/40
Year Added to the Plan	2016	Timeline (estimated)	Ongoing	Implementation Priority	High
Hazard(s) Mitigated	Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather				
Project Status	Continuing	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Millbrae Community Development Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	HMGP, FMA		
Additional Details (optional)					

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Mitigation Action	Integrate the San Mateo County Hazard Mitigation Plan into other City plans, ordinances, and programs that govern land use decisions in the community, including, but not limited to, the General Plan (and its elements, as appropriate) and the design review commission.				
Action Number	MIL-2	Goal(s) Addressed	1, 3, 5	Prioritization Score	36/40
Year Added to the Plan	2016	Timeline (estimated)	Ongoing	Implementation Priority	High
Hazard(s) Mitigated	Earthquake, Flood, Landslide, Sea Level Rise				
Project Status	Continuing	<i>If No Longer Needed, provide reason.</i>	n/a		
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Community Development Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Low	Potential Funding Source	General Fund (Staff Time)		
Additional Details (optional)					



Mitigation Action	Actively participate in the Hazard Mitigation Plan maintenance protocols outlined in Volume 1 of the San Mateo County Hazard Mitigation Plan.				
Action Number	MIL-3	Goal(s) Addressed	1, 2, 3, 5	Prioritization Score	29/40
Year Added to the Plan	2016	Timeline (estimated)	Ongoing	Implementation Priority	Medium
Hazard(s) Mitigated	Dam Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire				
Project Status	Continuing	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Community Development Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Low	Potential Funding Source	General Fund (Staff Time)		
Additional Details (optional)					

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Mitigation Action	Continue to keep good standing and compliance with the National Flood Insurance Program (NFIP) by implementing floodplain management programs that, at a minimum, meet NFIP requirements. These include, but are not limited to, enforcing the City's flood damage prevention ordinance, participating in floodplain identification and mapping updates, and providing public assistance/information on floodplain requirements and impacts.				
Action Number	MIL-4	Goal(s) Addressed	1, 3, 5	Prioritization Score	35/40
Year Added to the Plan	2016	Timeline (estimated)	Ongoing	Implementation Priority	High
Hazard(s) Mitigated	Flood, Severe Weather				
Project Status	Continuing	<i>If No Longer Needed, provide reason.</i>	n/a		
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Low	Potential Funding Source	General Fund (Staff Time)		
Additional Details (optional)					



Mitigation Action	Identify and institutionalize climate adaptation strategies by codifying resilience standards into existing City plans and procedures to reduce vulnerability and impacts of specific climate-driven hazards.				
Action Number	MIL-5	Goal(s) Addressed	1, 3, 5	Prioritization Score	31/40
Year Added to the Plan	2021	Timeline (estimated)	Ongoing	Implementation Priority	High
Hazard(s) Mitigated	Flood, Sea Level Rise, Severe Weather, Wildfire				
Project Status	Continuing	<i>If No Longer Needed, provide reason.</i>	n/a		
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Low	Potential Funding Source	General Fund (Staff Time)		
Additional Details (optional)					



Mitigation Action	Upsize critical facilities and infrastructure with permanent redundant power systems to prevent service disruptions during prolonged grid failures due to natural hazards. Facilities include, but are not limited to, Fuel Supplies and evacuation centers.				
Action Number	MIL-6	Goal(s) Addressed	1, 3, 5	Prioritization Score	35/40
Year Added to the Plan	2021	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Dam Failure, Earthquake, Flood, Landslide, Severe Weather, Tsunami, Wildfire				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	General Fund (Staff Time), HMGP		
Additional Details (optional)					



Mitigation Action	Harden and restore the Millbrae Creek culvert by executing a full structural reconstruction of the underground system.				
Action Number	MIL-7	Goal(s) Addressed	1, 3	Prioritization Score	24/40
Year Added to the Plan	2021	Timeline (estimated)	4 to 5 Years	Implementation Priority	Medium
Hazard(s) Mitigated	Flood, Sea Level Rise, Severe Weather				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	General Fund (Staff Time), HMGP, FMA, California Natural Resources Agency (CNRA) General Fund Grant, CNRA Urban Flood Protection Grant		
Additional Details (optional)					



Mitigation Action	Perform an engineering assessment of the Millbrae Avenue Overpass and complete a retrofit to ensure the long-term integrity of the structure during seismic and extreme weather events.				
Action Number	MIL-8	Goal(s) Addressed	1, 3, 5	Prioritization Score	35/40
Year Added to the Plan	2016	Timeline (estimated)	4 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Earthquake, Landslide, Severe Weather				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	General Funds (Staff Time), Caltrans funds/grants		
Additional Details (optional)					



Mitigation Action	Strengthen structural resilience by seismically retrofitting the City's water storage infrastructure (e.g., water storage tanks) to mitigate the risk of catastrophic failure and ensure long-term reliability of local water supplies (e.g., wildfire response).				
Action Number	MIL-9	Goal(s) Addressed	1, 3, 5	Prioritization Score	38/40
Year Added to the Plan	2016	Timeline (estimated)	4 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Earthquake, Wildfire				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	State Water Resources Control Board grants and funds		
Additional Details (optional)					

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Mitigation Action	Develop and implement a program for all Emergency Operations Center (EOC) activations to capture perishable data after significant incidents (e.g., high water marks, preliminary damage estimates, damage photos) in a database to support future mitigation efforts, including the implementation and enhancements of hazard mitigation, climate action, and other plans.				
Action Number	MIL-10	Goal(s) Addressed	3, 5	Prioritization Score	32/40
Year Added to the Plan	2016	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Flood, Sea Level Rise, Severe Weather, Tsunami				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Public Works Department, San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Medium	Potential Funding Source	General Fund (Staff Time), OneShoreline funds		
Additional Details (optional)					

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Mitigation Action	Implement flood hazard analysis (e.g., the 100-year tide and sea level rise projections) into all local shoreline ordinances and land use planning, as appropriate. This ensures that new development and infrastructure account for climate-driven extreme weather events.				
Action Number	MIL-11	Goal(s) Addressed	1, 3, 5	Prioritization Score	37/40
Year Added to the Plan	2021	Timeline (estimated)	1 to 3 Years	Implementation Priority	High
Hazard(s) Mitigated	Flood, Sea Level Rise, Severe Weather				
Project Status	In Progress	<i>If No Longer Needed, provide reason.</i>	n/a		
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Public Works Department, San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Low	Potential Funding Source	General Fund (Staff Time), Private Developer funds, City Capital Project funds		
Additional Details (optional)					



Mitigation Action	Harden and modernize aging critical municipal utility systems, equipment, and critical facilities (e.g., pump stations, tide gates, culverts, pipelines) to ensure operational continuity during extreme weather events.				
Action Number	MIL-12	Goal(s) Addressed	1, 3, 5	Prioritization Score	37/40
Year Added to the Plan	2021	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Flood, Sea Level Rise, Severe Weather				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Millbrae Public Works Department, San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Medium	Potential Funding Source	General Fund (Staff Time), HMGP, FMA, Tax-Funded Flood Zones		
Additional Details (optional)					



Mitigation Action	Support green infrastructure projects within the City that enhance resilience to natural disasters and incorporate green design elements into mitigation projects where feasible.				
Action Number	MIL-13	Goal(s) Addressed	1, 3, 5	Prioritization Score	32/40
Year Added to the Plan	2021	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Drought, Flood, Landslide, Sea Level Rise, Severe Weather				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Millbrae Public Works Department, San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Medium	Potential Funding Source	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Caltrans grants, California Department of Water Resources grants, EPA grants, City Capital Project funds		
Additional Details (optional)					



Mitigation Action	Upsize stormwater drainage to alleviate repeated localized flooding, especially storm drain systems connected to the San Mateo County Flood and Sea Level Rise Resiliency District channels and infrastructure.				
Action Number	MIL-14	Goal(s) Addressed	1, 3, 5	Prioritization Score	33/40
Year Added to the Plan	2016	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Flood, Sea Level Rise, Severe Weather				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Millbrae Public Works Department, San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Medium	Potential Funding Source	Tax-Funded Flood Zones, Property/Vehicle Fees, Stormwater Fees, Caltrans grants, California Department of Water Resources grants, EPA grants, City Capital Project funds		
Additional Details (optional)					

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Mitigation Action	Plan, design, and implement long-term resilience initiatives to sea level rise, severe weather, 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.				
Action Number	MIL-15	Goal(s) Addressed	1, 3, 5	Prioritization Score	33/40
Year Added to the Plan	2021	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Flood, Landslide, Sea Level Rise, Severe Weather				
Project Status	In Progress	<i>If No Longer Needed, provide reason.</i>	n/a		
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Public Works Department, San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline)				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Medium	Potential Funding Source	General Fund (Staff Time), Caltrans grants, HMGP, City Capital Project funds		
Additional Details (optional)					



Mitigation Action	Identify and pursue strategies to enhance the planning and implementation of recycled water infrastructure in the vicinity of San Mateo County Flood and Sea Level Rise Resiliency District projects within the City of Millbrae.				
Action Number	MIL-16	Goal(s) Addressed	1, 3, 5	Prioritization Score	32/40
Year Added to the Plan	2021	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Drought, Sea Level Rise				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Low				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline)				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Medium	Potential Funding Source	CA Resilience Challenge funds, California Department of Water Resources funds, California Proposition 68 Grant, HMGP		
Additional Details (optional)					



Mitigation Action	Optimize community flood response by upgrading and expanding the Countywide flood early warning system and conducting public outreach and engagement on flood preparedness.				
Action Number	MIL-17	Goal(s) Addressed	1, 3, 5	Prioritization Score	34/40
Year Added to the Plan	2021	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Flood, Sea Level Rise, Severe Weather, Tsunami				
Project Status	In Progress	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	High				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	San Mateo County Department of Emergency Management, San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline)				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Low	Potential Funding Source	General Fund (Staff Time), California Department of Water Resources funds, HMGP		
Additional Details (optional)					



Mitigation Action	Implement a Tree Trimming Program that includes a proactive tree-trimming and hazardous-tree removal strategy to protect critical infrastructure and the public right-of-way from storm-related debris and wildfire ignition risks.				
Action Number	MIL-18	Goal(s) Addressed	1, 3, 5	Prioritization Score	34/40
Year Added to the Plan	2016	Timeline (estimated)	Ongoing	Implementation Priority	High
Hazard(s) Mitigated	Drought, Severe Weather, Wildfire				
Project Status	Continuing	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	High				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	n/a				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	Medium	Potential Funding Source	General Fund (Staff Time)		
Additional Details (optional)					



Mitigation Action	Upsize and improve the Waste Water Treatment Plant facility, structure, equipment, pipelines, and critical components for improved resilience to seismic hazards and hazards associated with climate change (e.g., increased storm severity, sea level rise, drought, wildfire).				
Action Number	MIL-19	Goal(s) Addressed	1, 3, 5	Prioritization Score	35/40
Year Added to the Plan	2026	Timeline (estimated)	1 to 5 Years	Implementation Priority	High
Hazard(s) Mitigated	Drought, Earthquake, Flood, Sea Level Rise, Severe Weather, Tsunami, Wildfire				
Project Status	New	If No Longer Needed, provide reason.		n/a	
Benefits (Loss Avoided)	Medium				
Lead Agency / Organization	City of Millbrae Public Works Department				
Supporting Agency / Organization (If applicable)	North Bayside System Unit (NBSU) Partners (City of South San Francisco as managing agency)				
Additional Participating Jurisdictions (If Applicable)	n/a				
Estimated Cost	High	Potential Funding Source	General Fund (Staff Time), Sewer Enterprise Funds, HMGP, FMA		
Additional Details (optional)					



APPENDIX A. HAZARD MAPS

[Maps are under development...]



APPENDIX B. STAKEHOLDER AND PUBLIC ENGAGEMENT

[Information and supporting documentation will be added after the Public Comment Period concludes.]



APPENDIX C. HAZARD RISK RANKING DETAILS

This appendix provides the details of the hazard ranking results presented in Section 9 of this Annex. For a comprehensive explanation of the risk assessment methodology used for the 2026 LHMP rankings, refer to Chapter 4 in **Volume 1** of this Plan.

C.1. Probability of Occurrence

Hazard Event	Probability of Occurrence		Probability Factor	Weighted Factor
Dam Failure	Unlikely	There is little to no probability of a significant occurrence, or the recurrence interval is greater than every 100 years.	0	N/A
Drought	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Earthquake	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Riverine Flooding (<i>Flood</i>)	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Urban/Flash Flooding (<i>Flood</i>)	High	A significant hazard event is likely to occur annually.	3	N/A
Coastal Flooding (<i>Flood</i>)	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Landslide	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Sea Level Rise	High	A significant hazard event is likely to occur annually.	3	N/A
Heavy Rainfall (<i>Severe Weather</i>)	High	A significant hazard event is likely to occur annually.	3	N/A
Heat Wave/Extreme Heat (<i>Severe Weather</i>)	High	A significant hazard event is likely to occur annually.	3	N/A
Fog (<i>Severe Weather</i>)	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Severe Thunderstorm (<i>Severe Weather</i>)	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A
Tornado (<i>Severe Weather</i>)	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Strong Winds (<i>Severe Weather</i>)	High	A significant hazard event is likely to occur annually.	3	N/A
Tsunami	Low	A significant hazard event is likely to occur within 100 years.	1	N/A
Wildfire	Medium	A significant hazard event is likely to occur within 25 years.	2	N/A



C.2. Extent Factors

Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor	Score
Dam Failure	Extent/Severity	Unlikely	Historical and/or probabilistic models/studies for this hazard indicate the possibility of little to no intensity.	0	3	0
	Catastrophic	Unlikely	Virtually no probability that this hazard could be catastrophic.	0	3	0
Drought	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Earthquake	Extent/Severity	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	3	9
	Catastrophic	High	High potential that this hazard could be catastrophic.	3	3	9
Riverine Flooding (Flood)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Medium	Medium potential that this hazard could be catastrophic.	2	3	6
Urban/Flash Flooding (Flood)	Extent/Severity	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	3	9
	Catastrophic	High	High potential that this hazard could be catastrophic.	3	3	9
Coastal Flooding (Flood)	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Landslide	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3



Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor	Score
Sea Level Rise	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Heavy Rainfall (Severe Weather)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Medium	Medium potential that this hazard could be catastrophic.	2	3	6
Heat Wave/Extreme Heat (Severe Weather)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Fog (Severe Weather)	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Severe Thunderstorm (Severe Weather)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Medium	Medium potential that this hazard could be catastrophic.	2	3	6
Tornado (Severe Weather)	Extent/Severity	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3
Strong Winds (Severe Weather)	Extent/Severity	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	3	6
	Catastrophic	Low	Low potential that this hazard could be catastrophic.	1	3	3



Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor	Score
Tsunami	<i>Extent/Severity</i>	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3	3
	<i>Catastrophic</i>	Low	Low potential that this hazard could be catastrophic.	1	3	3
Wildfire	<i>Extent/Severity</i>	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	3	9
	<i>Catastrophic</i>	High	High potential that this hazard could be catastrophic.	3	3	9

C.3. Vulnerability Factors

Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor	Score
Dam Failure	<i>Population Exposure</i>	No Vulnerability	None of the population is exposed to the hazard.	0	3	0
	<i>Property Exposure</i>	No Vulnerability	None of the total assessed property value is exposed to a hazard.	0	1	0
	<i>Changes in Development</i>	No Vulnerability	Changes in development have had no effect and/or have decreased the community's exposure to the hazard.	0	1	0
Drought	<i>Population Exposure</i>	High	30% or more of the population is exposed to the hazard.	3	3	9
	<i>Property Exposure</i>	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Earthquake	<i>Population Exposure</i>	High	30% or more of the population is exposed to the hazard.	3	3	9
	<i>Property Exposure</i>	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	<i>Changes in Development</i>	Medium	Changes in development have increased the community's exposure to the hazard between 5% and 9%.	2	1	2



Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor	Score
Riverine Flooding (Flood)	<i>Population Exposure</i>	Low	14% or less of the population is exposed to the hazard.	1	3	3
	<i>Property Exposure</i>	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Urban/Flash Flooding (Flood)	<i>Population Exposure</i>	High	30% or more of the population is exposed to the hazard.	3	3	9
	<i>Property Exposure</i>	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Coastal Flooding (Flood)	<i>Population Exposure</i>	Low	14% or less of the population is exposed to the hazard.	1	3	3
	<i>Property Exposure</i>	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Landslide	<i>Population Exposure</i>	Medium	15% to 29% of the population is exposed to the hazard.	2	3	6
	<i>Property Exposure</i>	Medium	10% to 24% of the total assessed property value is exposed to a hazard.	2	1	2
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Sea Level Rise	<i>Population Exposure</i>	Low	14% or less of the population is exposed to the hazard.	1	3	3
	<i>Property Exposure</i>	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1



Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor	Score
Heavy Rainfall (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Heat Wave/Extreme Heat (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to a hazard.	0	1	0
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Fog (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to a hazard.	0	1	0
	Changes in Development	No Vulnerability	Changes in development have had no effect and/or have decreased the community's exposure to the hazard.	0	1	0
Severe Thunderstorm (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Tornado (Severe Weather)	Population Exposure	High	30% or more of the population is exposed to the hazard.	3	3	9
	Property Exposure	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	Changes in Development	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1



Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor	Score
Strong Winds (Severe Weather)	<i>Population Exposure</i>	High	30% or more of the population is exposed to the hazard.	3	3	9
	<i>Property Exposure</i>	High	25% or more of the total assessed property value is exposed to the hazard.	3	1	3
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Tsunami	<i>Population Exposure</i>	Low	14% or less of the population is exposed to the hazard.	1	3	3
	<i>Property Exposure</i>	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1
Wildfire	<i>Population Exposure</i>	Low	14% or less of the population is exposed to the hazard.	1	3	3
	<i>Property Exposure</i>	Low	9% or less of the total assessed property value is exposed to a hazard.	1	1	1
	<i>Changes in Development</i>	Low	Changes in development have increased the community's exposure to the hazard by 4% or less.	1	1	1



C.4. Impact Factors

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Dam Failure	Population and Life Safety	No Impact	Populations exposed to this hazard are not likely to experience significant adverse impacts.	0	3	0
	Underserved Population	No Impact	Underserved populations exposed to the hazard are not likely to experience significant adverse/disproportionate impacts.	0	3	0
	Property, Facilities, and Critical Infrastructure	No Impact	Little to no property, facilities, and infrastructure damage is expected from a single significant event.	0	2	0
	Economic	No Impact	Virtually no significant economic impact.	0	1	0
	Environmental	No Impact	No environmental impacts from a significant event are likely.	0	1	0
	Continuity of Operations/Delivery of Services	No Impact	No impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	0	1	0
	Future Development	No Impact	Future development trends will not increase the impacts of this hazard, and/or may even decrease it.	0	1	0
	Climate Change	No Impact	Climate change trends will not increase the impacts of this hazard.	0	1	0



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Drought	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Low	Less than \$500,000 in property, facilities, and infrastructure damages is expected from a single significant event, or damages are expected to occur to less than 5% of the property value within the jurisdiction.	1	2	2
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact	Impact Factor	Weighted Factor	Score	
Earthquake	Population and Life Safety	High	Populations exposed to this hazard are likely to experience significant adverse impacts, such as fatalities and severe injuries.	3	3	9
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	High	Total economic impact is likely to be greater than \$10 million.	3	1	3
	Environmental	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	Continuity of Operations/Delivery of Services	High	Impact lasting more than 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	3	1	3
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	No Impact	Climate change trends will not increase the impacts of this hazard.	0	1	0



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Riverine Flooding (Flood)	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Urban/Flash Flooding (Flood)	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	High	More than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	2	6
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Medium	Impact lasting between 24 and 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	2	1	2
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Coastal Flooding (Flood)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact	Impact Factor	Weighted Factor	Score	
Landslide	Population and Life Safety	High	Populations exposed to this hazard are likely to experience significant adverse impacts, such as fatalities and severe injuries.	3	3	9
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	Medium	Climate Change trends will increase the impacts of this hazard, but not significantly.	2	1	2



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Sea Level Rise	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Low	Less than \$500,000 in property, facilities, and infrastructure damages is expected from a single significant event, or damages are expected to occur to less than 5% of the property value within the jurisdiction.	1	2	2
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	No Impact	No impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	0	1	0
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Heavy Rainfall (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Medium	Impact lasting between 24 and 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	2	1	2
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	Medium	Climate Change trends will increase the impacts of this hazard, but not significantly.	2	1	2



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Heat Wave/Extreme Heat (Severe Weather)	Population and Life Safety	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	No Impact	Little to no property, facilities, and infrastructure damage is expected from a single significant event.	0	2	0
	Economic	Low	Total economic impact is not likely to be greater than \$100,000.	1	1	1
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	No Impact	No impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	0	1	0
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Fog (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3	3
	Property, Facilities, and Critical Infrastructure	Low	Less than \$500,000 in property, facilities, and infrastructure damages is expected from a single significant event, or damages are expected to occur to less than 5% of the property value within the jurisdiction.	1	2	2
	Economic	Low	Total economic impact is not likely to be greater than \$100,000.	1	1	1
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	No Impact	Future development trends will not increase the impacts of this hazard, and/or may even decrease it.	0	1	0
	Climate Change	No Impact	Climate change trends will not increase the impacts of this hazard.	0	1	0



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Severe Thunderstorm (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Medium	Environmental impact from a single significant event is likely to be localized, requiring some outside resources and support; and/or repair, cleanup, restoration, or preservation work.	2	1	2
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	Low	Climate Change trends will minimally increase the impacts of this hazard.	1	1	1



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Tornado (Severe Weather)	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3	3
	Property, Facilities, and Critical Infrastructure	Low	Less than \$500,000 in property, facilities, and infrastructure damages is expected from a single significant event, or damages are expected to occur to less than 5% of the property value within the jurisdiction.	1	2	2
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	Low	Climate Change trends will minimally increase the impacts of this hazard.	1	1	1



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Strong Winds (Severe Weather)	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	3	6
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	Low	Climate Change trends will minimally increase the impacts of this hazard.	1	1	1



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Tsunami	Population and Life Safety	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3	3
	Underserved Population	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3	3
	Property, Facilities, and Critical Infrastructure	Low	Less than \$500,000 in property, facilities, and infrastructure damages is expected from a single significant event, or damages are expected to occur to less than 5% of the property value within the jurisdiction.	1	2	2
	Economic	Low	Total economic impact is not likely to be greater than \$100,000.	1	1	1
	Environmental	Low	Environmental impact from a single significant event is likely to be minimal, requiring little to no outside resources and support; and/or minimal repair, cleanup, restoration, or preservation work.	1	1	1
	Continuity of Operations/Delivery of Services	Low	Impact lasting less than 24 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	1	1	1
	Future Development	Low	Future development trends will minimally increase the impacts of this hazard.	1	1	1
	Climate Change	No Impact	Climate change trends will not increase the impacts of this hazard.	0	1	0



Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor	Score
Wildfire	Population and Life Safety	Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2	3	6
	Underserved Population	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	3	9
	Property, Facilities, and Critical Infrastructure	Medium	More than \$500,000 but less than \$5 million in property, facilities, and infrastructure damage is expected from a single significant event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	2	4
	Economic	Medium	Total economic impact is likely to be greater than \$100,000, but less than or equal to \$10 million.	2	1	2
	Environmental	High	Environmental impact from a single significant event is likely to be substantial, requiring extensive outside resources and support; and/or repair, cleanup, restoration, and/or preservation work.	3	1	3
	Continuity of Operations/Delivery of Services	High	Impact lasting more than 72 hours on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community from a single significant event.	3	1	3
	Future Development	Medium	Future development trends will increase the impacts of this hazard, but not significantly.	2	1	2
	Climate Change	High	Climate Change trends will significantly increase the impacts of this hazard.	3	1	3



APPENDIX D. PLAN ADOPTION

[Placeholder for adoption documentation after State and FEMA approval]