2024 Hazard Mitigation Plan

Contra Costa County, California

City of Clayton Annex

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1. INTRODUCTION

This Annex details the hazard mitigation elements specific to the City of Clayton, a participating jurisdiction to the 2024 Contra Costa County Hazard Mitigation Plan update. This Annex is not intended to be a standalone document but supplements the information contained in **Volume 1 (Planning Area-wide Elements)**. Therefore, all sections of **Volume 1 (Planning Area-wide Elements)** including the planning process, mitigation goals and objectives, hazard identification and risk assessment, mitigation strategy, and plan maintenance apply to and were met by the City of Clayton. This Annex provides additional information specific to the City, with a focus on providing additional details on the hazard risk assessment and mitigation strategy (i.e., mitigation actions) for this community.

2. LOCAL PLANNING TEAM

The City of Clayton Local Planning Team was comprised of the members listed on **Table 1**.

Table 1. City of Clayton Local Planning Team Members

Name	Title	Department
Dana Ayers	Community Development Director	City of Clayton Community Development Department
Richard McEachin	Chief of Police	City of Clayton Police Department
Kris Lofthus	City Manager	City of Clayton City Manager's Office
Larry Theis	City Engineer	City of Clayton Engineering Department

3. JURISDICTION PROFILE

The City of Clayton, incorporated in 1964, is in the East Bay region of the San Francisco Bay area. Nestled at the bucolic base of picturesque Mount Diablo, Clayton is near the greater San Francisco Bay Area with all the amenities, sports and cultural opportunities offered by that choice location. Clayton is a residential community that comprises a total area of 3.8 square miles

The City is bordered on the northeast and east by unincorporated Contra Costa County land and Black Diamond Mines Regional Park; on the south by unincorporated Contra Costa County land and Mount Diablo State Park; and to the west and northwest by the City of Concord.

Clayton is a small suburban, 100% 'dry-land' community surrounded by larger urban cities, open spaces, and rural communities, and it is the smallest city in the County. Clayton has 27 miles of walking trails covering some 515 acres of open space. Since 2011, the City has been listed among Money magazine's "100 Best Places to Live" three (3) times.

3.1. Population

The City of Clayton had a population of 10,904 as of July 1, 2022. Between 2010 and 2020, the population increased by approximately 1.6%; however, a population decrease of 1.5% occurred between 2020 and 2022. **Table 2** shows the City of Clayton's population distribution between 2010 and 2022.[1]

[1] United States Census Bureau. (2022). Quick Facts: City of Clayton. Retrieved from https://www.census.gov/quickfacts/fact/table/claytoncitycalifornia/.

Table 2. Population Estimates

Jurisdiction	2010	2020	2022	Population Change *(2010 – 2022)*
City of Clayton	10,897	11,070	10,904	0.06%

3.1.1. Underserved Population

The 2023 California State Hazard Mitigation Plan identifies the Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) as the most appropriate and authoritative dataset to identify areas where efforts can be prioritized to ensure equitable outcomes from mitigation planning and actions.

CDC's SVI combines 16 social factors, within four (4) themes (i.e., socioeconomic status, household characteristics, racial and ethnic minority status, and housing type and transportation), to identify areas of social vulnerability. **Table 3** outlines the SVI information for the City of Clayton.

Note: *ArcGIS mapping analysis was performed utilizing Census Tract data by overlaying Census Tracts with the City of Clayton planning area boundary. The information outlined in this section includes data from the Census Tracts that intersect the jurisdiction.*

Table 3. Social Vulnerability Index (2020)

Theme	Social Factors	Population	Percent
Socioeconomic Status	People below 150% poverty estimate	1,857	16.8%
	Unemployed *(Civilian 16 years old and older)*	822	7.4%
	Housing Cost Burden	1,240	11.2%
	No High School Diploma	653	5.9%
	No Health Insurance	590	5.3%
Household Characteristics	65 years old and older	4,310	38.9%
	17 years and younger	6,225	56.2%
	Civilian with a Disability	3,007	27.2%
	Single-Parent Household	576	5.2%
	English Language Proficiency	256	2.3%
Racial and Ethnic Minority Status	• Hispanic or Latino (of any race) • Black or African American • Asian • American Indian or Alaska Native • Native Hawaiian or Pacific Islander • Two or More Races • Other Races	10,853	98.0%

Theme	Social Factors	Population	Percent
Housing Type and Transportation	Multi-Unit Structures	125	1.1%
	Mobile Homes	232	2.1%
	Crowding	61	0.6%
	No Vehicle	208	1.9%
	Group Quarters	70	0.6%

3.2. Brief History

In 1853, Joel Clayton purchased 40 acres of land in the Diablo Valley, established a general store, cattle ranch, the first vineyards, and laid out the streets and most of the community. Mr. Clayton's involvement as a civic leader in the region led to the naming of the City of Clayton in his honor in 1857.

Clayton prospered during the coal mining boom in eastern Contra Costa County. The post office opened in 1861. Following a previous incorporation attempt in 1960, the City of Clayton was incorporated in 1964 to stave off an attempt by nearby Concord to annex the Cardinet Glen neighborhood in 1963. After steady expansion during the 1970s to the east and west from its original boundaries, Clayton's land area more than doubled in 1987 to near its present day boundaries with the annexations of the Dana Hills/Dana Ridge and Clayton Wood subdivisions, as well as the former Keller Ranch property that was developed during the 1990s with the Oakhurst Country Club.

On September 8, 2013, a wildfire ignited in Mount Diablo. Called the Morgan Fire, it started at the mercury mine area of Morgan Territory Road. The wildfire quickly spread and threatened homes and livestock within the City. Evacuations were ordered for several areas, including Oak Hill Lane and Curry Canyon. It took over 1,000 firefighters and eight (8) aircraft to extinguish the wildfire. Full containment was announced on September 14, 2013, after burning 3,100 acres

3.3. Governing Body Format

The City of Clayton has a Council/Manager form of government. Policy making and legislative authority is vested in a five (5) member City Council consisting of a Mayor and four (4) Council Members. The Council Members are elected to four (4) year overlapping terms. The City Council has a one-year rotating Mayoral position that is elected by the Council. The City Council assumes responsibility for the adoption of this Plan, and the City Manager will oversee its implementation.

The City Council presides over and adopts the City's annual budget and financial affairs; appoints commissions and committees; and hires and supervises the City Manager. City Council members are directly responsible for service to the citizens, businesses, and policies of the City. The City Manager advises the City Council, supervises personnel and all City departments; enforces ordinances and programs approved by City Council; and oversees day-to-day city government operations.

4. DEVELOPMENT TRENDS

California Law requires counties and cities to prepare and adopt a General Pan, a comprehensive long-range plan to guide community development. The General Plan must contain seven (7) state-mandated elements – land use, housing, circulation, safety, open space, conservation, and noise – and may contain additional elements as a jurisdiction sees fit. Additionally, the General Plan must comprise an integrated and internally consistent set of goals, policies, and implementation measures. The City of Clayton

adopted its General Plan under this law and has updated it several times over the years, including most recently in January 2023.

The Bay Area is the fifth largest metropolitan area in the nation and has seen a steady increase in population since 1990, except for a decrease during the Great Recession that began in 2008. Many cities in the region have experienced significant growth in jobs and population. While these trends have led to a corresponding increase in demand for housing across the region, the regional production of housing has not kept pace with job and population growth.

From 1990 to 2000, the City's population increased by 47.1%, with a much smaller increase of 1.3% during the first decade of the 2000s. This large increase between 1990 to 2000 can be explained by expansion and urbanization of the undeveloped lands to the north and east of the City center. These areas were developed into residential subdivisions and incorporated into the City. Between 2010 and 2020, the population increased by 1.6%.

Clayton is primarily a residential City with minimal industrial or commercial activity. Homes in Clayton are predominantly owner-occupied. The number of households in Clayton increased from 3,852 in 2010 to 4,232 in 2019 (380 new households). Renter-occupied households decreased by 86 households, from 385 in 2010. Specific development opportunity areas in and near the City include.

- **Town Center Specific Plan:** The Town Center Specific Plan (TCSP) establishes goals and policies for development in the Town Center area. The purpose of the TCSP is to encourage appropriate commercial development while enhancing the area's historic character. The TCSP identifies appropriate land uses in the Town Center and provides design guidelines for new buildings, walkways, parking lots, and landscaping. Land use regulations allow for a combination of commercial and multifamily residential development types.
- **Marsh Creek Road Specific Plan:** The Marsh Creek Road Specific Plan (MCRSP) refers to an area of 475 acres south and east of Clayton in central Contra Costa County. This area is mostly undeveloped and is located at the edge of existing urban development. Several residential development proposals have been submitted within this area, but it is also viewed as an important natural resource by the local residents. The goal of the MCRSP is to maintain the unique rural character of the study area and designate appropriate sites for residential development. The policies in the MCRSP are intended to guide and regulate development in a manner that both protects the area's natural amenities and affords recreational opportunities and public access.

Table 4 summarizes development trends in the performance period since development of the previous hazard mitigation plan and expected future development trends.

Table 4. Recent and Expected Development Trends

Criteria	Response
Has your jurisdiction annexed any land since the development of the previous Hazard Mitigation Plan?	No
If yes, give the estimated area annexed and estimated number of parcels or structures.	N/A
Is your jurisdiction expected to annex any areas during the performance period of this Plan?	No
Has your jurisdiction had any major changes in development over the <u>past</u> five (5) years that have occurred in hazard prone areas?	No
If yes, please briefly describe.	N/A
Are any areas targeted for development or major redevelopment in the <u>next</u> five (5) years that will occur in hazard prone areas?	Yes
If yes, please briefly describe.	Various properties have been identified as housing opportunity sites to accommodate Clayton's share of the regional housing need within the next five (5) to seven (7) years. Sites are located throughout the City, with larger sites located in: • Oakhurst Drive (14 acres, 32 houses) • Near the driving range of the Oakhurst Golf Course (combined 8.1 acres, potential 200 houses or townhouses) • Eagle Peak Avenue (7.5 acres, potential 150 houses or townhouses) • Two (2) church-owned properties on Clayton Road and Kirker Pass Road (combined six (6) acres, potential 120 apartments) • Along Marsh Creek Road (combined 3.6 acres, 81 apartments approved and 18 potential apartment units) • Vacant land near the City's southeastern boundary (nine (9) acres, six (6) approved houses) • Various infill sites located in the City's Town Center. Some of these site or portions thereof are in known hazard areas. Development will mitigate or avoid hazard areas.

Criteria	Response
Please provide the number of permits for each hazard area or provide a qualitative description of where development has occurred.	Since 2018, none of the housing permits issued have been subject to these hazards categories. However, the potential development sites previously listed could be subject to the following hazards. • **Special Flood Hazard Areas:** 60 (some of the units in the 32 unit development on Oakhurst Drive are in the 500-year floodplain, as are a portion of one (1) of the church-owned properties and some sites in the Town Center) • **Landslide:** 0 (units have not been entitled, though sites on Clayton Road east of the Town Center would be adjacent to steep slopes that may have some landslide risk) • **High Liquefaction Areas:** 0 • **Dam Failure Inundation Area:** 0 • **Wildfire Risk Areas:** 6 (approved houses at City's southeastern boundary abut open grassland area; other sites near the golf course on Clayton Road are not entitled for a specific number of units but are also near open grasslands)

4.1. Changes in Priority

This Plan update prioritizes climate resilience (reducing greenhouse gas emissions from and energy demands of municipal operations, vehicles, and indoor space conditioning) as a means to reduce impacts of consequential hazards of climate change, including heat waves/extreme heat, drought, heavy rainfall, and flooding. Additionally, mitigation actions from the previous Plan were updated, and a more concerted effort on achieving equitable outcomes for all communities, including underserved communities and socially vulnerable populations, has been implemented.

5. 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 the development of specific hazard mitigation actions and projects is assessing existing authorities, policies, programs, and resources and capabilities to use or modify local tools to reduce losses and vulnerability from profiled hazards.

A capability assessment was conducted for the City of Clayton and participating jurisdictions' authorities, policies, programs, and resources. Goals and mitigation actions were developed using input from this assessment. This section also includes information regarding the City's jurisdictions' implementation of and continued participation in the National Flood Insurance Program (NFIP).

The Local Planning Team assessed the City'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
- Financial Capabilities
- Education and Outreach Capabilities

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

5.1. Planning and Regulatory Capabilities

These include 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). The City of Clayton will adopt the approved 2024 Contra Costa County Hazard Mitigation Plan into the City's General Plan Safety Element for AB 2140 compliance. **Table 5** contains a list of legal and regulatory capabilities. The description section of each Planning and Regulatory Capability includes a paragraph on expansion, implementation, and improvement.

Table 5. Planning and Regulatory Capabilities

Municipal Code, Title 2, Chapter 2.08: Disaster Council			
The purpose of this Code is to provide for the preparation and carrying out of plans for the protection of people and property within the City in the event of an emergency; the direction of the emergency organization; and the coordination of the emergency functions in the City with all other public agencies, corporations, organizations, and affected private persons. **Expansion, Implementation, and Improvement:** The hazard identification and risk analysis in this Hazard Mitigation Plan should be used to inform emergency preparedness programs. Reducing risk by mitigation actions supports emergency preparedness goals.			
Lead Department	City of Clayton Police Department	**Hazards Addressed**	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire
Municipal Code, Title 15: Building and Construction *Includes: Building Code, Electrical Code, Housing Code, House Moving, Grading, Community Preservation, Fire Code, Abatement of Dangerous Buildings Code, Industrial Safety*			
City Building Regulations (incorporates by reference and is based upon the 2022 California Building Code, 2022 California Residential Code, 2022 California Green Building Standards Code, and 2022 California Existing Building Code [all codified in California Code of Regulations, Title 24]); adopted November 17, 2022. **Expansion, Implementation, and Improvement:** The Building and Fire codes will be reviewed based on developing trends in identified hazards and mitigation measures that can make them more effective at preventing losses. They will be updated to comply with the latest International and State building codes.			
Lead Department	City of Clayton Community Development Department	**Hazards Addressed**	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire
Municipal Code, Title 15, Chapter 15.58: Flood Damage Prevention			
The purpose of this Code is to provide for public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas. **Expansion, Implementation, and Improvement:** The FEMA Flood Insurance Rate Maps (FIRM) will be used in selecting mitigation items related to flooding. Development in the 100-year and 500-year floodplains will be monitored and adhered to flood safe practices. As the FIRMs are updated, new mitigation activities will be considered.			
Lead Department	City of Clayton Engineering Department	**Hazards Addressed**	Flood

Municipal Code, Title 16: Subdivisions and Land Development			
The purpose of this Code is to regulate and control the division of land within the City and to supplement the provisions of the Subdivision Map Act concerning the design, improvement and survey data of subdivisions, the form and content of all maps provided for by the Subdivision Map Act and the procedure to be followed in securing the official approval of the Planning Commission, the City Engineer, the Community Development Department and City Council regarding the maps. **Expansion, Implementation, and Improvement:** Subdivision Code should be modified and updated to support changes in land use development. It should be implemented to require adequate infrastructure to support residential area populations.			
Lead Department	City of Clayton Community Development Department	**Hazards Addressed**	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire
Municipal Code, Title 17: Zoning			
The regulations contained in this Code are deemed necessary in order to encourage a more appropriate use of land; to conserve and stabilize the value of land; to provide adequate open spaces for light and air; to prevent and fight fires; to prevent undue congestion of population; to lessen congestion on streets; to facilitate provision of adequate community utilities such as transportation, water, sewerage, schools, parks and other public requirements; and to promote the health, safety, comfort, convenience, prosperity and general welfare of its citizens, all in accordance with the long-range, comprehensive City General Plan, and thus to provide the economic and social advantages resulting from the orderly, planned use of land resources. **Expansion, Implementation, and Improvement:** The Zoning Code must be modified and updated to reflect changes in development. Zoning Code may be used to address land use regulations that support mitigation actions such as development in wetlands and floodplains and preservation of open space.			
Lead Department	City of Clayton Community Development Department	**Hazards Addressed**	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire

City General Plan

Includes the following Elements: Land Use, Growth Management, Circulation, Community Image and Design, Economic Development, Public Services and Facilities, Housing, Resource Management, Environment Hazards, Conservation

The purpose of the City General Plan is to express the broad goals and policies, and specific implementation measures, which will guide decisions on future growth, development, and the conservation of resources. The General Plan, most recently amended in January 2023, includes 10 elements:

- Land Use
- Circulation
- Housing
- Community Design
- Open Space Conservation
- Safety
- Noise
- Community Facilities
- Environmental Analysis
- Growth Management

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan will be incorporated in the General Plan Safety and Noise elements. The City's General Plan will include specific actions that support mitigation throughout the City, and the Safety Element will be closely aligned with this Hazard Mitigation Plan. The opportunity to incorporate additional hazard mitigation and abatement measures will be contemplated for inclusion into the updated General Plan.

Lead Department	City of Clayton Community Development Department	**Hazards Addressed**	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire

Contra Costa Hazardous Materials Plan / Hazardous Material Business Plan

Addresses the storage, use, and emergency planning for hazardous materials and extremely hazardous substances in the community and businesses.

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan will support mitigation measures compatible with the County Hazardous Materials Plan to reduce potential hazardous materials releases.

Lead Department	Contra Costa Health Services, Hazardous Materials Program Office; Contra Costa County Fire Protection District	**Hazards Addressed**	Hazardous Materials Incidents

Emergency Operations Plan

The City of Clayton Emergency Operations Plan (EOP) is an all-hazards plan designed as a reference and guidance document, serving as the foundation for disaster response and recovery operations for the City.

Expansion, Implementation, and Improvement: This Hazard Mitigation Plan will be used as an essential tool to update the City EOP. California Office of Emergency Services (Cal OES) requires that EOPs describe applicable hazards as part of the Plan. The latest Hazard Mitigation Plan hazards descriptions will be included. Mitigation actions that are preparedness and response in nature will be analyzed for applicability for inclusion in the description of EOP processes and procedures.

Lead Department	City of Clayton Police Department	**Hazards Addressed**	Climate Change, Drought, Dam and Levee Failure, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire

Capital Improvement Program			
The 2022/2023 – 2026/2027 5-Year Capital Improvement Program is a planning tool to prioritize and schedule capital projects for 1-year budget cycles. It is a dynamic document that is updated every year. Approval of the Program does not constitute an appropriation of funds to a specific project. Capital Improvement Program projects are allocated funds by a City Council action separate from approval of the 5-Year Capital Improvement Program. **Expansion, Implementation, and Improvement:** The 5-Year Capital Improvement Program should include mitigation measures that will be funded by the City such as improvements to stormwater collection systems, elevation of roadways at risk for flooding and strengthening of structures.			
Lead Department	City of Clayton Engineering Department	**Hazards Addressed**	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire
Municipal Code, Title 13, Chapter 13.12: Stormwater Management and Discharge Control			
The intent of this Chapter is to protect and enhance the water quality in the City of Clayton's watercourses pursuant to, and consistent with the Porter-Cologne Water Quality Control Act. This chapter also carries out the conditions in the City's National Pollutant Discharge Elimination System (NPDES) permit that require implementation of appropriate source control and site design measures and stormwater treatment measures for development projects **Expansion, Implementation, and Improvement:** Guidelines for developing the Stormwater Pollution Prevention Plan (SWPPP) should include mitigation measures that are identified within this Hazard Mitigation Plan.			
Lead Department	City of Clayton Engineering Department	**Hazards Addressed**	Flood, Severe Weather
Alameda and Contra Costa County Regional Wildfire Prevention Plan			
The Contra Costa Resource Conservation District (CCRCD) and the Alameda City Resource Conservation District (ACRCD) worked jointly with funding from the Coastal Conservancy to develop a Regional Priority Plan (RPP) for Contra Costa and Alameda counties. The goal of the RPP process was to identify regional natural resource concerns that could be exacerbated by catastrophic wildfire and develop projects or other methods to remedy those issues ahead of the next wildfire event. The planning process started in November 2020 and completed in September 2022. **Expansion, Implementation, and Improvement:** This Hazard Mitigation Plan and Regional Wildfire Prevention Plan should be aligned where mitigation actions in this Hazard Mitigation Plan support the goals of the Regional Wildfire Prevention Plan. The wildfire analysis in this Hazard Mitigation Plan can inform updates and revisions to the Wildfire Prevention Plan.			
Lead Department	Contra Costa County Fire Protection District	**Hazards Addressed**	Wildfire
Contra Costa County Community Wildfire Protection Plan			
The Contra Costa County Wildfire Protection Plan (CWPP), updated in 2019, provides an analysis of wildfire hazards and risk in the wildland urban interface (WUI) in Contra Costa County. The Plan follows the standards for CWPPs established by the Federal Healthy Forest Restoration Act. **Expansion, Implementation, and Improvement:** This Hazard Mitigation Plan and County Community Wildfire Protection Plan should be aligned where mitigation actions support the goals of the CWPP. The wildfire analysis in this Hazard Mitigation Plan can inform updates and revisions to the CWPP.			
Lead Department	Contra Costa County Fire Protection District	**Hazards Addressed**	Wildfire

5.2. Administrative and Technical Capabilities

The administrative and technical capabilities include community (i.e., public and private) staff and their skills and tools, which can be used for mitigation planning and implementation. This capability includes engineers, planners, emergency managers, 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. These capabilities may be used to support mitigation activities. **Table 6** lists administrative and technical capabilities.

Table 6. Administrative and Technical Capabilities

City Community Development Department	
The personnel of the Community Development Department review plans for new construction and improvements, and conduct plan checks for compliance with City zoning and subdivision regulations; work with architects, engineers, designers, and building owners during pre-construction; inspect residential and commercial/industrial construction for compliance with land use conditions of permit approvals; and enforce and pursue corrections of municipal code violations. Department Staff facilitates creation of long-term plans for future City land use; implements the General Plan through land use regulations in zoning and subdivision codes; conducts environmental review of proposed development; conducts analysis of requests for conditional use permits, variances, land subdivision, and General Plan and zoning amendments; issues minor administrative permits; and responds to inquiries about zoning regulations. Review of building plans for building code compliance, building permitting and inspection services for the City of Clayton are conducted by the Contra Costa County Building Department under contract to the City. **Expansion and Improvement:** Provide opportunities for continued education to Community Development staff to maintain state of the art knowledge of new code and regulatory requirements.	
Department	City of Clayton Community Development Department
City Maintenance Services	
The Clayton Maintenance Department oversees the maintenance and upkeep of the City's parks, open space, trails, buildings, streets, and landscaping. The Department has six (6) full time employees and uses part-time seasonal workers to help maintain the City. The Department maintains approximately: • 35 acres of landscaping • 14 acres of parks • 80,000 square feet of public buildings • 1,000 streetlights • Over 1,000 street signs • 84 miles of streets and markings • 575 catch basins • 515 acres of open space with 27 miles of trails • 10 miles of v-ditches • 10 miles of creeks **Expansion and Improvement:** Provide opportunities for continued education to Maintenance staff to maintain state-of-the-art knowledge of new code and regulatory requirements.	
Department	City of Clayton Maintenance Services Department

City Engineering Department	
The Engineering Department staff works under contract to the City. Engineers oversee public and private improvements in the public right-of-way; develop and implement the Capital Improvement Program by providing staff support to the City relative to City streets, sanitary sewer, storm drains, water system facilities, traffic signals, park, and recreational facilities; maintain and upgrade public infrastructure; provide services related to traffic issues; monitor the street lighting system maintained by the City and PG&E; keep and maintain record drawings and a geographic information system of City-owned infrastructure; address traffic issues in the City in coordination with the Police Department; and provide engineering support to other City Departments. Additionally, Engineering Department staff coordinates regularly with Community Development Department staff to evaluate development improvement plans for compliance with engineering, subdivision, grading, stormwater, and transportation regulations and best practices. The City Engineer also serves as the Floodplain Administrator and is responsible for collaborating with stakeholders to ensure compliance with the Floodplain Management Ordinance (Clayton Municipal Code chapter 15.58) in the City. **Expansion and Improvement:** Provide opportunities for continued education to engineering staff to maintain state of the art knowledge of new code and regulatory requirements. Continue to manage the City's NFIP participation. Support the development of mitigation activities consistent with the best practices for floodplain management.	
Department	City of Clayton Engineering Department

Police Department	
The City's Police Department provides for the coordinated response and recovery from major emergencies and disasters; develops, administers and coordinates the emergency planning preparedness program in conformity with local, State, and Federal requirements; develops emergency management and hazard mitigation plans; provides training to City staff in emergency planning and preparedness; develops, maintains, and coordinates the City Emergency Operations Center (EOC); provides businesses and residents with emergency planning and preparedness material to help reduce the loss of life and property resulting from a disaster; coordinates with City, State, and Federal counterparts; prepares emergency management grants; and coordinates the efforts of volunteer organizations. The Clayton Police Department works collaboratively with the community to reduce crime, increase traffic safety and address quality of life issues in the City. **Expansion and Improvement:** Provide training to Officers, EOC staff, and other key personnel to better prepare for potential hazards and take action to report them	
Department	City of Clayton Police Department

City Council and City Attorney	
The City Council is the elected policymaking body for the City of Clayton. It is comprised of five (5) members elected at large who serve four (4) year overlapping terms. The Mayor is selected annually by the City Council from among its members. The City Council serves as the Board of Directors for the Successor Agency to the Clayton Redevelopment Agency, the Clayton Financing Authority, and the Geological Hazard Abatement District Board of Directors. The Council sets the City's annual budget and annually selects projects to be included and/or funded in the 5-year Capital Improvement Program. Council members represent the City on the governing boards of various Joint Powers Authorities (JPA). The City Attorney serves as the legal advisor to the City Council, the City's commissions, and the City's professional staff, and is responsible for managing all legal matters for the City. The City Attorney is appointed and serves at the pleasure of the City Council. **Expansion and Improvement:** Continue to regularly review the adopted Capital Improvement Program to identify opportunities for hazard mitigation, upon recommendation from City staff. Support the development and funding of mitigation activities consistent with the best practices for management of hazards within the jurisdiction.	
Department	City of Clayton City Council, supported by various City Departments

City Administration	
The City Administration Department includes the City Manager's Office and the Finance Department, Human Resources and City Clerk's Office. The City Manager is the chief executive officer of the City, is appointed by the City Council, receives policy direction from the City Council, and is responsible for facilitating, coordinating, and supervising the work of all departments to ensure policies set by the City Council are being implemented successfully and consistently. Facilitating communication with the City Council, the City's professional staff, and the community is a key function of the City Manager's Office. Staff of the office conduct public affairs programs including public and internal communications, community and media relations, City newsletters, video productions, and other special programs and the City's website and social media channels. The Finance Department oversees various essential business services of the City including budgeting, accounting, cash management, business licenses, and facility and park rentals. The Department consists of four (4) divisions – Business Services, Budgeting, Accounting and Financial Reporting, and Treasury and Investments. The Human Resources Department is responsible for employee recruitment and selection, job classification and compensation, benefits administration, and workforce training and development. The Department is also responsible for the City's Risk Management programs and activities, including workers' compensation, liability and subrogation, safety programs, and insurance. The City Clerk's Office is responsible for preparing City Council meeting agendas and minutes; ensuring compliance with legal noticing requirements; responding to requests for public records; maintaining the City's Municipal Code; managing the Citywide records management program; and serves as the Elections Official for the conduct of general and special elections. **Expansion and Improvement:** Continue to use public information officers to promote awareness of this Hazard Mitigation Plan and activities associated with individual mitigation projects as they are implemented.	
Department	City of Clayton City Manager's Office

Information Technology and Geographic Information System	
Information technology (IT) and Geographic Information Systems (GIS) provide the technical resources and support necessary to operate all of the applications relating to the City's information resources; respond to the service needs to all departments based on citywide priorities as established by the City Manager; ensure training and effective use of all City technology computer hardware, software, and peripherals; provide internal coordination of technology efforts Citywide including substantial interface with all technology vendors to assure cost-effective, secure, and reliable technologies compatible with the long-range needs of the City; and provide high-quality spatial data to City departments. **Expansion and Improvement:** Acquire and conduct training for GIS technicians on the latest versions of ArcGIS.	
Department	City of Clayton Information Technology Office and Engineering Department

Risk Management	
Risk Management provides services to assist City departments in managing their risk of injury to employees, City property, and the public at large; and purchases insurance for City departments and acts in an advisory capacity with respect to workers' compensation, public liability, City property, and City contracts. **Expansion and Improvement:** Continue to have the Risk Manager provide input to support the analysis of potential losses due to hazards. Update this Hazard Mitigation Plan based on current insurance values.	
Department	City of Clayton City Manager's Office

County Flood Control and Water Conservation District	
The Contra Costa County Flood Control and Water Conservation District serves an advisory capacity to the Engineering Division and the Planning Commission relative to drainage and flood control problems.	
Department	Contra Costa County Flood Control and Water Conservation District

5.3. Financial Resources

Table 7 contains a list of financial capabilities available to the City. These financial resources may be used to support mitigation activities based on procedures for each resource.

Table 7. Financial Resources

General Fund	
The General Fund Program funds operations and specific projects. The City's fiscal year runs from July 1st through June 30th. Each year, the Finance Director, under the direction of the City Manager, compiles an annual operating budget for the City. The adopted operating budget also incorporates the City's 5-year Capital Improvement Program budget, which is prepared by the City Engineer. **Expansion and Improvement:** Hazard mitigation projects may be considered during the annual budgeting process for funding from the General Fund.	
Administrator	City of Clayton Finance Department
City Council Administered Special Funds	
Most special revenue funds were established to mitigate the impact of projects approved in certain areas of the City, and most funds have been intended for uses that will benefit the quality of life for the communities in which the project is approved and special revenue funds originated. In the City of Clayton, special revenue funds include the Citywide Landscape Maintenance District, Oakhurst Geologic Hazard Abatement District, and Development Impact Fees. **Expansion and Improvement:** Focus Administered Special Funds on projects that provide mitigation to natural hazards.	
Administrator	City of Clayton City Council
National Pollutant Discharge Elimination System	
The National Pollutant Discharge Elimination System (NPDES) is a joint effort of the Planning, Engineering, and Maintenance departments through the Contra Costa Clean Water Program. Since 1993, the City has worked with Contra Costa County Flood Control and Water Conservation District, and 15 other cities within the County to meet federal mandates for minimizing pollutants in stormwater runoff. This revenue is used to fund its pro-rated share of the Clean Water Program's staffing, overhead costs, and local level activities necessary to comply with the joint Municipal Regional Permit (MRP) provisions. **Expansion and Improvement:** Where permissible, the NPDES Fund may be considered during the annual budgeting process for funding mitigation projects.	
Administrator	City of Clayton Engineering Department

Community Development Block Grant	
The Community Development Block Grant (CDBG) Program provides funding for eligible senior activities such as in-home care, art classes, counseling, and home-delivered meals. The United States Department of Housing and Urban Development (HUD) also provides Disaster Recovery Assistance in the form of flexible grants to help cities, counties, and states recover from Presidentially Declared Disasters, especially in low-income areas, subject to the availability of supplemental appropriations. **Expansion and Improvement:** Where applicable, CDBG should be used to fund mitigation projects that enhance the resiliency of low-income and underserved communities.	
Administrator	United States Department of Housing and Urban Development, City of Clayton Community Development Department
Hazard Mitigation Grant Program	
The Hazard Mitigation Grant Program (HMPG) provides support for post-disaster mitigation plans and projects. **Expansion and Improvement:** Train staff on notice of intent (NOI) procedures and track opportunities on the Cal OES mitigation website to initiate applications for grant funding.	
Administrator	Federal Emergency Management Agency
Building Resilient Infrastructure and Communities	
Building Resilient Infrastructure and Communities (BRIC) provides support for pre-disaster mitigation plans and projects. **Expansion and Improvement:** Train staff on notice of intent (NOI) procedures and track opportunities on the Cal OES mitigation website to initiate applications for grant funding.	
Administrator	Federal Emergency Management Agency
Flood Mitigation Assistance Grant Program	
The Flood Mitigation Assistance (FMA) Grant Program mitigates structures and infrastructure with repetitive losses. **Expansion and Improvement:** Train staff on notice of intent (NOI) procedures and track opportunities on the California OES mitigation website to initiate applications for grant funding.	
Administrator	Federal Emergency Management Agency

5.4. Education and Outreach Capabilities

Table 8 lists the City's financial and public outreach capabilities. These capabilities include fire safety programs, hazard awareness campaigns, public information, and communications offices. Education and outreach capabilities can be used to inform the public about current and potential mitigation activities.

Table 8. Education and Outreach Resources

Police Department Website *https://claytonca.gov/police/emergency-preparedness/*	
The City's Police Department website has educational material on numerous programs, including making an emergency plan, stocking supplies, staying informed, and getting involved in community preparedness programs. Furthermore, the material is available in multiple languages. **Expansion and Improvement:** Provide links to the City and County websites. Post material on social media accounts that provide a link to the appropriate FEMA website page.	
Lead Organization	City of Clayton Police Department

City Social Media Accounts ***Facebook:*** *https://www.facebook.com/CityofClaytonCA/* ***Twitter:*** *https://twitter.com/ClaytonPDCA* ***Next Door:*** *https://nextdoor.com/city/clayton--ca/*	
The City uses its social media accounts to post information to collect input on updating this Hazard Mitigation Plan. These social media accounts can have links to other City webpages that provide details on mitigation projects and activities. They can also provide information and links to County, State and Federal emergency preparedness sites that provide information on individual and family preparedness. **Expansion and Improvement:** Develop a comprehensive program to utilize social media to reach out to communities in the City to provide information on mitigation activities, and to educate residents about risk reduction (e.g., through promotion of "model" resilient properties). Conduct an annual survey to solicit input. Provide information and conduct the survey in English and Spanish.	
Lead Organization	City of Clayton City Manager's Office
County Public Safety and Emergency Information *https://www.contracosta.ca.gov/5435/Public-Safety-Emergency-Info*	
Provides resources and links for public safety and emergency information in Contra Costa County. **Expansion and Improvement:** Provide additional links to other organizations such as FEMA and PG&E.	
Lead Organization	Contra Costa County Office of Emergency Services
County Community Emergency Response Team Coalition	
The CERT Program is a 20-hour all risk, all hazard training offered by the Contra Costa Fire Protection District. This valuable course is designed to help you protect yourself, your family, your neighbors, and your neighborhood before, during, and after an emergency. The City of Clayton is a member of the Contra Costa Cities Citizen Corps/CERT Committee. This group works Contra Costa County OES in obtaining funds and training personnel in conducting the activities of the members of the group. **Expansion and Improvement:** Conduct coordinated training and exercises with all County CERTs to improve interoperability.	
Lead Organization	City of Clayton Police Department
Community Warning System	
The Community Warning System (CWS) can alert residents and businesses within Contra Costa County that are impacted by or are in danger of being impacted by an emergency. The CWS message will include basic information about the incident and what specific protective actions (e.g., shelter in place, lockdown, evacuate, avoid the area) are necessary for life safety and health. **Expansion and Improvement:** Coordinate community evacuation drills using the CWS to implement the exercise. Conduct post exercise information fairs at evacuation collection points.	
Lead Organization	Contra Costa Sheriff's Office

6. HAZARD MITIGATION PLAN INTEGRATION

The information on hazards, risk, vulnerability, and mitigation contained in this Hazard Mitigation Plan is based on the best available data at the time of the Plan update. Plan integration consists of the incorporation of hazard mitigation into other relevant planning mechanisms (e.g., general planning and capital improvement planning). It includes the integration of natural hazard information and mitigation policies, principles, and actions into local planning mechanisms and vice versa. Additionally, plan integration is achieved through the involvement of key staff and community officials in collaborative

hazard mitigation planning. This section describes the City's process for integrating information from this Hazard Mitigation Plan into other planning mechanisms.

6.1. Past Plan Integration

In the performance period since the adoption of the previous Hazard Mitigation Plan, City of Clayton made progress on integrating components of the hazard mitigation strategy (e.g., goals, objectives, and actions) into the planning initiatives listed in **Table 9**.

Table 9. Past Plan Integration

Planning Initiative	Description
Capital Improvement Program	The Capital Improvement Plan should continue to utilize flexibility in the CIP to incorporate mitigation measures in planned projects and the project evaluation criteria which includes public health and safety, regulatory compliance, and grant funding requirements.
City General Plan	Upon each revision of the Hazard Mitigation Plan, the Safety Element is revised (no less than every eight (8) years). The Hazard Mitigation Plan is utilized to identify new information that was not available during the previous revision of the Safety Element, relating to hazards (i.e., flood and fire), and climate adaptation and resiliency strategies.
Emergency Operations Plan	This Hazard Mitigation Plan is currently used as an essential tool to update the City EOP.
County Climate Action Plan	The strategies and actions in the County Climate Action Plan (CAP) integrate with the Hazard Mitigation Plan. For example, where possible, CAP and Hazard Mitigation Plan update cycles should be coordinated to ensure plan alignment of climate mitigation efforts.

6.2. Potential Future Integration

As the Hazard Mitigation Plan is implemented, the City of Clayton will use information from the Plan as the best available science and data on hazards. The capability assessment presented in Section 5 of this Annex identifies codes, plans, and programs that provide opportunities for integration. The citywide and local action plans developed for this Hazard Mitigation Plan are related to plan integration. The capability assessment identified plans and programs, listed in **Table 10**, that do not currently integrate goals and recommendations of this Plan but provide opportunities to do so in the future.

Table 10. Potential Future Integration

Planning Initiative	Description
Municipal Code	Mitigation actions and the hazard risk assessment in this Hazard Mitigation Plan can inform updates and revisions to the City Code. • Disaster Council (Title 3) Code will use the hazard identification and risk analysis in this Hazard Mitigation Plan to inform the City's emergency preparedness programs. • Stormwater Management and Discharge Control Code (Title 13, Chapter 13.12) will use this Hazard Mitigation Plan to identify mitigation actions for stormwater quality and stormwater management improvements along its various creeks, including grant funds for stream gages and creek restoration and bank repair projects. • Building and Construction Code (Title 15) will be reviewed based on development trends in identified hazards and mitigation measures that can make them more effective at preventing losses. They will be updated to comply with the latest International and State building codes. • Flood Damage Prevention Code (Title 15, Chapter 15.58) will use the FEMA Flood Insurance Rate Maps (FIRM) to select mitigation actions related to flooding. As the FIRMs are updated, new mitigation activities will be considered. • Subdivisions and Land Development Code (Title 16) will be modified and updated to support changes in land use development and require adequate infrastructure to support residential area populations. • Zoning Code (Title 17) will be modified and updated to reflect changes in development. Additionally, may be used to address land use regulations that support mitigation actions such as development in wetlands and floodplains and preservation of open space.
City General Plan	This Hazard Mitigation Plan will be incorporated in the General Plan Safety Element. The opportunity to incorporate additional hazard mitigation and abatement measures will be contemplated for inclusion into the updated General Plan. The Safety Element will be revised and this Hazard Mitigation Plan will be utilized to identify new information that was not available during the previous revision of the Safety Element, relating to hazards (i.e., flood and fire), and climate adaptation and resiliency strategies.
Emergency Operations Plan	This Hazard Mitigation Plan will remain an essential tool to update the City EOP. The latest Hazard Mitigation Plan hazards descriptions will be included. 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.
Subdivision Ordinance	The Subdivision Ordinance restricts development in hazard areas. Portions of this Hazard Mitigation Plan with the associated mapping will be considered for inclusion into the next Subdivision Ordinance update.
Capital Improvement Plan	The City will continue to ensure consistency between this Hazard Mitigation Plan and future updates of the Capital Improvement Plan. The Hazard Mitigation Plan may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on results of the risk assessment.

Planning Initiative	Description
Emergency Management	Portions of this Hazard Mitigation Plan with the associated mapping will be considered for inclusion into the next updates of various emergency management plans to include, but not limited to, Post-Disaster Recovery Plan and Comprehensive Emergency Management Plan.

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

7. SIGNIFICANT HAZARD PAST EVENTS

A complete risk assessment, including past incidents, for each identified hazard of concern can be found in **Volume 1 (Planning Area-wide Elements)** of this Plan. **Table 11** provides information on significant hazard events that uniquely impacted the City of Clayton.

Table 11. Significant Past Events

Date	Event Type	Description
Ongoing	Landslide	Ongoing landslides occur along the Concord fault line, in the southern portion of the County.
August 16, 2020 – October 1, 2020	Wildfire	A total of 396,624 acres burned, 26 structures were damaged, and 222 structures were destroyed, and six (6) people were injured by the wildfire that spanned throughout Contra Costa County and another five (5) counties.
February 20, 2017	Flood	A significant amount of rainfall caused widespread flooding, debris flow, accidents, and over topping of reservoir spillways.
August 24, 2014	Earthquake	South Napa Earthquake, causing significant damage to commercial buildings and residential housing within the City.

8. NATIONAL FLOOD INSURANCE PROGRAM

The City of Clayton is a member of the National Flood Insurance Program (NFIP) but has chosen to not participate in the NFIP's Community Rating System (CRS). The City's NFIP participation information is listed in **Table 12**.

Table 12. NFIP Participation Information

CID	Community Name	NFIP Participation Date	Current Effective FIRM Date	CRS Entry Date	CRS Current Effective Date	CRS Class
060027	City of Clayton	5/17/1974	3/21/2017	N/A	N/A	N/A

8.1. Floodplain Manager

As an NFIP participating jurisdiction, the City of Clayton has a designated Floodplain Manager that is charged with enforcing floodplain regulations, routinely monitoring the floodplains, and providing community assistance such as encouraging owners to maintain flood insurance. The City's Floodplain Manager information is listed in **Table 13**.

Table 13. Floodplain Manager

Jurisdiction	Department	Name	Title	Phone Number
City of Clayton	Engineering Department	Larry Theis	City Engineer	(925) 673-7300

8.2. Participation Activities

The City of Clayton NFIP participation activities over the last five (5) years include the following:

- Provides the following services – permit review, GIS, inspections, and engineering capability.
- The City educates private owners and other stakeholders about the importance of flood insurance through public outreach events, workshops, and/or seminars.
- Enforces local floodplain regulations and monitors compliance.
- Floodplain management regulations meet or exceed FEMA or State minimum requirements.

8.2.1. Substantial Damage

Substantial damage, for the purpose of determining compliance with the flood provisions of the Municipal Code, means damage of any origin sustained by a structure by which 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. *(Municipal Code Title 15, Chapter 15.10 – Disaster Repair and Reconstruction)*

8.2.2. Substantial Improvement

Substantial improvement, for the purpose of determining compliance with the flood provisions of the Municipal Code, means any repair, alteration, addition, or other improvement of a building or structure, whose cost equals or exceeds 50% of the market value of the structure before the improvement or repair started. If the structure has sustained *substantial damage*, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:

- Any project for improvement of a building required to correct existing health, sanitary, or safety code violations identified by the code official and that is the minimum necessary to assure safe living conditions.
- Any alteration of a historic structure, provided that the alteration would not preclude the structure's continued designation as a historic structure. *(Municipal Code Title 15, Chapter 15.10 – Disaster Repair and Reconstruction)*

8.3. Repetitive Loss and Severe Repetitive Loss Properties

The Federal Emergency Management Agency (FEMA) defines a Repetitive Loss property as an NFIP insured structure with two (2) or more claims of more than $1,000 each within any rolling 10-year period, since 1978.[2]

A Severe Repetitive Loss property is defined by FEMA as any NFIP insured structure for which either of the following is true when at least two (2) of the claims are within 10 years of each other (claims made within 10 days will be counted as one (1) claim):[3]

[2] Federal Emergency Management Agency. (2020). Repetitive Loss Structure. Retrieved from https://www.fema.gov/node/405233.
[3] Federal Emergency Management Agency, National Flood Insurance Program. (2022). Flood Insurance Manual: Risk Rating 2.0: Equity in Action Edition. Retrieved from https://www.fema.gov/sites/default/files/documents/fema_nfip-flood-insurance-full-manual_102022.pdf.

- 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 buildings and contents payments) exceeding $5,000, and with the cumulative amount of such claims 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.

Repetitive loss records from the City of Clayton are listed in **Table 14**.

Table 14. Repetitive Loss Properties

Jurisdiction	Repetitive Loss Properties	Severe Repetitive Loss Properties	Mitigated Properties
City of Clayton	0	0	0

9. 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 based on existing community conditions (e.g., underserved, or functional access needs populations may be more susceptible based on certain conditions, vulnerabilities, or needs).

The Local Planning Team identified ***unique vulnerabilities and impacts*** to the following natural hazards, based on the hazards profiled in **Volume 1 (Planning Area-wide Elements)**.

- Earthquake
- Flood *(riverine/creek, urban/flash flood)*
- Landslide
- Severe Weather *(heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado)*
- Wildfire

It was determined that the planning area did not have unique vulnerabilities and impacts to the following natural hazards; rather, its vulnerability and impacts are consistent with those experienced throughout the County.

- Climate Change
- Dam and Levee Failure
- Drought
- Sea Level Rise
- Tsunami

Note: Severe weather and flooding are profiled as the two (2) hazards. However, in an effort to have a more thorough risk assessment, the sub hazards (i.e., heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado, riverine/creek flooding, and urban/flash flooding) were ranked individually. The hazard risk assessment methodology can be found in **Appendix C** of this Annex.

Table 15 provides information on several key vulnerabilities and impacts for the City of Clayton and only addresses the hazards that are relevant and unique to the jurisdiction. A complete risk assessment for

each identified hazard of concern is in **Volume 1 (Planning Area-wide Elements)** of this Plan. Hazard mapping can be found in **Appendix A** of this Annex.

Table 15. Hazard Vulnerability and Impact Assessment

Hazards	Vulnerabilities and Impacts
Climate Change	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to climate change; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.
Dam and Levee Failure	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to dam and levee failures; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.
Drought	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to droughts; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.

Hazards	Vulnerabilities and Impacts
Earthquake	Clayton is located in a seismically active region and is not uniquely affected by earthquakes generally. There are no Alquist Priolo requirements in the City. However, like other jurisdictions in the County, Clayton could be affected by movement along the Hayward Fault, which is a 45 mile long fault that runs through densely populated areas on the East Bay, parallel to the San Andreas Fault. The probability of experiencing a Magnitude 6.7 or greater earthquake along the Hayward Fault in the next 30 years is 33%. An earthquake of this magnitude has regional implications for the entire Bay Area, as the Hayward Fault crosses transportation and resource infrastructure, such as multiple highways and the Hetch-Hetchy Aqueduct. There are known active faults closer to Clayton, including the Concord Fault (under the adjacent City of Concord), which is considered to be under high stress and has a 16% probability of experiencing a Magnitude 6.7 or greater earthquake in the next 30 years; and the Mount Diablo thrust fault in the vicinity of Mount Diablo, which is just south of Clayton. While the City is not uniquely vulnerable to seismic ground shaking, slopes (0% to 15%) found in the downtown Town Center area, and in the area immediately northeast of Clayton Road, contain alluvial soils that could amplify ground shaking in the event the Concord Fault shifts. The fault is not classified as active; however, there is preliminary evidence that the fault may have displaced recent landslide materials. Due to this, the fault should be treated as active unless evidence proves otherwise. Additionally, the hilly terrain in and around the City makes Clayton uniquely vulnerable to landslides, which could be caused by ground movement. With a power transmission corridor spanning the City from southwest to northeast, and gas pipeline easements in the southeastern quadrant, the City has a unique risk for potential fire resulting from oil pipelines or power lines that are broken or downed during an earthquake. Clayton's proximity to the Hayward Fault and the Concord Fault places several critical assets at risk. The densely populated areas along Marsh Creek Road and within the downtown area are especially vulnerable due to the concentration of older residential structures that may not meet current seismic standards. Additionally, schools and community centers located near these fault lines are at risk of structural damage, potentially impacting vulnerable populations, including school children, elderly residents, and low-income households who may have limited resources for recovery and relocation. Due to limited mobility, the elderly population may have difficulty evacuating, especially those living alone. Furthermore, if an earthquake occurs during school hours, younger children may have heightened stress and fear as they are away from their families and may not fully understand how to respond. Underserved populations, particularly low-income households and renters living in older, less structurally sound buildings, are at heightened risk during a major earthquake due to limited access to financial resources for retrofitting, insurance, and rebuilding. The City's emergency response systems should prioritize these populations to ensure swift aid and recovery.

Hazards	Vulnerabilities and Impacts
Flood *(urban/flash flood, riverine/creek)*	Clayton has a variety of creeks and streams within its boundaries, which could be subject to flooding. The principal stream running through Clayton is Mount Diablo Creek which originates on the steep north slopes of the 3,849 foot Mount Diablo and drains a watershed of approximately 30 square miles. It flows northerly and westerly through the cities of Clayton and Concord, the Concord Naval Weapons Station and eventually empties into Suisun Bay. In Clayton, Mount Diablo Creek is joined by Donner and Mitchell creeks, both of which originate on the slopes of Mount Diablo and by Peacock Creek, which flows from the Keller Ridge. Some portions of the Clayton downtown Town Center are located within 100-year flood zones originating from Mount Diablo Creek. Flooding has occurred from Mount Diablo Creek in the Town Center area of Clayton and in the floodplain between Clayton Road and Kirker Pass Road. The major floods affecting this area occurred in 1938, 1952, 1955 and 1963. The 1955 and 1963 floods both were estimated as 25-year floods. More recent storm events in 2023 greatly increased flows within the channel and caused notable bank erosion in some areas; however, no structures were damaged during that storm event. Despite these occurrences, Mount Diablo Creek is not considered a creek with a high flood history. The long floodplain between Mount Diablo and the City boundaries slows velocity and delays peak flows. As the Mount Diablo Creek watershed continues to develop, the potential for serious flooding and flood-related damage increases. Low-lying residential areas along Main Street and surrounding neighborhoods, particularly those with an older housing stock, are highly vulnerable. Structures in these areas may lack proper flood defenses, such as raised foundations or waterproofing, making them vulnerable to severe damage in the event of significant flooding. Furthermore, underserved populations, including low-income households in flood-prone areas, are at risk due to limited access to flood insurance and resources for recovery. Additionally, those with access and functional needs may be unable to evacuate in a timely manner and if isolated, emergency services may be delayed. Efforts should be made to strengthen community outreach and flood preparedness programs in these areas, ensuring that vulnerable residents have access to early warnings and evacuation plans.

Hazards	Vulnerabilities and Impacts
Landslides	The undeveloped regions of Clayton contain a number of potential geological hazards. These include slopes with unstable expansive soil, high erosion potential, evidence of springs, mudflow potential, rockslide potential and evidence of significant creep. While landslides may occur on slopes of 15% or less in unstable areas, the risk increases with steepness of slopes. Areas of old slide deposits are most subject to continued failure. Grading without engineered requirements tends to reduce slope stability so that road cuts and the cut and fill pads typically prepared for hillside housing carry a greater risk of slope failure than undisturbed hillsides. However, fill slopes engineered to today's standards may result in a more stable situation than in nature, particularly where smaller slide deposits are improved or arrested. Foothill areas of Clayton contain slope stability problems, which may be triggered by improper grading. In addition, foothill areas may experience local slope erosion, sedimentation or drainage problems, expansive soil reaction and other development limitations requiring corrective measures prior to any grading or construction. Ground rupture or slides along existing or suspected fault lines is also a possibility. Homes and infrastructure along Marsh Creek Road and areas bordering Mount Diablo State Park are particularly vulnerable because there is a higher number of older residential structures that may not have been built with modern slope stability considerations. Low-income households in these areas may face significant challenges if their homes are damaged or destroyed in a landslide, as they may lack the financial resources necessary for repairs and rebuilding. The elderly that live within these areas may become isolated from the community as they may have mobility issues that prohibit them from evacuating and may lack social connections and community support before, during, and after an emergency, such as a landslide. Planning efforts should focus on bolstering slope stabilization and creating community evacuation plans tailored to these vulnerable populations.
Sea Level Rise	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to sea level rise; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.

Hazards	Vulnerabilities and Impacts
Severe Weather *(heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado)*	Clayton is uniquely vulnerable to severe weather, and in particular, the effects of extended heat waves on older residents. Although the number of high school and college age residents (15 to 24 years old) saw a 4% increase from 2010 to 2019, the number of 55 to 64 year old residents also increased in the same timeframe. Overall, Clayton's population is aging, with residents' median age increasing from 39.5 years in 2000 to 46 years in 2019. With several creeks within the City's boundaries, Clayton is also uniquely vulnerable to heavy rainfall events, as discussed under the flooding hazard. Clayton's vulnerability to severe weather is linked primarily to the impacts of heat waves/extreme heat and heavy rainfall. The aging population (approximately 38.9% is 65 years old and over) is particularly vulnerable to heat-related illnesses during heat wave/extreme heat events, especially those without access to cooling systems. Additionally, low-income households may struggle with the financial burden of cooling their homes during prolonged heatwaves. Residential structures without sufficient insulation or cooling systems are at increased risk during these periods. Public buildings, such as the Clayton Library and community centers, could serve as cooling centers to support vulnerable populations. However, the elderly population and those with access and functional needs may have difficulty evacuating to a cooling center on their own. Heavy rainfall may cause localized flooding, especially in areas with inadequate stormwater management infrastructure. Older buildings and homes that were not constructed with modern stormwater drainage systems or built to current flood-resistant building codes may be more susceptible to water damage during severe weather. Roadways, particularly near Marsh Creek Road, could be impacted by debris flow and minor flooding, affecting access to emergency services. The elderly and those with access and functional needs may face greater challenges in evacuating during severe weather events due to mobility limitations.
Tsunami	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to tsunamis; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.

Hazards	Vulnerabilities and Impacts
Wildfire	Clayton is identified as a Non-Very High Fire Severity Zone; however, it is surrounded to the north, east, and south by High and Very High Fire Severity Zones. Because the natural vegetation in the trail system and adjacent parklands is extremely flammable during the dry summer and fall seasons, wildfire is a serious hazard in the City of Clayton. Slopes, high winds, and difficulty in access increases the hazards. Traffic congestion in the case of fire can hinder firefighting. Isolated homes set in wooded canyons or on ridge tops with only one (1) narrow, winding, or steep road are subject to a high fire hazard, and burned slopes are highly subject to erosion and gullying from subsequent rains. Clayton's proximity to Mount Diablo State Park and the surrounding wildland urban interface (WUI) puts several assets at risk from wildfires. Residential developments along Marsh Creek Road and Oakhurst Drive, including the Oakhurst Country Club, are particularly vulnerable due to their proximity to open grasslands and forested areas that serve as fuel for wildfires. Older homes and structures not built to current fire-resistant standards are at greater risk for damage during wildfire events. The City's emergency response capacity, particularly for evacuation routes and shelters, may be strained in the event of a large wildfire. Vulnerable populations, including low-income households and elderly residents, may face challenges in evacuation due to mobility issues or lack of resources. Community outreach programs should prioritize fire prevention education and evacuation planning, particularly for underserved populations. Fire mitigation efforts such as defensible space requirements around homes, especially in the WUI, are essential to reduce risk. However, due to financial limitations, low-income households may not be able to maintain wildfire mitigation efforts, such as defensible space. Addititionally, critical infrastructure, including water supply lines and electrical grids, is also at risk, which could hinder firefighting efforts and the provision of essential services during an emergency.
Active Shooter Incidents	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to active shooter incidents; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.
Cybersecurity Threats	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to cybersecurity threats; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.
Hazardous Materials Incidents	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to hazardous materials incidents; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.
Terrorism (Weapons of Mass Destruction)	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to terrorism; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.
Utility Interruptions	The Local Planning Team determined that the City does not have unique vulnerabilities and impacts to utility interruptions; rather, the City's vulnerability and impacts are consistent with those experienced throughout the County.

The City evaluated whether vulnerability and impact in hazard prone areas had increased, decreased, or remained the same for each natural hazard identified in this Hazard Mitigation Plan. 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 areas 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 16 outlines if 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 in the future probability of occurrence and impacts from each natural hazard.

Table 16. Climate Change Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Climate Change	Increased
Dam and Levee Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood *(urban/flash flood, riverine/creek)*	Remained the Same
Landslide	Remained the Same
Sea Level Rise	Remained the Same
Severe Weather *(heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado)*	Remained the Same
Tsunami	Remained the Same
Wildfire	Remained the Same
Future Vulnerability and Impact	
Climate Change	Increase
Dam and Levee Failure	No Change is Anticipated
Drought	Increase
Earthquake	No Change is Anticipated
Flood *(urban/flash flood, riverine/creek)*	Increase
Landslide	Increase
Sea Level Rise	No Change is Anticipated
Severe Weather *(heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado)*	Increase
Tsunami	No Change is Anticipated
Wildfire	Increase

Table 17 outlines if 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 17. Changes in Population Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Climate Change	Remained the Same
Dam and Levee Failure	Not Applicable
Drought	Remained the Same
Earthquake	Remained the Same
Flood *(urban/flash flood, riverine/creek)*	Remained the Same
Landslide	Remained the Same
Sea Level Rise	Remained the Same
Severe Weather *(heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado)*	Remained the Same
Tsunami	Remained the Same
Wildfire	Remained the Same
Future Vulnerability and Impact	
Climate Change	Remained the Same
Dam and Levee Failure	No Change is Anticipated
Drought	Increase
Earthquake	No Change is Anticipated
Flood *(urban/flash flood, riverine/creek)*	Increase
Landslide	Increase
Sea Level Rise	No Change is Anticipated
Severe Weather *(heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado)*	Increase
Tsunami	No Change is Anticipated
Wildfire	Increase

Table 18 outlines if development over the past five (5) years has increased or decreased the jurisdiction'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 18. Changes in Development Current and Future Vulnerability and Impact

Hazard	Vulnerability and Impact
Current Vulnerability and Impact	
Climate Change	Remained the Same

Hazard	Vulnerability and Impact
Dam and Levee Failure	Remained the Same
Drought	Remained the Same
Earthquake	Remained the Same
Flood *(urban/flash flood, riverine/creek)*	Remained the Same
Landslide	Remained the Same
Sea Level Rise	Remained the Same
Severe Weather *(heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado)*	Remained the Same
Tsunami	Remained the Same
Wildfire	Remained the Same
Future Vulnerability and Impact	
Climate Change	No Change is Anticipated
Dam and Levee Failure	No Change is Anticipated
Drought	Increase
Earthquake	No Change is Anticipated
Flood *(urban/flash flood, riverine/creek)*	Increase
Landslide	Increase
Sea Level Rise	No Change is Anticipated
Severe Weather *(heavy rainfall, severe thunderstorms, strong winds/damaging winds, heat wave/extreme heat, tornado)*	No Change is Anticipated
Tsunami	No Change is Anticipated
Wildfire	Increase

The City anticipates future major assets may be exposed or vulnerable to any of the natural hazards identified in this Hazard Mitigation Plan. **Table 19** outlines the major assets the City expects may be exposed or vulnerable.

Table 19. Vulnerable Assets

Hazard	Asset
Heat Wave/Extreme Heat, Sever Weather	The City has an aging population, and it is anticipated that there may be a larger portion of the population that is vulnerable to extreme weather events, especially heat waves.
Flooding, Heavy Rainfall	New buildings in or near the downtown Town Center area.
Wildfire	Above ground utility lines.

Refer to **Appendix C** and **Appendix D** of this Annex for the hazard risk assessment methodology and jurisdiction specific details, which includes the vulnerability and impacts to population and life safety, underserved/equity, property damage, future development, and climate change.

9.1. FEMA National Risk Index

In the National Risk Index (NRI), risk is defined as the potential for negative impacts as a result of a natural hazard. The Risk Index is based on three (3) components – a natural hazards component (Expected Annual Loss), a consequence enhancing component (Social Vulnerability), and a consequence reduction component (Community Resilience). Using these components, the composite and hazard type Risk Index values are calculated for each community (county and Census Tract). Risk Index values form an absolute basis for measuring Risk within the NRI and are used to generate Risk Index percentiles and ratings across communities.[4] **Table 20** illustrates the Risk Index rating and score for the City of Clayton.

Note: *ArcGIS mapping analysis was performed utilizing Census Tract data by overlaying Census Tracts with the City of Clayton planning area boundary. The information outlined in this section includes data from the Census Tracts that intersect the jurisdiction.*

Table 20. Risk Index Score (FEMA National Risk Index)

Jurisdiction	Rating	Score
City of Clayton	Very High	80.1
Risk Index scores are calculated using an equation that combines scores for Expected Annual Loss due to natural hazards, Social Vulnerability and Community Resilience (Expected Annual Loss x Social Vulnerability / Community Resilience = Risk Index).		

9.1.1. Expected Annual Loss

The FEMA NRI Expected Annual Loss (EAL), the natural hazards component of the NRI, represents the average economic loss in dollars resulting from natural hazards each year. It is calculated for each hazard type and quantifies loss for relevant consequence types – buildings, people, and agriculture. The EAL score and rating represent a community's relative level of expected losses each year when compared to all other communities at the same level. Since the score is associated to a community's risk; the higher EAL score results in a higher Risk Index score.[5] **Table 21** illustrates each hazard EAL for the City of Clayton.

Table 21. Expected Annual Loss *(FEMA National Risk Index)*

Hazard	Population Equivalence	Building Value	Agriculture Value	Total Expected Annual Loss	Expected Annual Loss Score	Rating
Coastal Flooding *(Sea Level Rise)*	$0	$0	n/a	$0	0.0	No Expected Annual Losses
Drought	n/a	n/a	$469	$469	14.7	Very Low
Earthquake	$442,396	$1.2 Million	n/a	$1.6 Million	96.2	Very High
Hail *(Severe Weather)*	$44	$173	$0	$217	26.3	Relatively Low

[4] Federal Emergency Management Agency. (2023). Determining Risk. Retrieved from https://hazards.fema.gov/nri/determining-risk.
[5] Federal Emergency Management Agency. (2023). Expected Annual Loss. Retrieved from https://hazards.fema.gov/nri/expected-annual-loss.

Hazard	Population Equivalence	Building Value	Agriculture Value	Total Expected Annual Loss	Expected Annual Loss Score	Rating
Heat Wave *(Severe Weather)*	$10,920	$2	$1	$10,922	55.5	Relatively Moderate
Landslide	$517	$3,548	n/a	$4,065	59.5	Relatively Moderate
Riverine Flooding *(Flood)*	$13,709	$12,885	$0	$26,594	51.3	Relatively Moderate
Strong Winds *(Severe Weather)*	$56	$20	$0	$77	5.1	Very Low
Tornado *(Severe Weather)*	$1,525	$3,755	$0	$5,280	15.9	Very Low
Tsunami	$0	$0	n/a	$0	0.0	No Expected Annual Loss
Wildfire	$2,181	$78,991	$0	$81,172	77.6	Relatively High
Expected annual loss scores are calculated utilizing an equation that combines values for exposure, annualized frequency, and historic loss ratios (Expected Annual Loss = Exposure x Annualized Frequency x Historic Loss Ratio).						

An EAL score and rating is calculated independently for each consequence type (i.e., buildings, population, and agriculture) for each county and Census Tract. The population EAL is measured in fatalities and injuries while the building and agriculture values are measured in dollars. However, for consistency in the unit of measurement, the population EAL was monetized into population equivalence using a value of statistical life (VSL) approach where each fatality or 10 injuries is treated as $11.6 Million of economic loss.

9.1.2. Social Vulnerability

Social vulnerability, the consequence enhancing risk component of the NRI, measures the susceptibility of social groups to the adverse impacts of natural hazards, including disproportionate death, injury, loss, or disruption of livelihood. The Social Vulnerability score and rating represent the relative level of a community's social vulnerability compared to all other communities at the same level. A higher Social Vulnerability score results in a higher Risk Index score.[6] **Table 22** illustrates the Social Vulnerability rating and score for City of Clayton.

Table 22. **Social Vulnerability *(FEMA National Risk Index)***

Jurisdiction	Rating	Score
City of Clayton	Relatively Low	21.0
Social Vulnerability is measured using the Social Vulnerability Index (SoVI) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).		

[6] Federal Emergency Management Agency. (2023). Social Vulnerability. Retrieved from https://hazards.fema.gov/nri/social-vulnerability.

9.1.3. Community Resilience

Community resilience, the consequence reduction risk component, measures the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. The Community Resilience score and rating represent the relative level of a community's resilience compared to all other communities at the same level. Since the score is inversely proportional to a community's risk; the higher Community Resilience score results in a lower Risk Index score.[7] **Table 23** illustrates the Community Resilience rating and score for the City of Clayton.

Table 23. Community Resilience *(FEMA National Risk Index)*

Jurisdiction	Rating	Score
City of Clayton	Relatively High	66.4
Community Resilience is measured using the Baseline Resilience Indicators for Communities (HVRI BRIC) published by the University of South Carolina's Hazards and Vulnerability Research Institute (HVRI).		

9.1.4. Annualized Frequency

Annualized frequency is defined as the expected frequency or probability of a hazard occurrence per year. It is a natural hazard incidence factor for Expected Annual Loss, the natural hazards component of the National Risk Index. A higher annualized frequency value results in higher Expected Annual Loss and Risk Index scores. The annualized frequency is derived from either the number of recorded hazard occurrences each year over a given period or the modeled probability of a hazard occurrence each year (e.g., earthquake).[8] **Table 24** outlines the annualized frequency for each hazard, based on FEMA NRI data, for the City of Clayton.

Table 24. Hazard Annualized Frequency *(FEMA National Risk Index)*

Hazard	Period of Record	Events on Record	Annualized Frequency
Coastal Flooding *(Sea Level Rise)*	Various datasets	n/a	0.0 events per year
Drought	22 years	1,154	52.4 events per year
Earthquake	2021 dataset	n/a	0.009% chance per year
Hail *(Severe Weather)*	16 years	2	0.0 events per year
Heat Wave *(Severe Weather)*	12 years	30	1.9 events per year
Landslide	24 years	1	0.0 events per year
Riverine Flooding *(Flood)*	34 years	31	1.1 events per year
Strong Winds *(Severe Weather)*	34 years	2	0.0 events per year
Tornado *(Severe Weather)*	72 years	0	0.0 events per year
Tsunami	222 years	0	0.0 events per year
Wildfire	2021 dataset	n/a	0.0% events per year

[7] Federal Emergency Management Agency. (2023). Community Resilience. Retrieved from https://hazards.fema.gov/nri/community-resilience.
[8] Federal Emergency Management Agency. (2023). Annualized Frequency. Retrieved from https://hazards.fema.gov/nri/annualized-frequency.

10. HAZARD RISK RANKING

Table 25 presents the local hazard ranking for the City of Clayton of all hazards of concern listed in **Volume 1 (Planning Area-wide Elements)** of this Plan. This ranking summarizes how hazards vary for this jurisdiction. As described in detail in **Volume 1 (Planning Area-wide Elements)** and **Appendix C** of this Annex, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property, and the economy. For further details on how the probability, extent, vulnerability, and impact factors in **Table 25** were calculated, please refer to **Appendix D** of this Annex.

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

Table 25. 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 *(Probability x Consequence)*
Earthquake	2	18	17	36	71	68
Wildfire	2	15	15	27	57	56
Heavy Rainfall *(Severe Weather)*	3	9	14	15	38	56
Flood (Urban/Flash Flood)	2	15	12	29	56	55
Strong Winds/ Damaging Winds *(Severe Weather)*	3	9	11	16	36	54
Severe Thunderstorm *(Severe Weather)*	3	6	16	14	36	54
Utility Interruptions	3	9	7	18	34	51
Heat Wave/Extreme Heat	3	9	10	15	34	51
Drought	2	18	12	20	50	50
Flood (Riverine/Creek)	2	12	7	27	46	47
Hazardous Materials Incidents	2	15	9	16	40	41
Landslide	2	9	9	20	38	40
Climate Change	2	9	12	15	36	38
Cybersecurity Threats	2	12	7	13	32	34
Active Shooter Incidents	2	9	5	15	29	32

Hazard Event	Probability Factor	Sum of Weighted Extent Factors	Sum of Weighted Vulnerability Factors	Sum of Weighted Impact Factors	Consequence Score	Total Risk Score *(Probability x Consequence)*
Terrorism (Weapons of Mass Destruction)	1	18	11	27	56	31
Dam and Levee Failure	1	15	6	26	47	26
Tornado *(Severe Weather)*	1	6	6	14	26	16
Sea Level Rise	0	0	0	3	3	0
Tsunami	0	0	0	1	1	0

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

Total Risk Score Legend

Classification	Probability Factor	Extent	Vulnerability	Impact	Consequence Score	Total Risk Score
Low (L)	1	0 – 6	0 – 6	0 – 12	0 – 24	0 – 24
Medium (M)	2	7 – 12	7 – 12	13 – 26	25 – 50	25 – 54
High (H)	3	13 – 18	13 – 18	27 – 39	51 – 75	55 and above

*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.*

11. MITIGATION ACTIONS

This section includes the mitigation actions that were developed to address identified risks and vulnerabilities to 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.

The City of Clayton agreed upon **32** mitigation actions that apply to the jurisdiction's properties where they have jurisdictional responsibility and authority. Two (2) mitigation actions were completed. According to the City's Hazard Vulnerability and Impact Assessment, the City is not vulnerable to sea level rise and tsunamis. Therefore, mitigation actions for these hazards are not required. A summary of the City's mitigation actions status is listed in **Table 26**.

Table 26. City of Clayton Mitigation Actions Summary

Status	Mitigation Action Total
Ongoing	15
In Progress/In Work	4
Not Started	14
Delayed/Deferred	0
New	0
TOTAL	**33**
Completed	2
Deleted/No Longer Needed	0

Mitigation Actions per Hazard			
Climate Change	8	Landslide	7
Dam and Levee Failure	1	Sea Level Rise	1
Drought	8	Severe Weather	10
Earthquake	5	Tsunami	1
Flood	13	Wildfire	8

These shared actions, some of which address all hazards, help to meet the following requirements:

- Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure?
- Does the Plan include one (1) or more action(s) per jurisdiction for each hazard identified within the risk assessment?

A detailed explanation of the Mitigation Strategy can be found in Chapter 5 of **Volume 1 (Planning Area-wide Elements)**.

Mitigation Action	Install electric vehicles (EV) Chargers for public use at City facilities.				
Action Number	CL-1	**Year Initiated / Anticipated Year of Initiation**	2023	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 4 **Objectives:** 1, 18	**Hazard(s) Mitigated**	Climate Change, Drought, Severe Weather	
Project Status		In Progress/In Work	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds, Other, HMGP, BRIC		If *Other*, you **must** identify a funding source.	California Energy Commission 1% Loan	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Upgrade and implement energy efficient lighting systems at City facilities.				
Action Number	CL-2	**Year Initiated / Anticipated Year of Initiation**	2023	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 4 **Objectives:** 1, 13, 18	**Hazard(s) Mitigated**	Climate Change, Drought, Severe Weather	
Project Status		In Progress/In Work	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds, Other, HMGP, BRIC		If *Other*, you **must** identify a funding source.	California Energy Commission 1% Loan	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Conduct a comprehensive energy audit and assess recommendations.				
Action Number	CL-3	**Year Initiated / Anticipated Year of Initiation**	N/A	**Prioritization Score**	N/A
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 4 **Objectives:** 1, 13, 18	**Hazard(s) Mitigated**	Climate Change, Drought, Severe Weather	
Project Status		Completed	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		N/A			
Lead Agency / Organization	City of Clayton Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	N/A		**Estimated Cost**	N/A	
Potential Funding Source	N/A		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	N/A	
Implementation Priority	N/A	**Integration Ideas** *(Optional)*			

Mitigation Action	Upsize the average fuel efficiency of municipal fleet through addition of alternative fuel vehicles.				
Action Number	CL-4	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 4, 5 **Objectives:** 2, 16, 18	**Hazard(s) Mitigated**	Climate Change, Drought, Severe Weather	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department, City of Clayton Police Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, Other, HMGP, BRIC		If *Other*, you **must** identify a funding source.	Marathon Petroleum Grant, Private Grants	
			Please provide further detail on Potential Funding Source.	Clayton General Fund	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Implement an employee education program including anti-idling messages.				
Action Number	CL-5	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	Low
Goal(s) / Objective(s) Addressed		**Goals:** 1, 3, 4 **Objectives:** 3, 6	**Hazard(s) Mitigated**	Drought, Severe Weather	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund (Training Budget)	
Implementation Priority	Low	**Integration Ideas** *(Optional)*			

Mitigation Action	Replace diesel vehicles to electric and/or compressed natural gas (CNG) vehicles.				
Action Number	CL-6	**Year Initiated / Anticipated Year of Initiation**	2024	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 4, 5 **Objectives:** 2, 16, 18	**Hazard(s) Mitigated**	Climate Change, Drought, Severe Weather	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Implement a Geographic Information System (GIS) and conduct an inventory of the City's existing assets.				
Action Number	CL-7	**Year Initiated / Anticipated Year of Initiation**	2022	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 2, 3, 5 **Objectives:** 1, 5, 6, 13, 15,	**Hazard(s) Mitigated**	Earthquake, Flood, Landslide, Wildfire	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Community Development and Engineering Departments		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, Other, HMGP, BRIC		If *Other*, you **must** identify a funding source.	Initiation funded by State Senate Bill 2 grant from the California Department of Housing and Community Development (ongoing costs to be absorbed in General Fund), State Grant	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Increase healthy urban forests and promote tree planting to increase shading and absorb Carbon Dioxide.				
Action Number	CL-8	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 4 **Objectives:** 17, 18	**Hazard(s) Mitigated**	Climate Change, Drought, Landslide, Severe Weather	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Community Development Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds, Other, HMGP, BRIC		If *Other*, you **must** identify a funding source.	Private/Nonprofit Fees	
			Please provide further detail on Potential Funding Source.	Clayton General Fund – Maintenance Department (Impact fees from and landscape requirements of private and nonprofit developers), Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Facilitate and/or coordinate the distribution of mitigation materials prepared by others via community access television and social media.				
Action Number	CL-9	**Year Initiated / Anticipated Year of Initiation**	2020	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 3, 5 **Objectives:** 3, 16	**Hazard(s) Mitigated**	Wildfire	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund (Staff Time)	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Identify funding sources to purchase and install solar power and backup batteries at all City facilities.				
Action Number	CL-10	**Year Initiated / Anticipated Year of Initiation**	2023	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 4, 5 **Objectives:**	**Hazard(s) Mitigated**	Climate Change, Severe Weather	
Project Status		In Progress/In Work	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton City Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, Other, HMGP, BRIC		If *Other*, you **must** identify a funding source.	California Energy Commission 1% Loan	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Design and ultimately construct/install emergency/auxiliary power (i.e., generator) to the City Hall complex including Corporation Yard and Library building allowing the City to remain functional during a power outage or disaster. *(Source: City Capital Improvement Program #10447)*				
Action Number	CL-11	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	Medium
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 13, 15	**Hazard(s) Mitigated**	Severe Weather	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Capital Improvement Program	
Implementation Priority	Medium	**Integration Ideas** *(Optional)*			

Mitigation Action	Identify funding to support City's compliance National Pollutant Discharge Elimination System (NPDES) Municipal Regional Permit (MRP) requirements for local government.				
Action Number	CL-12	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 6, 9, 10	**Hazard(s) Mitigated**	Flood	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Staff time	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Enhance exiting sanitary sewer mains to prevent potential sewer overflows in areas adjacent to Mount Diablo Creek. *(Source: City Capital Improvement Program Project #10422)*				
Action Number	CL-13	**Year Initiated / Anticipated Year of Initiation**	N/A	**Prioritization Score**	N/A
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 6, 9, 10	**Hazard(s) Mitigated**	Landslide	
Project Status		Completed	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		N/A			
Lead Agency / Organization	City of Clayton Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	N/A		**Estimated Cost**	N/A	
Potential Funding Source	N/A		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	N/A	
Implementation Priority	N/A	**Integration Ideas** *(Optional)*			

Mitigation Action	Conduct study into seismic adequacy of City's Corporation Yard.				
Action Number	CL-14	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 2, 6, 13, 15	**Hazard(s) Mitigated**	Earthquake	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Community Development Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted, Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Staff time	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Conduct study into seismic adequacy of the City's Library.				
Action Number	CL-15	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 2, 6, 13, 15	**Hazard(s) Mitigated**	Earthquake	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Community Development Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Staff time	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Conduct study into seismic adequacy of historic Keller House.				
Action Number	CL-16	**Year Initiated / Anticipated Year of Initiation**	2024	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 2, 6, 13, 15	**Hazard(s) Mitigated**	Earthquake	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Community Development Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Provide sandbags and plastic sheeting to property owners and tenants prior to rainstorms.				
Action Number	CL-17	**Year Initiated / Anticipated Year of Initiation**	2022	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 3	**Hazard(s) Mitigated**	Flood	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund (currently pays for sand and bags for residents, businesses in wet season)	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Encourage private business and private property owners to participate in acquisition and relocation programs for areas within floodplains as funding opportunities become available.				
Action Number	CL-18	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 3, 15, 16, 17	**Hazard(s) Mitigated**	Flood	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Long Term		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Staff time	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Continue participation in the Federal Emergency Management Agency (FEMA) National Flood Insurance Program (NFIP).				
Action Number	CL-19	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 3, 5, 6, 7, 15, 16	**Hazard(s) Mitigated**	Flood	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		N/A			
Lead Agency / Organization	City of Clayton Engineering Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Staff Time	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Conduct watershed study of runoff and drainage systems to predict areas of insufficient capacity in the storm drain and natural creek system.				
Action Number	CL-20	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 3, 5, 6, 7, 15, 16	**Hazard(s) Mitigated**	Flood	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Long Term		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program, Clayton General Fund	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Ensure storm drains and creeks are free of obstructions while retaining appropriate vegetation in the channel to allow for the free flow of water.				
Action Number	CL-21	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 6, 9, 10, 17	**Hazard(s) Mitigated**	Flood	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	N/A	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Identify funding for stream gauges along Mount Diablo Creek.				
Action Number	CL-22	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	Medium
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 6, 9, 10	**Hazard(s) Mitigated**	Flood	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund	
Implementation Priority	Medium	**Integration Ideas** *(Optional)*			

Mitigation Action	Improve drainage flow through pavement resurfacing and treatment on various streets.				
Action Number	CL-23	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 4, 5 **Objectives:** 1, 2, 10, 13	**Hazard(s) Mitigated**	Flood	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department, City of Clayton City Manager's Office		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Long Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Require new development near floodways to incorporate a buffer zone or setback from that floodway to allow for changes in stormwater flows in the watershed over time.				
Action Number	CL-24	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 4 **Objectives:** 1, 5, 7, 10, 12, 14, 17	**Hazard(s) Mitigated**	Flood	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Private development permitting and impact fees	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Clean out debris basin located in Geological Hazard Abatement District (GHAD) easement behind golf course and single-family lots. *(Source: Capital Improvement Program Project #10343)*				
Action Number	CL-25	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3 **Objectives:** 1, 10	**Hazard(s) Mitigated**	Flood	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Long Term		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program, Fees assessed to owners of property in the Geologic Hazard Abatement District (GHAD)	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Clean out creeks, improve access to creek banks, reinforce creek banks, repair adjacent trails where needed, and replace riparian vegetation. *(Source: Capital Improvement Program Project # 10370)*				
Action Number	CL-26	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 5 **Objectives:** 1, 10, 17	**Hazard(s) Mitigated**	Flood	
Project Status		In Progress/In Work	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Enhance and manage the oak/grassland savanna open space parcels Citywide. These parcels provide wildfire protection for the City by creating a low-fuel buffer zone between open space and developed neighborhoods. These parcels require management to prevent noxious and invasive plants from invading and taking over the grassland savanna. Noxious and invasive plants provide higher fuel loading and deplete the buffer protecting developed neighborhoods. *(Source: Capital Improvement Program Project #10446)*				
Action Number	CL-27	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3 **Objectives:** 1, 13, 17	**Hazard(s) Mitigated**	Wildfire	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department, City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.		
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Identify "model" properties within the community and region within the Wildland Urban Interface (WUI) area showing defensible space and structural survivability.				
Action Number	CL-28	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3 **Objectives:** 1, 3, 5, 7	**Hazard(s) Mitigated**	Wildfire	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		Medium			
Lead Agency / Organization	City of Clayton Community Development Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program, Clayton General Fund	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Continue implementation of defensible space vegetation program.				
Action Number	CL-29	**Year Initiated / Anticipated Year of Initiation**	2021	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3 **Objectives:** 1, 3, 5, 7, 17	**Hazard(s) Mitigated**	Wildfire	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Maintenance Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Long Term		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC, Other		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Install oversized sprinkler in Wildland Urban Interface (WUI) medians to assist with wildfire response.				
Action Number	CL-30	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3 **Objectives:** 1, 14	**Hazard(s) Mitigated**	Wildfire	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department (Landscape Districts)		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Clayton General Fund, Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Underground overhead utility lines. *(Source: Capital Improvement Program Project #10397)*				
Action Number	CL-31	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3 **Objectives:** 1, 12,15	**Hazard(s) Mitigated**	Wildfire	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	High	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Stabilize and/or repair large slope moving adjacent to single-family houses and streets in Eagle Peak Subdivision. *(Source: Capital Improvement Program Project #10347A)*				
Action Number	CL-32	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 3 **Objectives:** 3, 5, 12, 15	**Hazard(s) Mitigated**	Landslide	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program, Geological Hazard Abatement District (GHAD) property owner assessments	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Stabilize and/or repair small slope pop-out in the Keller Ridge Drive Area adjacent to single-family homes. *(Source: Capital Improvement Program Project #10348)*				
Action Number	CL-33	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 3 **Objectives:** 3, 5, 12, 15	**Hazard(s) Mitigated**	Landslide	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program, Geological Hazard Abatement District (GHAD) property owner assessments	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Repair landslides at Community Park that occurred above field #3 (uppermost field). *(Source: Capital Improvement Program Project # 10349)*				
Action Number	CL-34	**Year Initiated / Anticipated Year of Initiation**	2026	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 3 **Objectives:** 3, 5, 12, 15	**Hazard(s) Mitigated**	Landslide	
Project Status		Not Started	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		High			
Lead Agency / Organization	City of Clayton Engineering Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Short Term		**Estimated Cost**	Medium	
Potential Funding Source	Local Budgeted Funds, HMGP, BRIC		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	Capital Improvement Program, Geologic Hazard Abatement District (GHAD) property owner assessments	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

Mitigation Action	Actively participate in the Hazard Mitigation Plan maintenance protocols outlined in Volume 1 of the Contra Costa County Hazard Mitigation Plan.				
Action Number	CL-35	**Year Initiated / Anticipated Year of Initiation**	2024	**Prioritization Score**	High
Goal(s) / Objective(s) Addressed		**Goals:** 1, 2, 3, 4, 5 **Objectives:** 3, 8, 16	**Hazard(s) Mitigated**	Climate Change, Dam and Levee Failure, Drought, Earthquake, Flood, Landslide, Sea Level Rise, Severe Weather, Tsunami, Wildfire	
Project Status		Ongoing	If *Deleted/No Longer Needed*, provide reason.	N/A	
Benefits *(Loss Avoided)*		Low			
Lead Agency / Organization	City of Clayton Community Development Department		**Supporting Agency / Organization** *(If applicable)*	N/A	
Additional Participating Jurisdictions *(If applicable)*	N/A				
Project Duration	Ongoing		**Estimated Cost**	Low	
Potential Funding Source	Local Budgeted Funds		If *Other*, you **must** identify a funding source.	N/A	
			Please provide further detail on Potential Funding Source.	General Fund (Staff Time)	
Implementation Priority	High	**Integration Ideas** *(Optional)*			

APPENDIX A. HAZARD MAPS

The following hazards were mapped for the City of Clayton – earthquakes, floods, landslides, and wildfires.

- **Figure 1** illustrates the liquefaction susceptibility, which helps assess potential damage from earthquakes in the City.
- **Figure 2** illustrates the City of Clayton Special Flood Hazard Area (SFHZ), including each Flood Zone, and the 500-year floodplain. Flood Insurance Rate Maps (FIRMs) show the flood zones, floodplain boundaries, and Base Floor Elevation (BFE) and are used for floodplain management, flood insurance ratings, and to determine flood insurance requirements. FIRMs show areas with a 1% chance of flooding each year, commonly known as the 100-year floodplains, and are illustrated as the SFHA.[9] The 500-year floodplains show areas with a 0.2% chance of flooding each year.
- **Figure 3** illustrates landslide susceptibility in the City. Landslide susceptibility maps describe the relative likelihood of future land sliding based solely on the intrinsic properties of a location or site. There are three (3) site factors that most determine susceptibility – prior failure, rock or soil strength, and steepness of slope.[10]
- **Figure 4** illustrates the California Fire Hazard Severity Zones (FHSZ) in the State Responsibility Area (SRA) within the City.

[9] Federal Emergency Management Agency. (2017). Flood Insurance Study: Contra Costa County, California and Incorporated Areas. Retrieved from https://www.contracosta.ca.gov/DocumentCenter/View/77626/Volumes-I-V?bidId=.
[10] California Department of Conservation. (n.d.). Landslides. Retrieved from https://www.conservation.ca.gov/cgs/landslides.

Figure 1. Liquefaction Susceptibility (Earthquake)

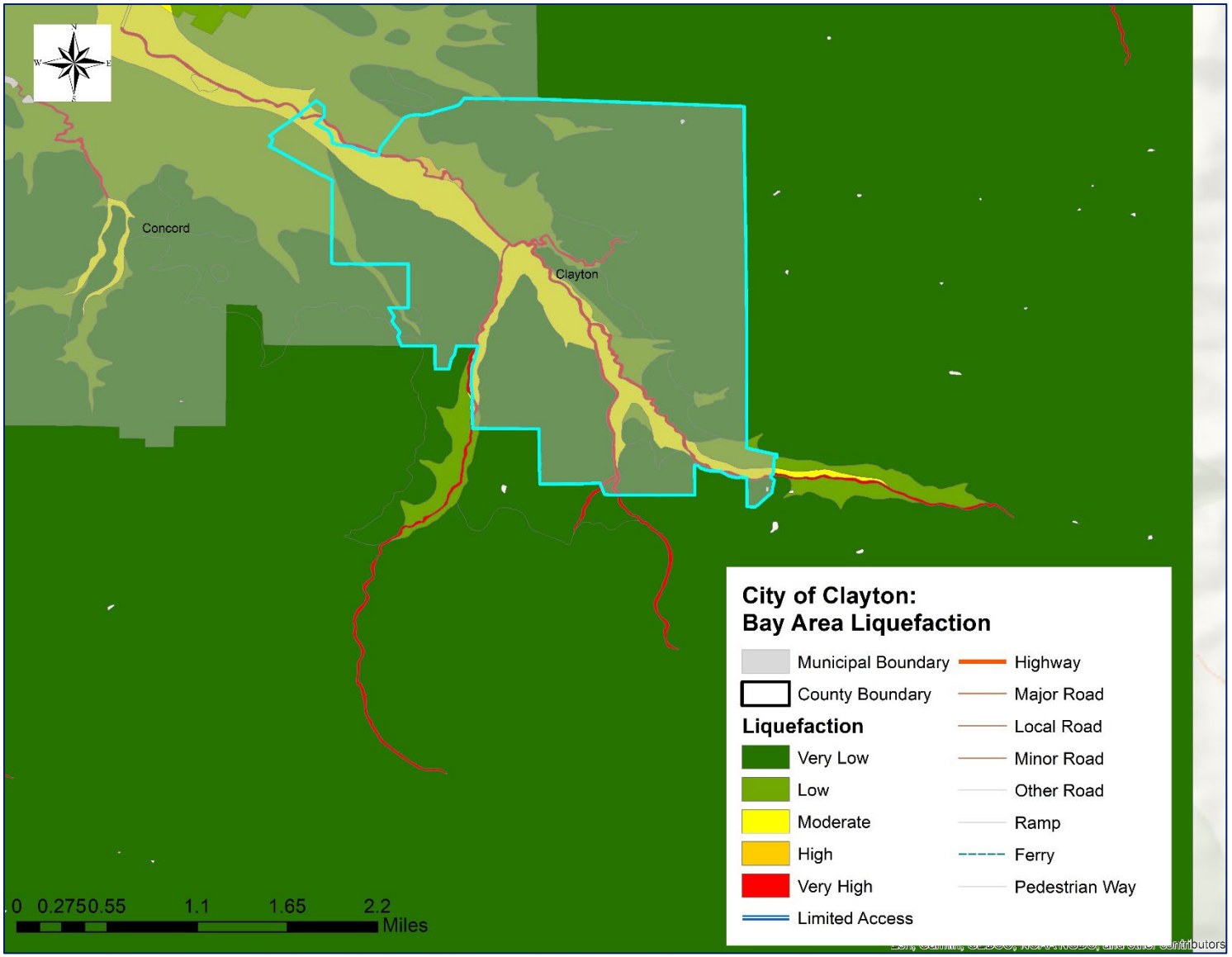


Figure 2. Special Flood Hazard Area

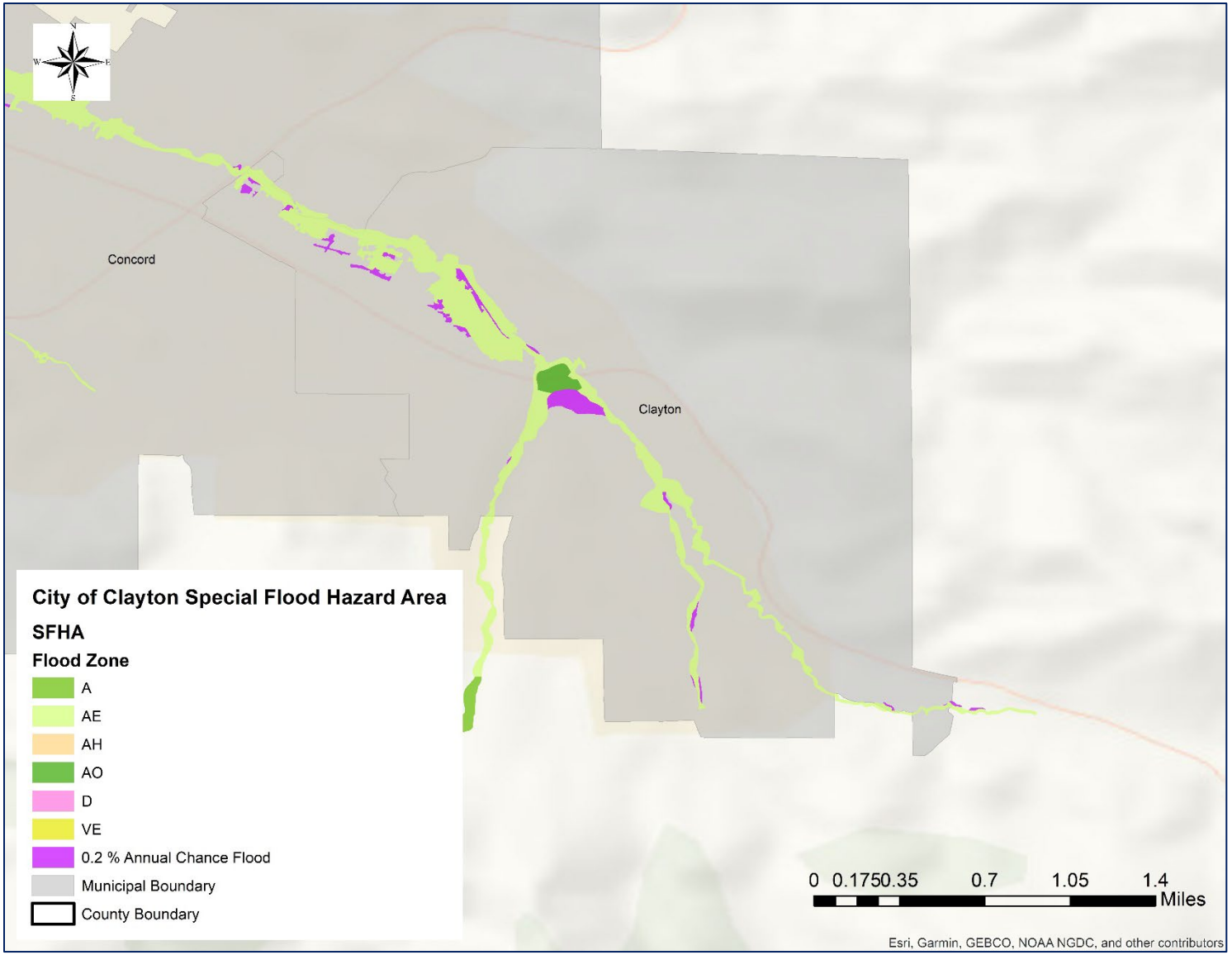


Figure 3. Landslide Susceptibility

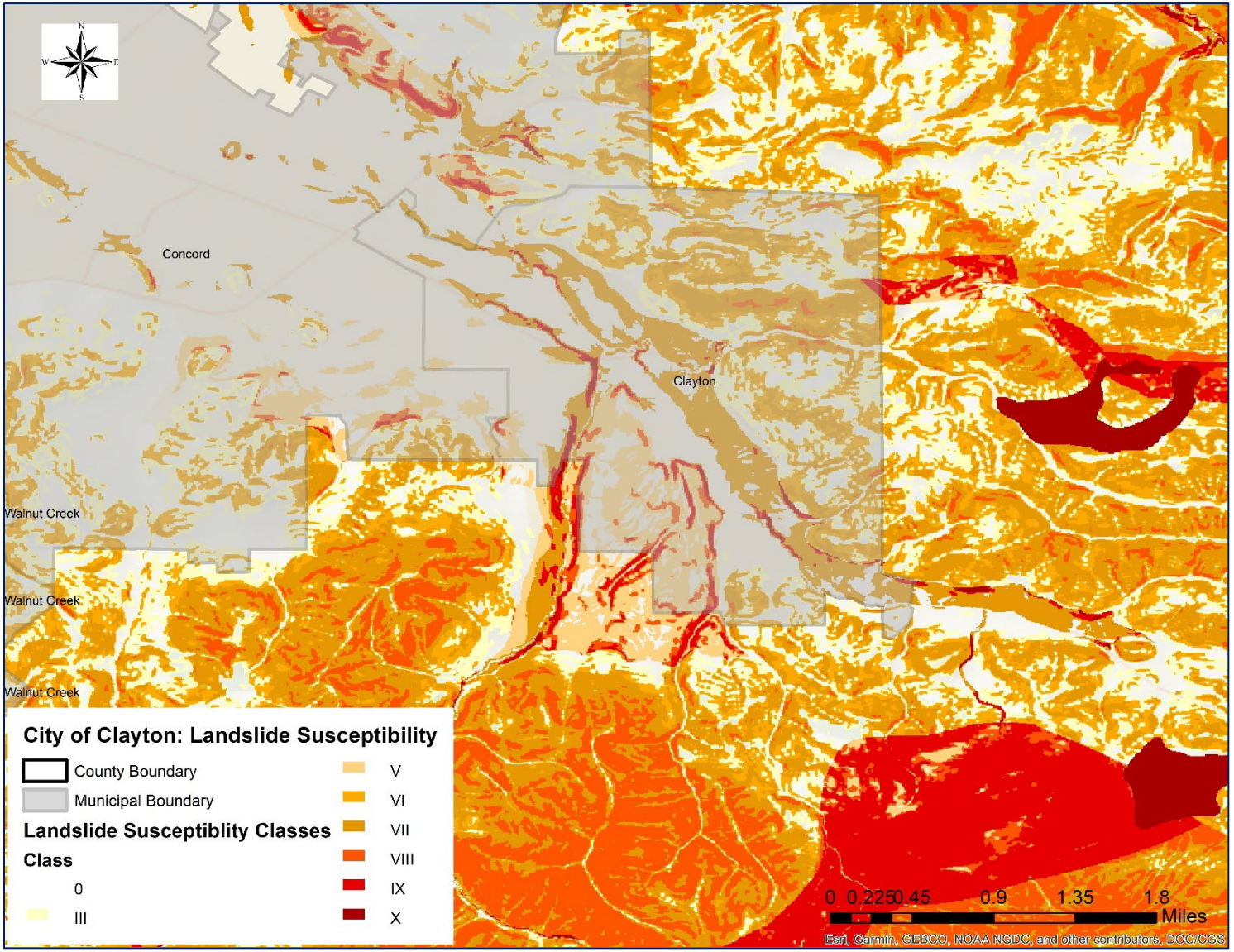
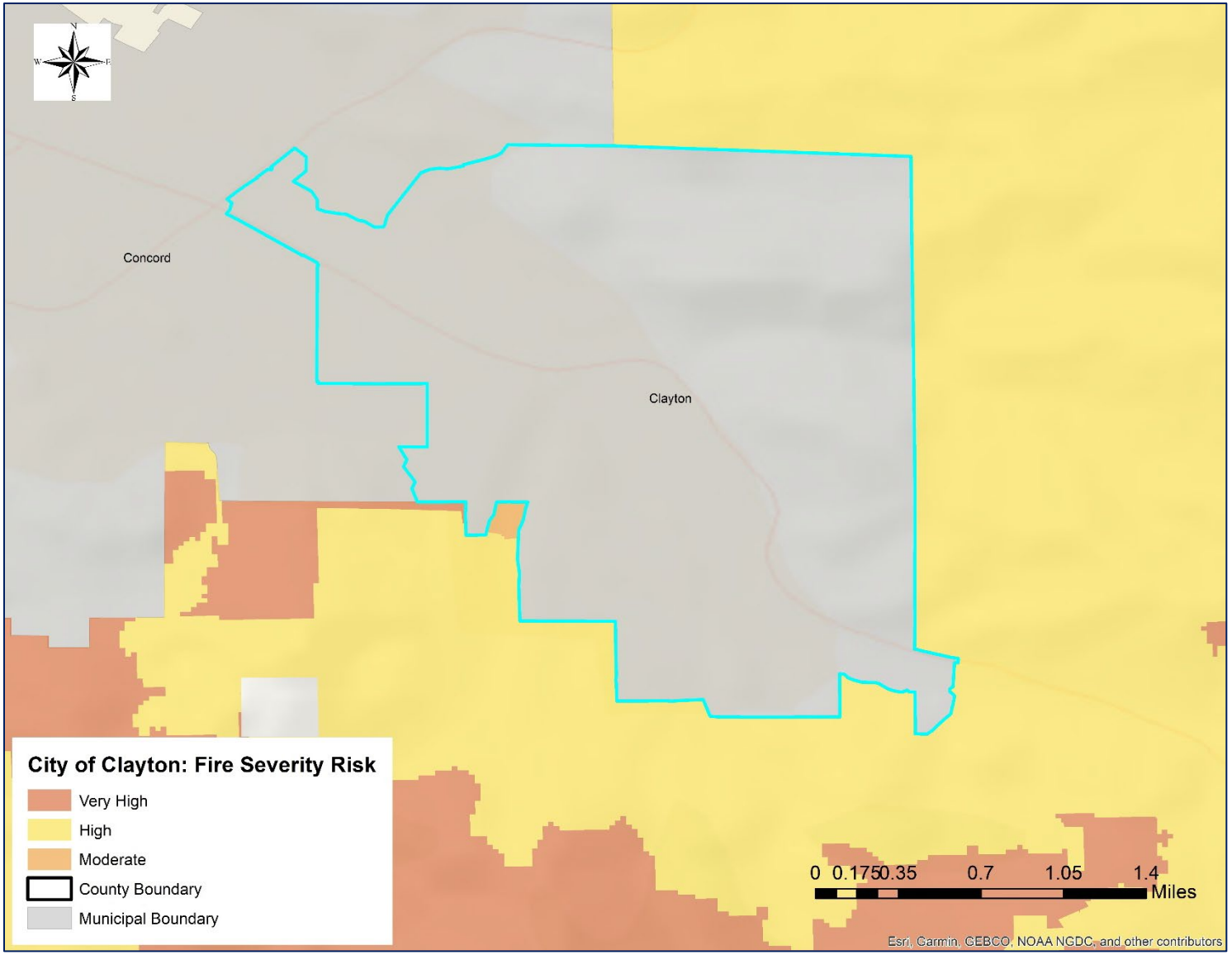


Figure 4. Fire Hazard Severity Zones



APPENDIX B. STAKEHOLDER AND PUBLIC ENGAGEMENT

The mitigation planning process promotes awareness of hazard risks and continues the conversation about the community's safety and resilience. A hazard mitigation plan generates additional community support when it accurately reflects the values and priorities of the community which will lead to successfully implementing the mitigation actions and projects identified in this Plan.

Federal regulations for mitigation plan approval require that stakeholders and the general public are given opportunities to be involved in the plan's development and update process. Input from community members can strengthen the content and outcomes of the hazard mitigation plan. Furthermore, the Plan must state continued public engagement as the Plan is carried out during its lifetime. A public outreach strategy outlines what the community intends to achieve throughout the outreach efforts. Additionally, it identifies who to involve in the process, and how and when to effectively engage the community. Contra Costa County and the City of Clayton worked together to ensure that the stakeholder and public engagement was meaningful and productive. Refer to **Volume 1 (Planning Area-wide Elements)** for further information on how stakeholders and the general public were given opportunities to be involved throughout the planning process. However, every plan participant employed a slightly tailored engagement strategy that suits the community's demographics, including the underserved population, and needs in addition to the lead jurisdiction's engagement strategy.

City of Clayton stakeholders and the public were given a number of opportunities to be involved throughout the planning process. Opportunities were provided via a public survey, in person and virtual public meetings, and public engagement activities to review the Plan draft (i.e., public comment period). The public meetings allowed the County to introduce the Plan update, identify additional hazards of concern that should be included, if any, and to provide input for the various mitigation measures intended to eliminate or reduce the negative impact to those hazards. Language translation assistance in Spanish was available in all public meetings. The public survey asked community representatives and members of the public to rate each of the hazards in terms of perceived risk. Furthermore, they were asked to rate "mitigation importance" for each of the identified hazards in the Plan. The information gathered from this survey was used to inform the hazard risk prioritization process, and to ensure the Plan adequately addressed the public's concerns and priorities. The survey was available in English, Spanish, Tagalog, Traditional Chinese, and Simplified Chinese. A total of 17 respondents that lived in the City and three (3) that worked in the City participated in the survey. Please refer to **Volume 1 (Planning Area-wide Elements)** for further information and supporting documentation of the public meetings and public survey.

How Public Input was Incorporated into the Plan

Information and feedback gained through the public survey, public meetings, and public comment period provided valuable data to validate and confirm the risk assessment findings and potential mitigation strategies. Specifically, feedback from the public offered during the public meetings offered greater insights into the public's concerns regarding specific hazards and their impacts. The public also offered specific initiatives they felt would create greater resiliency for the City and its residents.

Survey results helped validate the hazards included in the Plan, the hazard ranking process, and areas where the County and jurisdictions could further improve outreach and education efforts. Open-ended responses, specifically regarding their experience with damages from past hazards, helped to validate hazard-specific impact data in *Chapter 4 (Hazard Identification and Risk Assessment)* of **Volume 1 (Planning Area-wide Elements)**. These, and related findings, helped the County and City Core Planning Team determine meaningful mitigation projects.

After the public comment period ended, no public feedback was received for the City of Clayton Annex. However, in order to keep the Plan current after it is approved, the City will ensure that the public continues to be involved in the Plan and how it is carried out. Refer to Section B.2 of this Annex for further details on continued public engagement.

B.1. Public Comment Period

Once the draft Plan was completed, the public was given an opportunity to review and provide comments on the County Hazard Mitigation Plan, including the City of Clayton's Annex, prior to submitting the Plan to the State and FEMA. The countywide public comment period began on April 22, 2024, and went on through May 31, 2024. Prior to the public comment period, the Contra Costa County Core Planning Team conducted a strategy meeting with all plan participants (i.e., City of Clayton) that served as a brainstorming session and helped determine the public outreach goals and proper outreach methods for the public comment period. Subsequently, the City of Clayton Core Planning Team developed a public outreach strategy that meets the City's unique needs of the community to engage stakeholders and the public during the public comment period. The City ensured equitable outreach by targeting Contra Costa County's vulnerable communities, including the younger (under 18 years old) and elderly (over 65 years old) population, individuals with limited English proficiency, and those with access and functional needs.

The City of Clayton Local Planning Team coordinated with its stakeholders to ensure that the public had an opportunity to learn about the Plan, mitigation actions planned for their community, and ways to get involved in the planning process. Outreach to the Clayton community involved a combination of in person, printed, and digital media starting on April 20, 2024, through the end of the public comment period on May 31, 2024. To ensure equitable outreach a calendar was created to strategize and map all events.

Public Comment Outreach Calendar

April 2024		
Date	**Saturday, April 20th**	**Saturday, April 27th Sunday, April 28th**
Event Name	Annual Clayton Cleans Up Event	Clayton Business and Community Association Art & Wine Festival
Location	Clayton City Hall 6000 Heritage Trail Martinez, CA 94517	Clayton Town Center
Outreach Method	Community Event	Community Event
Outreach Purpose	Inform	Inform
Targeted Population	Age (Elderly and Younger), Community Service groups	Countywide, Age (Elderly), Local business owners and patrons
Accommodations Provided	Weekend Event, Spanish outreach available	Weekend Event, Spanish outreach available

May 2024	
Date	**Tuesday, May 7th**
Event Name	Clayton City Council Presentation
Location	Hoyer Hall, Clayton Community Library 6125 Clayton Road Clayton, CA 94517
Outreach Method	Presenting to Governing Body
Outreach Purpose	Inform
Targeted Population	Citywide
Accommodations Provided	Virtual Option, After Hours

April 20, 2024 – Annual Clayton Cleans Up Event

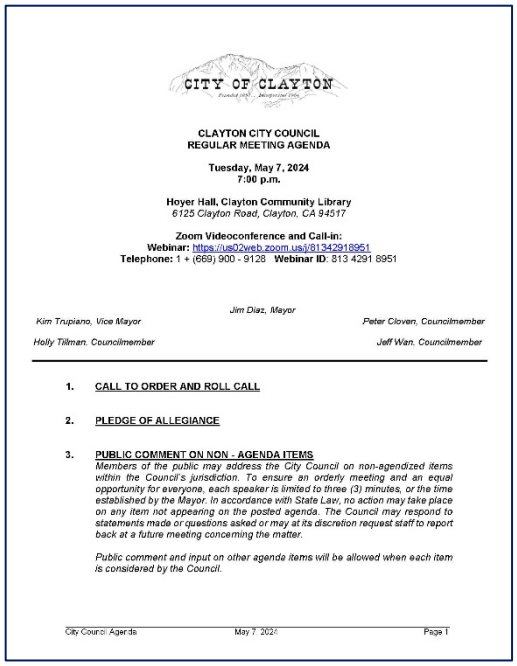
The Annual Clayton Cleans Up Event is a local day of volunteerism open to the public on Saturday. City staff hosted a table to share information on the Contra Costa County Hazard Mitigation Plan, including the City's Annex, opportunities to review and provide feedback on the Plan, and the community's local hazards. Information was available in English and Spanish.

April 27, 2024 and April 28, 2024 – Clayton Business and Community Association Art & Wine Festival

The Art & Wine Festival was open to the public on Saturday and Sunday. Printed handouts were available in English and Spanish at the Contra Costa Clean Water Program table during the two (2) day event. The event is regional; therefore, the event reached several thousand attendees.

May 7, 2024 – City Council Meeting

The City Council Meeting was held in person with a virtual option, after hours (7:00 PM) on a weekday. The City's Community Development Director conducted a presentation on the Contra Costa County Hazard Mitigation Plan, including the City of Clayton's Annex, and gave options to review and provide feedback on the Plan. Virtual attendees were able to access the Plan via a QR Code that was provided in the presentation and handouts were available to those attending the meeting in person. All City Council meetings are open to the general public. Below are portions of the agenda and presentation; however, the entire agenda packet with slide deck can be found via the following link: https://claytonca.gov/fc/agendas/council/2024/050724.pdf.



CITY OF CLAYTON

CLAYTON CITY COUNCIL
REGULAR MEETING AGENDA

Tuesday, May 7, 2024
7:00 p.m.

Hoyer Hall, Clayton Community Library
6125 Clayton Road, Clayton, CA 94517

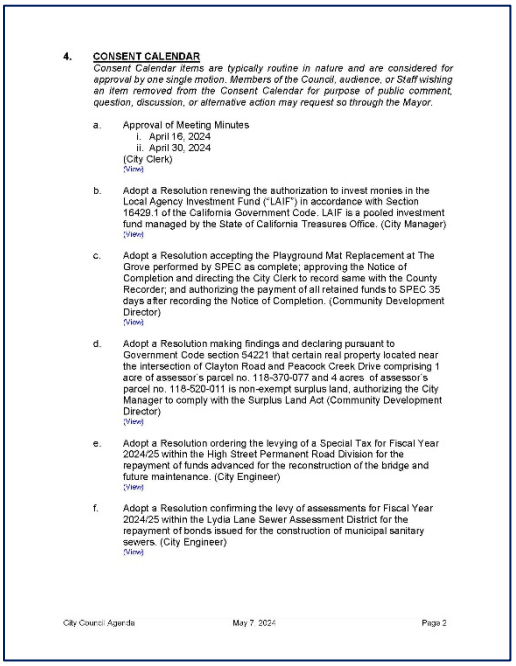
Zoom Videoconference and Call-in:
Webinar: https://us02web.zoom.us/j/81342918951
Telephone: 1 + (669) 900 - 9128 **Webinar ID:** 813 4291 8951

Jim Diaz, Mayor
Kim Trupiano, Vice Mayor — *Peter Cloven, Councilmember*
Holly Tillman, Councilmember — *Jeff Wan, Councilmember*

1. **CALL TO ORDER AND ROLL CALL**
2. **PLEDGE OF ALLEGIANCE**
3. **PUBLIC COMMENT ON NON - AGENDA ITEMS**
Members of the public may address the City Council on non-agendized items within the Council's jurisdiction. To ensure an orderly meeting and an equal opportunity for everyone, each speaker is limited to three (3) minutes, or the time established by the Mayor. In accordance with State Law, no action may take place on any item not appearing on the posted agenda. The Council may respond to statements made or questions asked or may at its discretion request staff to report back at a future meeting concerning the matter.

Public comment and input on other agenda items will be allowed when each item is considered by the Council.

City Council Agenda — May 7, 2024 — Page 1



4. **CONSENT CALENDAR**
Consent Calendar items are typically routine in nature and are considered for approval by one single motion. Members of the Council, audience, or Staff wishing an item removed from the Consent Calendar for purpose of public comment, question, discussion, or alternative action may request so through the Mayor.

a. Approval of Meeting Minutes
   i. April 16, 2024
   ii. April 30, 2024
(City Clerk)
[View]

b. Adopt a Resolution renewing the authorization to invest monies in the Local Agency Investment Fund ("LAIF") in accordance with Section 16429.1 of the California Government Code. LAIF is a pooled investment fund managed by the State of California Treasures Office. (City Manager)
[View]

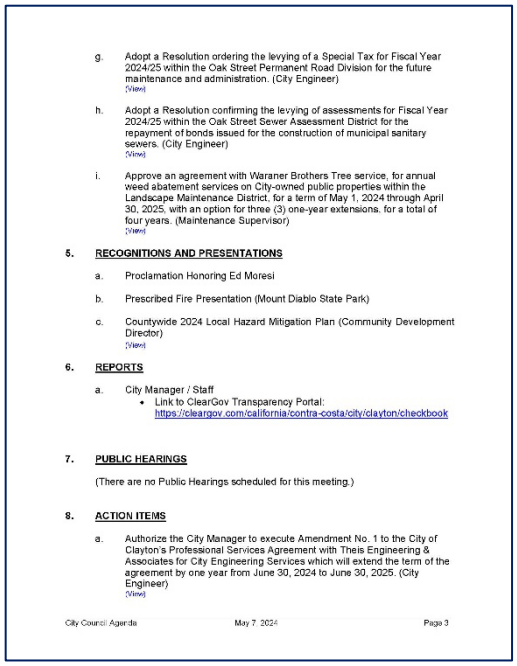
c. Adopt a Resolution accepting the Playground Mat Replacement at The Grove performed by SPEC as complete; approving the Notice of Completion and directing the City Clerk to record same with the County Recorder; and authorizing the payment of all retained funds to SPEC 35 days after recording the Notice of Completion. (Community Development Director)
[View]

d. Adopt a Resolution making findings and declaring pursuant to Government Code section 54221 that certain real property located near the intersection of Clayton Road and Peacock Creek Drive comprising 1 acre of assessor's parcel no. 118-370-077 and 4 acres of assessor's parcel no. 118-520-011 is non-exempt surplus land, authorizing the City Manager to comply with the Surplus Land Act (Community Development Director)
[View]

e. Adopt a Resolution ordering the levying of a Special Tax for Fiscal Year 2024/25 within the High Street Permanent Road Division for the repayment of funds advanced for the reconstruction of the bridge and future maintenance. (City Engineer)
[View]

f. Adopt a Resolution confirming the levy of assessments for Fiscal Year 2024/25 within the Lydia Lane Sewer Assessment District for the repayment of bonds issued for the construction of municipal sanitary sewers. (City Engineer)
[View]

City Council Agenda — May 7, 2024 — Page 2



g. Adopt a Resolution ordering the levying of a Special Tax for Fiscal Year 2024/25 within the Oak Street Permanent Road Division for the future maintenance and administration. (City Engineer)
[View]

h. Adopt a Resolution confirming the levying of assessments for Fiscal Year 2024/25 within the Oak Street Sewer Assessment District for the repayment of bonds issued for the construction of municipal sanitary sewers. (City Engineer)
[View]

i. Approve an agreement with Waraner Brothers Tree service, for annual weed abatement services on City-owned public properties within the Landscape Maintenance District, for a term of May 1, 2024 through April 30, 2025, with an option for three (3) one-year extensions, for a total of four years. (Maintenance Supervisor)
[View]

5. **RECOGNITIONS AND PRESENTATIONS**

a. Proclamation Honoring Ed Moresi

b. Prescribed Fire Presentation (Mount Diablo State Park)

c. Countywide 2024 Local Hazard Mitigation Plan (Community Development Director)
[View]

6. **REPORTS**

a. City Manager / Staff
   - Link to ClearGov Transparency Portal: https://cleargov.com/california/contra-costa/city/clayton/checkbook

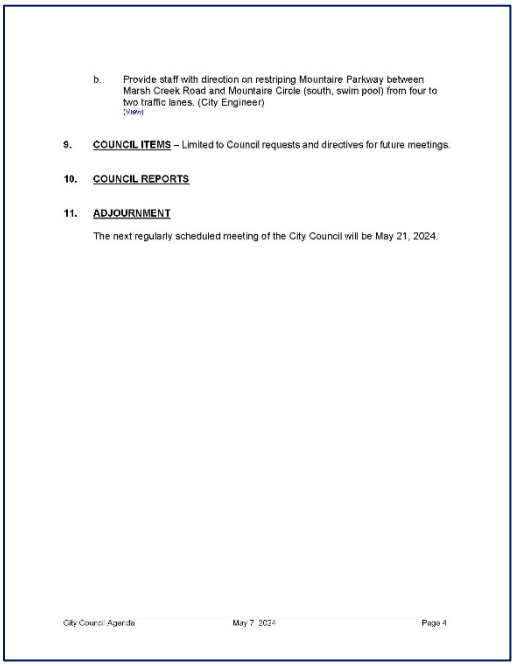
7. **PUBLIC HEARINGS**

(There are no Public Hearings scheduled for this meeting.)

8. **ACTION ITEMS**

a. Authorize the City Manager to execute Amendment No. 1 to the City of Clayton's Professional Services Agreement with Theis Engineering & Associates for City Engineering Services which will extend the term of the agreement by one year from June 30, 2024 to June 30, 2025. (City Engineer)
[View]

City Council Agenda — May 7, 2024 — Page 3



b. Provide staff with direction on restriping Mountaire Parkway between Marsh Creek Road and Mountaire Circle (south, swim pool) from four to two traffic lanes. (City Engineer)
[View]

9. **COUNCIL ITEMS** – Limited to Council requests and directives for future meetings.

10. **COUNCIL REPORTS**

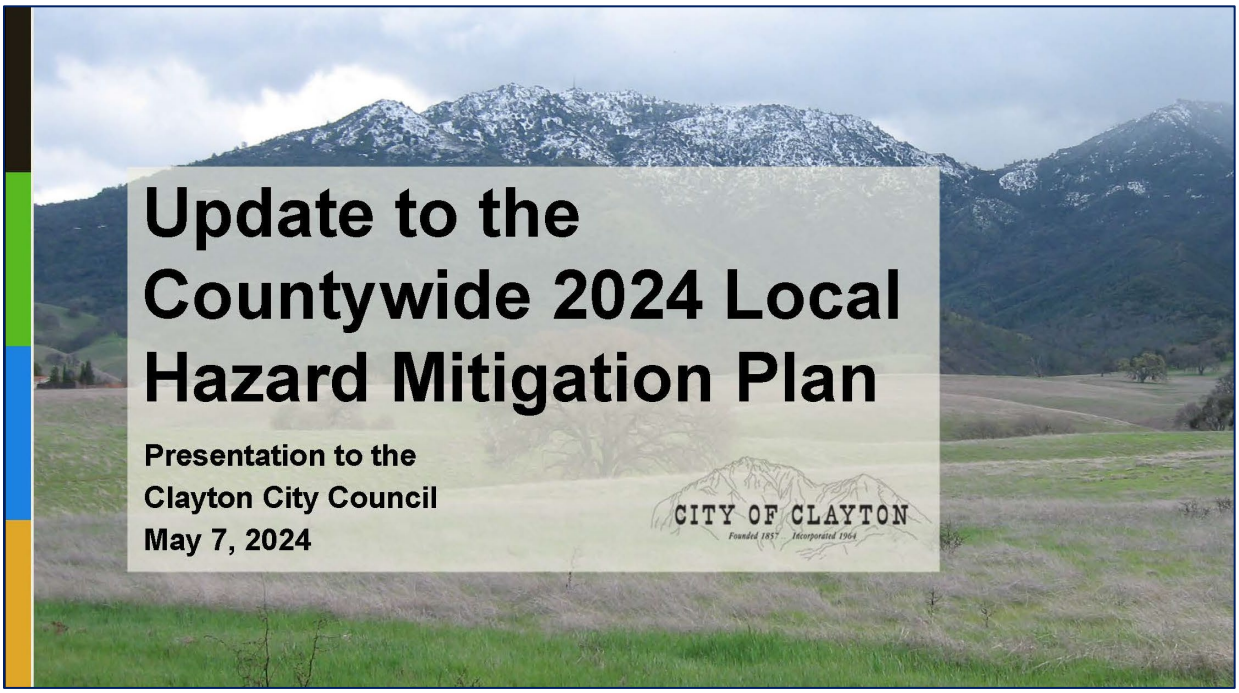
11. **ADJOURNMENT**

The next regularly scheduled meeting of the City Council will be May 21, 2024.

City Council Agenda — May 7, 2024 — Page 4


City Council Meeting 05-07-24
5/7/24
15:08 / 2:47:22
1. CALL TO ORDER AND ROLL CALL


City Council Meeting 05-07-24
5/7/24
Update to the Countywide 2024 Local Hazard Mitigation Plan
Presentation to the Clayton City Council
May 7, 2024
16:14 / 2:47:22
1. CALL TO ORDER AND ROLL CALL


Update to the Countywide 2024 Local Hazard Mitigation Plan
Presentation to the
Clayton City Council
May 7, 2024
CITY OF CLAYTON
Founded 1857 Incorporated 1964


Presentation Overview
Part 1: Plan Overview
Part 2: County Hazards
Part 3: How to Prepare
Part 4: Get Involved
CITY OF CLAYTON
Founded 1857 Incorporated 1964

CITY OF CLAYTON
Founded 1857 Incorporated 1964

Get Involved in the Planning Process

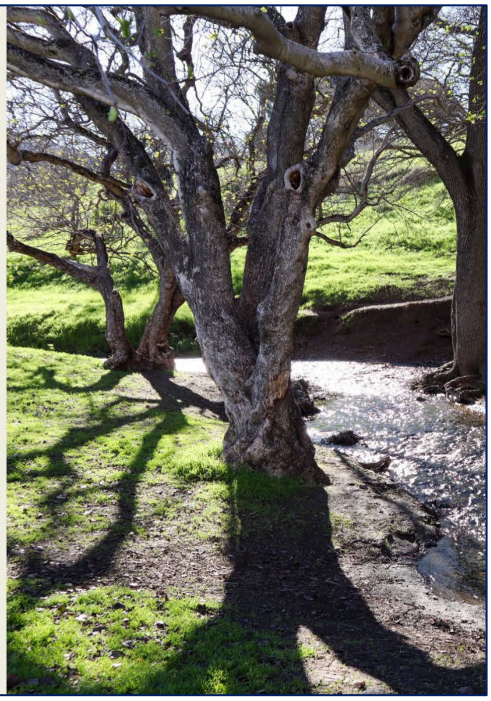
Read the plan!

Comment!

Share what you learned!

SCAN ME

Check the County Website at https://www.contracosta.ca.gov/6415/Local-Hazard-Mitigation-Plan for more information.

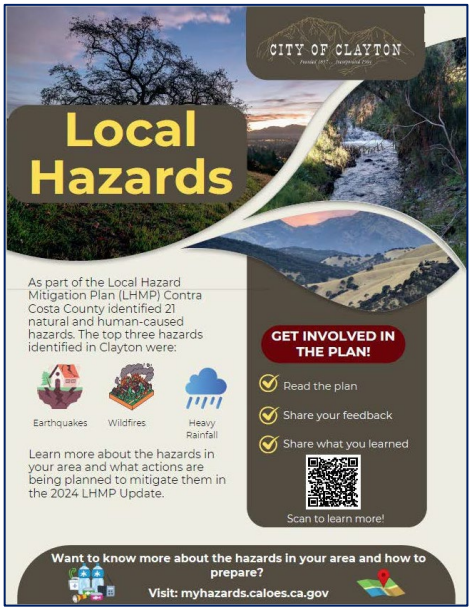


Printed Materials

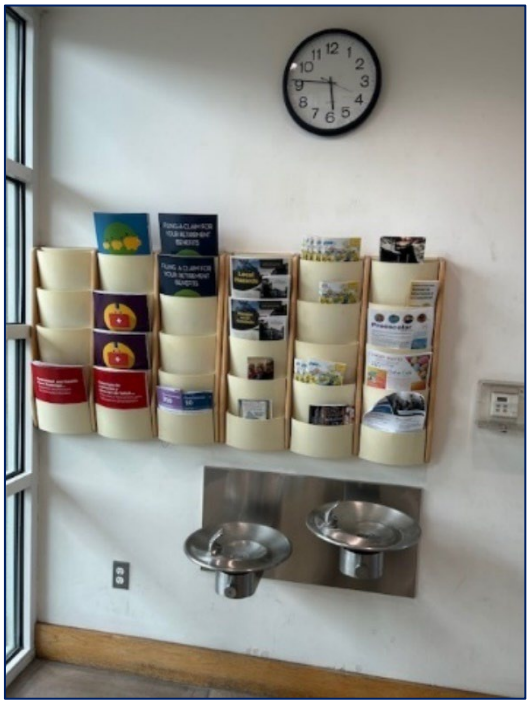
Two (2) different types of materials were created specifically for the public comment period. The trifold (**Figure B-1**) contains information on the planning process, the top three (3) hazards in the County, ways to prepare, and ways to get involved in the planning process. A full-page flyer (**Figure B-2**) was created with information on the planning process, ways to get involved, and ways to prepare. Both the trifold and full-page flyer were distributed in English and Spanish at public meetings and outreach events. Printed materials are especially helpful to communities with limited English proficiency as the materials include a visual component.

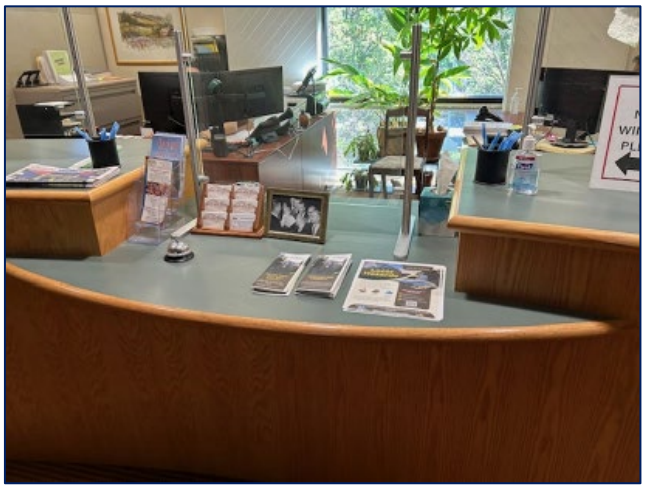
Figure B-1 Trifold (English and Spanish)

Figure B-2 Local Hazard Flyer (English and Spanish)



Throughout the month of May, flyers and trifold informational handouts in English and Spanish were posted on three (3) community noticing boards in City Hall, the Clayton Community Library and Hoyer Hall (community room), and Ohm's Board in Clayton Town Center (downtown). Additionally, the printed materials were placed inside the lobby of the Library and community room, the Police Department and Community Development Department permit/facility rental counters at City Hall, and, to staff and residents of the Diamond Terrace Assisted Living Facility.

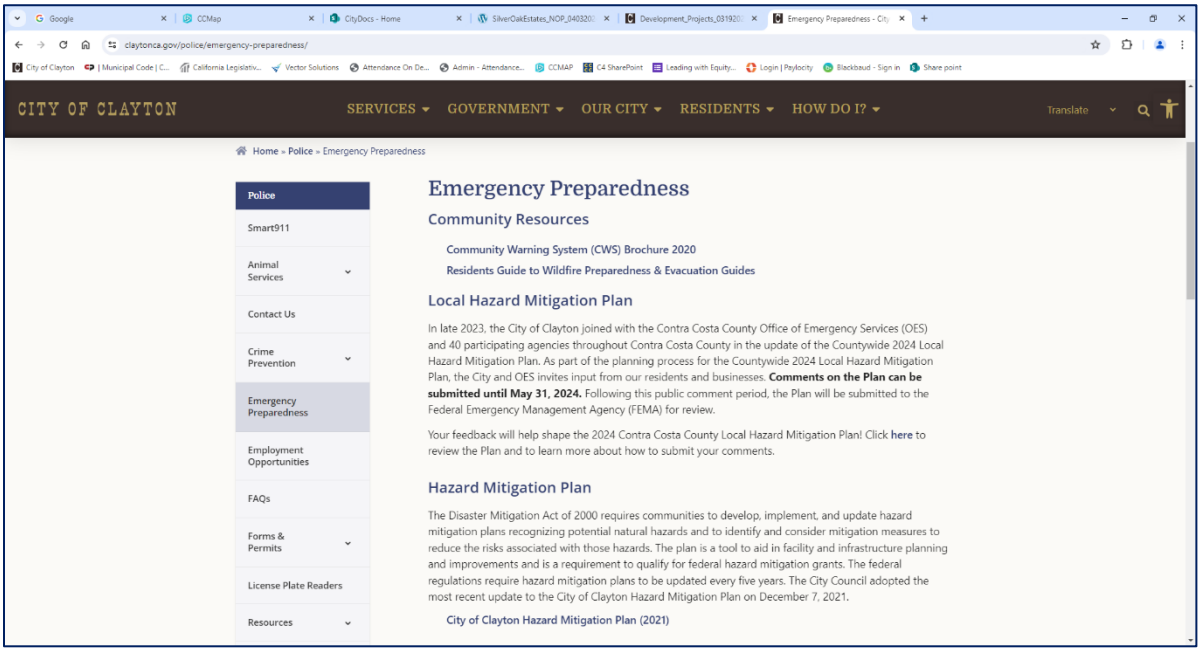


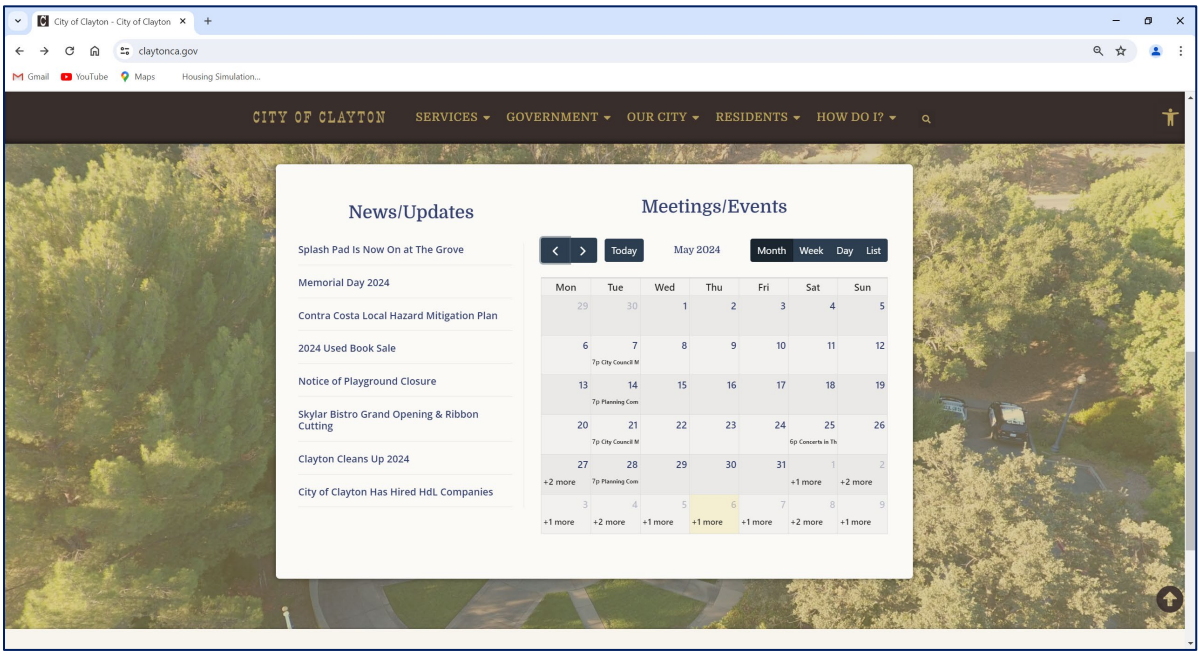



CLAYTON
EST. 1857
POLICE
FREE
GUNLOCKS

City Website

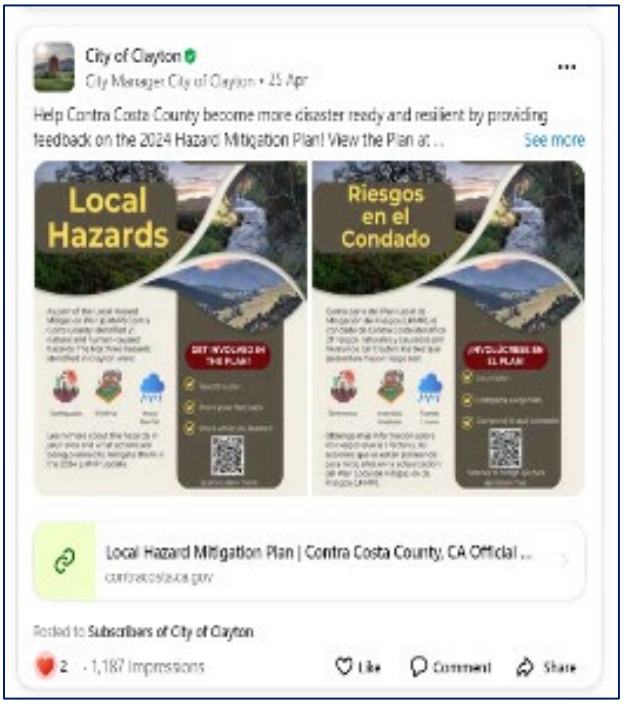
Announcements providing opportunity to comment on the Contra Costa County Hazard Mitigation Plan and the City's Annex were posted, in English and Spanish, under the City News section of the City homepage and the Clayton Police Department/Emergency Preparedness webpage starting on April 24, 2024. The website served as a central place which allowed all residents, stakeholders, and partners in the City of Clayton to review and provide feedback on the County's Hazard Mitigation Plan and the City's Annex, and thus promoted more public comment.





Social Media Posts

Public comment period announcements were disseminated through the City's Facebook and Nextdoor on April 25, 2024, and May 27, 2024. Membership between the two (2) social media pages exceeds 7,500 consisting of residents and local business owners.



Stakeholder Engagement

Due to the size of the Plan (the Base Plan and 40 annexes), some stakeholders would receive the same invitation a significant amount of times. For a more productive outreach and to avoid overwhelming stakeholders, Contra Costa County sent a single invitation to all the countywide stakeholders via e-mail. However, each plan participant was required to cross-reference the countywide list and identify the stakeholders that applied specifically to their jurisdiction. Not only did this help ensure that a comprehensive list was compiled as part of the stakeholder engagement, but it assisted each plan participant identify any additional stakeholders that may have not been on the list. **Table 27** outlines the stakeholders the City of Clayton identified and provided an opportunity to review and provide feedback on the draft Plan and Annex, via the countywide stakeholders e-mail.

Table 27. City of Clayton Specific Stakeholders List

Local and Regional Agencies	
Cal OES	Contra Costa County Library
CalFire	Contra Costa County Mosquito and Vector Control District
California Department of Social Services	Contra Costa County Office of Communication and Media
California Highway Patrol	Contra Costa County Office of the Sheriff
Contra Costa County Administrator's Office	Contra Costa Water District
Contra Costa County Animal Services Department	East Bay Regional Park District
Contra Costa County Department of Information Technology	National Weather Service
Contra Costa County Department of Public Works	Tri Delta Transit
Contra Costa County Health Services	
Agencies that have the Authority to Regulate Development	
Contra Costa County Department of Conservation Development	Contra Costa Local Agency Formation Commission
Neighboring Communities	
City of Concord	
Nonprofit Organizations	
American Red Cross	Independent Living Resources – Solano and Contra Costa Counties
Contra Costa County Crisis Center - 211	
Businesses, Academia, and Other Private Organizations	
County Connection Transportation and Link Paratransit Services	Pacific Gas & Electric
Food Bank of Contra Costa and Solano	

Refer to **Volume 1 (Planning Area-wide Elements)** for a full list of the countywide stakeholders.

B.2. Continued Public Engagement

To ensure continued public engagement, Contra Costa County and the City of Clayton will ensure the Plan is available in the County's Hazard Mitigation Plan webpage after it has been approved to allow the public an opportunity to provide continual feedback and input. As future needs and concerns arise, or if the public would like to provide feedback regarding the latest version of the Plan and the City's Annex, the public is invited to use the comment form, which is provided on the website, to provide comments.

County Hazard Mitigation Webpage: contracosta.ca.gov/6415/Local-Hazard-Mitigation-Plan

Comment Form: survey.alchemer.com/s3/7792090/CommentFormContraCostaCountyHMP

The City of Clayton will continue to work with Contra Costa County and stakeholders to ensure that the public has an opportunity to learn about the Plan, mitigation actions planned for their communities, and ways to get involved. Hazard mitigation will be a part of the City's community outreach strategy to include, but not limited to, public meetings, community events, social media, and public surveys throughout the year. Furthermore, the City of Clayton will continue to ensure equitable outreach by working with other departments, non-profits, and agencies that work with underserved communities throughout the County.

APPENDIX C. HAZARD RISK ASSESSMENT METHODOLOGY

As part of the Contra Costa County Office of Emergency Services (OES), the risk assessment identifies the natural, human-caused, and technological hazards that have potential impacts on all or portions of the County. Hazard identification, historical occurrences, and risk modeling (where applicable and available for specific hazards) information was collected from multiple sources including, but not limited to:

- Environmental Systems Research Institute (Esri)
- Federal Emergency Management Agency (FEMA)
- National Centers for Environmental Information (NCEI)
- National Weather Services (NWS)
- United States Geological Survey (USGS)
- Local repositories

This information was analyzed to assess the risk and vulnerability of people, property, the environment, and the jurisdiction's essential operations from these hazards. Furthermore, a risk ranking was performed for the hazards of concern described in this Plan. The risk ranking is an important step in developing an action plan, as it allows jurisdictions to compare the risk factors from one hazard to another. That comparison provides critical information to use in selecting hazard mitigation actions and their priorities. This process is not only intended to help focus actions on the hazards with the highest ranking, but also to ensure that jurisdictions are aware of the hazards that ranked low yet still pose significant risk.

In order to provide an informed and comprehensive ranking of the hazards addressed in this Plan, a number of factors were considered: probability, extent, vulnerability, and impact. The sum of all the weighted factors for the extent, vulnerability, and impact categories was combined into a final consequence score. Probability multiplied by consequence resulted in a total risk score for each hazard.

Extent + Vulnerability + Impact = Consequence

Consequence x Probability = Total Risk Score

These results were determined by following a data driven quantitative assessment, reviewing, and ranking local knowledge from local subject matter experts, and developing other risk elements by the Core Planning Team based on the data collected. These elements were then aggregated to inform the analysis.

At the fundamental level, consequence is an assessment of the potential impact(s) if the hazard incident actually occurs. In this assessment, the consequence of an event (or the impact) will be interdependent on the following factors:

- Vulnerabilities (i.e., social, physical, and community conditions)
- Capabilities and capacities
- Mitigation

- Characteristics of the hazard event (i.e., magnitude, scale)

The frequency/probability of the hazard is not included in assessing the consequence because without the event, there is no consequence or impact.

C.1. Probability of Occurrence

The probability of occurrence of a hazard is indicated by a probability factor based on the likelihood of annual occurrence. Numerical probability factors were assigned as follows.

Table 28 outlines the probability of occurrence factors used in the risk assessment calculations for this Plan. A significant hazard event is defined as any hazard occurrence that directly or indirectly damages structures or infrastructure, impedes normal business operations, and/or is likely to cause serious or fatal injuries.

Table 28. Probability of Occurrence

Probability	Description	Probability Factor
High	Significant hazard event is likely to occur annually.	3
Medium	Significant hazard event is likely to occur within 25 years.	2
Low	Significant hazard event is likely to occur within 100 years.	1
Unlikely	There is little to no probability of significant occurrence, or the recurrence interval is greater than every 100 years.	0

The assessment of hazard frequency is generally based on past hazard events in the area and professional judgment of local subject matter experts.

C.2. Extent Factors

Extent was assessed in two (2) categories – extent/intensity potential and catastrophic probability of the hazard. Numerical extent factors were assigned as follows.

C.2.1. Extent/Intensity Factor

Extent is defined as the range of anticipated intensities of the identified hazards. This category is most commonly expressed using various scientific scales (e.g., Saffir-Simpson, Enhanced Fujita, Modified Mercalli). Extent/Intensity Factors are hazard-specific and are detailed in each hazard profile. **Table 29** outlines the extent/intensity factors used in the risk assessment calculations for this Plan.

Table 29. Extent/Intensity Factor

Probability	Description	Extent Factor
High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3
Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2
Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1
Unlikely	Historical and/or probabilistic models/studies for this hazard indicate the possibility of little to no intensity.	0

C.2.2. Catastrophic Factor

The probability that a hazard could be catastrophic. Catastrophes are defined as significant incidents that cause sudden and great harm or destruction. **Table 30** outlines the catastrophic factors used in the risk assessment calculations for this Plan.

Table 30. Catastrophic Factor

Probability	Description	Extent Factor
High	Catastrophic hazard event is likely to occur at least once in 10 years.	3
Medium	Catastrophic hazard event is likely to occur at least once between 11 and 50 years.	2
Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1
No Impact	Virtually no probability that this hazard could be catastrophic.	0

Each category was assigned a weighting factor to reflect its significance, consistent with this typically used for measuring the benefits of hazard mitigation actions – a weighting factor of three (3) was assigned for *Extent/Intensity* and its potential for *Catastrophe*.

C.3. Vulnerability Factors

Vulnerabilities were assessed in three (3) categories – population exposure, property exposure, and exposure based on changes in development. Numerical vulnerability factors were assigned as follows.

C.3.1. Population Exposure Factor

Population exposure values were assigned based on the percentage of the total population exposed to the hazard event. **Table 31** outlines the population exposure factors used in the risk assessment calculations for this Plan.

Table 31. Population Exposure Factor

Probability	Description	Vulnerability Factor
High	30% or more of the population is exposed to the hazard.	3
Medium	15% to 29% of the population is exposed to the hazard.	2
Low	14% or less of the population is exposed to the hazard.	1
No Vulnerability	None of the population is exposed to the hazard.	0

C.3.2. Property Exposure Factor

Property exposure values were assigned based on the percentage of the total property value exposed to the hazard event. **Table 32** outlines the property exposure factors used in the risk assessment calculations for this Plan.

Table 32. Property Exposure Factor

Probability	Description	Vulnerability Factor
High	25% or more of the total assessed property value is exposed to the hazard.	3
Medium	10% to 24% of the total assessed property value is exposed to a hazard.	2
Low	9% or less of the total assessed property value is exposed to a hazard.	1
No Vulnerability	None of the total assessed property value is exposed to a hazard.	0

C.3.3. Changes in Development

Changes in development in the past five (5) years have increased or decreased the community's vulnerability/exposure to the hazard. **Table 33** outlines the changes in development factors used in the risk assessment calculations for this Plan.

Table 33. Changes in Development Factor

Probability	Description	Vulnerability Factor
High	Changes in development have increased the vulnerability/exposure of the community to the hazard by 10% or more.	3
Medium	Changes in development have increased the vulnerability/exposure of the community to the hazard between 5% and 9%.	2
Low	Changes in development have increased the vulnerability/exposure of the community to the hazard by 4% or less.	1
No Vulnerability	Changes in development had no effect and/or have decreased the vulnerability/exposure of the community to the hazard.	0

Each category was assigned a weighting factor to reflect the significance, consistent with those typically used for measuring the benefits of hazard mitigation actions – a weighting factor of three (3) was assigned for *Population Exposure*, and a weighting factor of one (1) was assigned for *Property Exposed* and *Changes in Development*.

C.4. Impact Factors

Hazard impacts were assessed in eight (8) categories – population and life/safety, underserved/equity, property damages, economic, environmental, essential operations, future development, and climate change. Numerical impact factors were assigned as follows.

C.4.1. Population and Life Safety Factor

Population and life safety values were assigned based on the best available data (historical and probabilistic) for people vulnerable to the hazard event and whether the affected population is likely to experience adverse impacts from the hazard incident. **Table 34** outlines the population and life safety factors used in the risk assessment calculations for this Plan.

Table 34. Population and Life Safety Factor

Probability	Description	Impact Factor
High	Populations exposed to this hazard are likely to experience significant adverse impacts, such as fatalities and severe injuries.	3
Medium	Populations exposed to this hazard are likely to experience some adverse impacts, such as injuries requiring acute medical care.	2
Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1
No Impact	Populations exposed to this hazard are not likely to experience significant adverse impacts.	0

C.4.2. Underserved/Equity Factor

Underserved/equity values were assigned based on the best available data for underserved populations vulnerable to the hazard event and whether the affected population is likely to experience adverse/disproportionate impacts from the hazard incident resulting in greater disparity in equity. **Table 35** outlines the underserved/equity factors used in the risk assessment calculations for this Plan.

Table 35. Underserved/Equity Factor

Probability	Description	Impact Factor
High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3
Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2
Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1
No Impact	Underserved populations exposed to the hazard are not likely to experience significant adverse/disproportionate impacts.	0

C.4.3. Property Damage Factor

Property damage values were assigned based on the expected total property damage incurred from a hazard incident. It is important to note that values represent estimates of the loss from a major incident based on historical data or probabilistic models/studies. **Table 36** outlines the property damage factors used in the risk assessment calculations for this Plan.

Table 36. Property Damage Factor

Probability	Description	Impact Factor
High	More than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3
Medium	More than $500,000 but less than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2

Probability	Description	Impact Factor
Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1
No Impact	Little to no property damage is expected from a single major hazard event.	0

C.4.4. Economic Factor

An estimation of the impact, expressed in terms of dollars, on the local economy is based on a loss of business revenue, crops, worker wages, and local tax revenues or on the impact on the local gross domestic product (GDP). **Table 37** outlines the economic factors used in the risk assessment calculations for this Plan.

Table 37. Economic Factor

Probability	Description	Impact Factor
High	Where the total economic impact is likely to be greater than $10 Million.	3
Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2
Low	Total economic impact is not likely to be greater than $100,000.	1
No Impact	Virtually no significant economic impact.	0

C.4.5. Environmental Factor

An estimate of the environmental impact from a major hazard event requiring outside resources and support; and/or repair, clean-up, restoration, and/or preservation work. **Table 38** outlines the environmental factors used in the risk assessment calculations for this Plan.

Table 38. Environmental Factor

Probability	Description	Impact Factor
High	Environmental impact from a single major hazard event is likely to be significant, requiring extensive outside resources and support; and/or repair, clean-up, restoration, and/or preservation work.	3
Medium	Environmental impact from a single major hazard event is likely to be localized, requiring some outside resources and support; and/or repair, clean-up, restoration, or preservation work.	2
Low	Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work.	1
No Impact	No environmental impacts from a single major hazard event are likely.	0

C.4.6. Essential Operations Factors

The essential operations factor is the impact on the ability of the jurisdiction to meet the essential day-to-day operational demands and needs of the community after a single major hazard event. **Table 39** outlines the essential operations factors used in the risk assessment calculations for this Plan.

Table 39. Essential Operations Factor

Probability	Description	Impact Factor
High	Impact greater 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 major hazard event.	3
Medium	Impact 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 major hazard event.	2
Low	Impact 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 major hazard event.	1
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 major hazard event.	0

C.4.7. Future Development Factor

The future development factor is the potential that future development will have on increasing or decreasing the impact/consequence of the hazard. **Table 40** outlines the future development factors used in the risk assessment calculations for this Plan.

Table 40. Future Development Factor

Probability	Description	Impact Factor
High	Future development trends will significantly increase the impact/consequence of this hazard.	3
Medium	Future development trends will increase the impact/consequence of this hazard, but not significantly.	2
Low	Future development trends will minimally increase impact/consequence of this hazard.	1
No Impact	Future development trends will not increase the impact/consequence of the hazard, and/or may even decrease the impact/consequence of this hazard.	0

C.4.8. Climate Change Factor

The potential that climate change will increase the risk of the hazard (i.e., type, location, and range of anticipated intensities of the hazard and impacts). **Table 41** outlines the climate change factors used in the risk assessment calculations for this Plan.

Table 41. Climate Change Factor

Probability	Description	Impact Factor
High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3
Medium	Climate Change trends will increase the risk of this hazard and its impacts, but not significantly.	2
Low	Climate Change trends will minimally increase the risk of this hazard and its impacts.	1
No Impact	Climate change trends will not increase the risk of the hazard and its impacts.	0

Each category was assigned a weighting factor to reflect its significance, consistent with those typically used for measuring the benefits of hazard mitigation actions – a weighting factor of three (3) was assigned for *Population and Life Safety*, and *Underserved/Equity*, and a weighting factor of two (2) was assigned for *Property Damage*. A weighting factor of one (1) was assigned for *Economic*, *Environmental*, *Essential Operations, Future Development*, and *Climate Change*.

APPENDIX D. HAZARD RISK RANKING DETAILS

D.1. Probability of Occurrence

Hazard Event	Probability of Occurrence		Probability Factor	Weighted Factor
Climate Change	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Dam and Levee Failure	Low	Significant hazard event is likely to occur within 100 years.	1	N/A
Drought	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Earthquake	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Flood (Riverine/Creek)	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Flood (Urban/Flash Flood)	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Heat Wave/Extreme Heat *(Severe Weather)*	High	Significant hazard event is likely to occur annually.	3	N/A
Heavy Rainfall *(Severe Weather)*	High	Significant hazard event is likely to occur annually.	3	N/A
Landslide	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Sea Level Rise	Unlikely	There is little to no probability of significant occurrence, or the recurrence interval is greater than every 100 years.	0	N/A
Severe Thunderstorm *(Severe Weather)*	High	Significant hazard event is likely to occur annually.	3	N/A
Strong Winds/ Damaging Winds *(Severe Weather)*	High	Significant hazard event is likely to occur annually.	3	N/A
Tornado *(Severe Weather)*	Low	Significant hazard event is likely to occur within 100 years.	1	N/A
Tsunami	Unlikely	There is little to no probability of significant occurrence, or the recurrence interval is greater than every 100 years.	0	N/A
Wildfire	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Active Shooter Incidents	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Cybersecurity Threats	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A
Hazardous Materials Incidents	Medium	Significant hazard event is likely to occur within 25 years.	2	N/A

Hazard Event	Probability of Occurrence		Probability Factor	Weighted Factor
Terrorism (Weapons of Mass Destruction)	Low	Significant hazard event is likely to occur within 100 years.	1	N/A
Utility Interruptions	High	Significant hazard event is likely to occur annually.	3	N/A

D.2. Extent Factors

Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor
Climate Change	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3
Dam and Levee Failure	***Extent/Intensity***	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	9
	Catastrophic	Medium	Catastrophic hazard event is likely to occur at least once between 11 and 50 years.	2	6
Drought	***Extent/Intensity***	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	9
	Catastrophic	High	Catastrophic hazard event is likely to occur at least once in 10 years.	3	9
Earthquake	***Extent/Intensity***	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	9
	Catastrophic	High	Catastrophic hazard event is likely to occur at least once in 10 years.	3	9
Flood (Riverine/Creek)	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Medium	Catastrophic hazard event is likely to occur at least once between 11 and 50 years.	2	6
Flood (Urban/Flash Flood)	***Extent/Intensity***	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	9
	Catastrophic	Medium	Catastrophic hazard event is likely to occur at least once between 11 and 50 years.	2	6

Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor
Heat Wave/Extreme Heat *(Severe Weather)*	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3
Heavy Rainfall *(Severe Weather)*	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3
Landslide	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3
Sea Level Rise	***Extent/Intensity***	Unlikely	Historical and/or probabilistic models/studies for this hazard indicate the possibility of little to no intensity.	0	0
	Catastrophic	Unlikely	Virtually no probability that this hazard could be catastrophic.	0	0
Severe Thunderstorm *(Severe Weather)*	***Extent/Intensity***	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3
Strong Winds/ Damaging Winds *(Severe Weather)*	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3
Tornado *(Severe Weather)*	***Extent/Intensity***	Low	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a low-intensity incident.	1	3
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3
Tsunami	***Extent/Intensity***	Unlikely	Historical and/or probabilistic models/studies for this hazard indicate the possibility of little to no intensity.	0	0
	Catastrophic	Unlikely	Virtually no probability that this hazard could be catastrophic.	0	0

Hazard Event	Extent Factor	Extent		Extent Factor	Weighted Factor
Wildfire	***Extent/Intensity***	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	9
	Catastrophic	Medium	Catastrophic hazard event is likely to occur at least once between 11 and 50 years.	2	6
Active Shooter Incidents	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3
Cybersecurity Threats	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Medium	Catastrophic hazard event is likely to occur at least once between 11 and 50 years.	2	6
Hazardous Materials Incidents	***Extent/Intensity***	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	9
	Catastrophic	Medium	Catastrophic hazard event is likely to occur at least once between 11 and 50 years.	2	6
Terrorism (Weapons of Mass Destruction)	***Extent/Intensity***	High	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a high-intensity incident.	3	9
	Catastrophic	High	Catastrophic hazard event is likely to occur at least once in 10 years.	3	9
Utility Interruptions	***Extent/Intensity***	Medium	Historical and/or probabilistic models/studies for this hazard indicate the possibility of a medium-intensity incident.	2	6
	Catastrophic	Low	Catastrophic hazard event is likely to occur at least once in 51 or more years.	1	3

D.3. Vulnerability Factors

Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor
Climate Change	***Population Exposure***	High	30% or more of the population (including underserved population) is exposed to the hazard.	3	9
	Property Exposure	Low	9% or less of the total assessed property value is exposed to the hazard.	1	2

Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Dam and Levee Failure	***Population Exposure***	Low	14% or less of the population (including underserved population) is exposed to the hazard.	1	3
	Property Exposure	Low	9% or less of the total assessed property value is exposed to the hazard.	1	2
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Drought	***Population Exposure***	High	30% or more of the population (including underserved population) is exposed to the hazard.	3	9
	Property Exposure	Low	9% or less of the total assessed property value is exposed to the hazard.	1	2
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Earthquake	***Population Exposure***	High	30% or more of the population (including underserved population) is exposed to the hazard.	3	9
	Property Exposure	High	25% of the total assessed property is exposed to the hazard.	3	6
	Changes in Development	Medium	The changes in development have increased the vulnerability of the community to the hazard between 5% and 9%.	2	2
Flood (Riverine/Creek)	***Population Exposure***	Low	14% or less of the population (including underserved population) is exposed to the hazard.	1	3
	Property Exposure	Low	9% or less of the total assessed property value is exposed to the hazard.	1	2
	Changes in Development	Medium	The changes in development have increased the vulnerability of the community to the hazard between 5% and 9%.	2	2
Flood (Urban/Flash Flood)	***Population Exposure***	Medium	15% to 29% of the population (including underserved population) is exposed to the hazard.	2	6
	Property Exposure	Medium	10% to 24% of the total assessed property value is exposed to the hazard.	2	4
	Changes in Development	Medium	The changes in development have increased the vulnerability of the community to the hazard between 5% and 9%.	2	2
Heat Wave/Extreme Heat *(Severe Weather)*	***Population Exposure***	High	30% or more of the population (including underserved population) is exposed to the hazard.	3	9

Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to the hazard.	0	0
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Heavy Rainfall *(Severe Weather)*	***Population Exposure***	High	30% or more of the population (including underserved population) is exposed to the hazard.	3	9
	Property Exposure	Medium	10 to 14% of the total assessed property is exposed to the hazard.	2	4
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Landslide	***Population Exposure***	Low	14% or less of the population (including underserved population) is exposed to the hazard.	1	3
	Property Exposure	Low	9% or less of the total assessed property value is exposed to the hazard.	1	2
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Sea Level Rise	***Population Exposure***	No Vulnerability	None of the population is exposed to the hazard.	0	0
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to a hazard.	0	0
	Changes in Development	No Vulnerability	Changes in development had no effect and/or have decreased the vulnerability/exposure of the community to the hazard.	0	0
Severe Thunderstorm *(Severe Weather)*	***Population Exposure***	High	30% or more of the population (including underserved population) is exposed to the hazard.	3	9
	Property Exposure	High	25% of the total assessed property is exposed to the hazard.	3	6
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Strong Winds/ Damaging Winds *(Severe Weather)*	***Population Exposure***	Medium	15% to 29% of the population (including underserved population) is exposed to the hazard.	2	6
	Property Exposure	Medium	10% to 24% of the total assessed property value is exposed to the hazard.	2	4
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1

Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor
Tornado *(Severe Weather)*	***Population Exposure***	Low	15% to 29% of the population (including underserved population) is exposed to the hazard.	1	3
	Property Exposure	Low	10% to 24% of the total assessed property value is exposed to the hazard.	1	2
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Tsunami	***Population Exposure***	No Vulnerability	None of the population is exposed to the hazard.	0	0
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to a hazard.	0	0
	Changes in Development	No Vulnerability	Changes in development had no effect and/or have decreased the vulnerability/exposure of the community to the hazard.	0	0
Wildfire	***Population Exposure***	High	30% or more of the population (including underserved population) is exposed to the hazard.	3	9
	Property Exposure	Medium	10% to 24% of the total assessed property value is exposed to the hazard.	2	4
	Changes in Development	Medium	The changes in development have increased the vulnerability of the community to the hazard between 5% and 9%.	2	2
Active Shooter Incidents	***Population Exposure***	Low	14% or less of the population (including underserved population) is exposed to the hazard.	1	3
	Property Exposure	Low	9% or less of the total assessed property value is exposed to the hazard.	1	2
	Changes in Development	No Vulnerability	Changes in development had no effect and/or decreased the vulnerability of the community to the hazard.	0	0
Cybersecurity Threats	***Population Exposure***	Medium	15% to 29% of the population (including underserved population) is exposed to the hazard.	2	6
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to the hazard.	0	0
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Hazardous Materials Incidents	***Population Exposure***	Medium	15% to 29% of the population (including underserved population) is exposed to the hazard.	2	6
	Property Exposure	Low	9% or less of the total assessed property value is exposed to the hazard.	1	2

Hazard Event	Vulnerability Factor	Vulnerability		Vulnerability Factor	Weighted Factor
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Terrorism (Weapons of Mass Destruction)	***Population Exposure***	Medium	15% to 29% of the population (including underserved population) is exposed to the hazard.	2	6
	Property Exposure	Medium	10% to 24% of the total assessed property value is exposed to the hazard.	2	4
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1
Utility Interruptions	***Population Exposure***	Medium	15% to 29% of the population (including underserved population) is exposed to the hazard.	2	6
	Property Exposure	No Vulnerability	None of the total assessed property value is exposed to the hazard.	0	0
	Changes in Development	Low	Changes in development have minimally increased the vulnerability of the community to the hazard by 4% or less.	1	1

D.4. Impact Factors

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
Climate Change	***Population and Life Safety***	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1	2
	Economic	Low	Total economic impact is not likely to be greater than $100,000.	1	1
	Environmental	Low	Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work.	1	1

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Essential Operations	Low	Impact 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 major hazard event.	1	1
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3	3
Dam and Levee Failure	***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	6
	Underserved/Equity	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	6
	Property Damage	Medium	More than $500,000 but less than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	4
	Economic	Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2	2
	Environmental	Medium	Environmental impact from a single major hazard event is likely to be localized, requiring some outside resources and support; and/or repair, clean-up, restoration, or preservation work.	2	2
	Essential Operations	Medium	Impact 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 major hazard event.	2	2
	Future Development	Medium	Future development trends will increase the impact/consequence of this hazard, but not significantly.	2	2
	Climate Change	Medium	Climate Change trends will increase the risk of this hazard and its impacts, but not significantly.	2	2
Drought	***Population and Life Safety***	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3
	Underserved/Equity	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	6

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Property Damage	Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1	2
	Economic	Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2	2
	Environmental	Low	Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work.	1	1
	Essential Operations	Low	Impact 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 major hazard event.	1	1
	Future Development	Medium	Future development trends will increase the impact/consequence of this hazard, but not significantly.	2	2
	Climate Change	High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3	3
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	9
	Underserved/Equity	High	Underserved populations exposed to the hazard are likely to experience significant adverse/disproportionate impacts, such as fatalities and severe injuries.	3	9
	Property Damage	High	More than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	6
	Economic	High	Where the total economic impact is likely to be greater than $10 Million.	3	3
	Environmental	High	Environmental impact from a single major hazard event is likely to be significant, requiring extensive outside resources and support; and/or repair, clean-up, restoration, and/or preservation work.	3	3
	Essential Operations	High	Impact greater 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 major hazard event.	3	3
	Future Development	High	Future development trends will significantly increase the impact/consequence of this hazard.	3	3

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Climate Change	No Impact	Climate change trends will not increase the risk of the hazard and its impacts.	0	0
Flood (Riverine/Creek)	***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	6
	Underserved/Equity	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	6
	Property Damage	Medium	More than $500,000 but less than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	4
	Economic	Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2	2
	Environmental	Medium	Environmental impact from a single major hazard event is likely to be localized, requiring some outside resources and support; and/or repair, clean-up, restoration, or preservation work.	2	2
	Essential Operations	Medium	Impact 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 major hazard event.	2	2
	Future Development	Medium	Future development trends will increase the impact/consequence of this hazard, but not significantly.	2	2
	Climate Change	High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3	3
Flood (Urban/Flash 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	6
	Underserved/Equity	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	6
	Property Damage	High	More than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	6
	Economic	Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2	2

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Environmental	Medium	Environmental impact from a single major hazard event is likely to be localized, requiring some outside resources and support; and/or repair, clean-up, restoration, or preservation work.	2	2
	Essential Operations	Medium	Impact 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 major hazard event.	2	2
	Future Development	Medium	Future development trends will increase the impact/consequence of this hazard, but not significantly.	2	2
	Climate Change	High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3	3
Heat Wave/Extreme Heat *(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
	Underserved/Equity	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	6
	Property Damage	No Impact	Little to no property damage is expected from a single major hazard event.	0	0
	Economic	Low	Total economic impact is not likely to be greater than $100,000.	1	1
	Environmental	No Impact	No environmental impacts from a single major hazard event are likely.	0	0
	Essential Operations	Low	Impact 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 major hazard event.	1	1
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3	3
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
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Property Damage	Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1	2
	Economic	Low	Total economic impact is not likely to be greater than $100,000.	1	1
	Environmental	Low	Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work.	1	1
	Essential Operations	Low	Impact 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 major hazard event.	1	1
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3	3
Landslide	***Population and Life Safety***	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	Medium	More than $500,000 but less than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	4
	Economic	Low	Total economic impact is not likely to be greater than $100,000.	1	1
	Environmental	Low	Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work.	1	1
	Essential Operations	Medium	Impact 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 major hazard event.	2	2
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Climate Change	Medium	Climate Change trends will increase the risk of this hazard and its impacts, but not significantly.	2	2
Sea Level Rise	***Population and Life Safety***	No Impact	Populations exposed to this hazard are not likely to experience significant adverse impacts.	0	0
	Underserved/Equity	No Impact	Underserved populations exposed to the hazard are not likely to experience significant adverse/disproportionate impacts.	0	0
	Property Damage	No Impact	Little to no property damage is expected from a single major hazard event.	0	0
	Economic	No Impact	Virtually no significant economic impact.	0	0
	Environmental	No Impact	No environmental impacts from a single major hazard event are likely.	0	0
	Essential Operations	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 major hazard event.	0	0
	Future Development	No Impact	Future development trends will not increase the impact/consequence of the hazard, and/or may even decrease the impact/consequence of this hazard.	0	0
	Climate Change	High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3	3
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
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1	2
	Economic	Low	Total economic impact is not likely to be greater than $100,000.	1	1
	Environmental	Low	Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work.	1	1
	Essential Operations	Low	Impact 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 major hazard event.	1	1

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	Medium	Climate Change trends will increase the risk of this hazard and its impacts, but not significantly.	2	2
Strong Winds/ Damaging Winds *(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
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	Medium	More than $500,000 but less than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	4
	Economic	Low	Total economic impact is not likely to be greater than $100,000.	1	1
	Environmental	Low	Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work.	1	1
	Essential Operations	Low	Impact 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 major hazard event.	1	1
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	Medium	Climate Change trends will increase the risk of this hazard and its impacts, but not significantly.	2	2
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
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1	2
	Economic	Low	Total economic impact is not likely to be greater than $100,000.	1	1

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Environmental	Low	Environmental impact from a single major hazard event is likely to be minimal, requiring little to no outside resources and support, and/or minimal repair, clean-up, restoration, or preservation work.	1	1
	Essential Operations	Low	Impact 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 major hazard event.	1	1
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	Medium	Climate Change trends will increase the risk of this hazard and its impacts, but not significantly.	2	2
Tsunami	***Population and Life Safety***	No Impact	Populations exposed to this hazard are not likely to experience significant adverse impacts.	0	0
	Underserved/Equity	No Impact	Underserved populations exposed to the hazard are not likely to experience significant adverse/disproportionate impacts.	0	0
	Property Damage	No Impact	Little to no property damage is expected from a single major hazard event.	0	0
	Economic	No Impact	Virtually no significant economic impact.	0	0
	Environmental	No Impact	No environmental impacts from a single major hazard event are likely.	0	0
	Essential Operations	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 major hazard event.	0	0
	Future Development	No Impact	Future development trends will not increase the impact/consequence of the hazard, and/or may even decrease the impact/consequence of this hazard.	0	0
	Climate Change	Low	Climate Change trends will minimally increase the risk of this hazard and its impacts.	1	1
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	6
	Underserved/Equity	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	6

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Property Damage	Medium	More than $500,000 but less than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to more than 5% but less than 15% of the property value within the jurisdiction.	2	4
	Economic	Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2	2
	Environmental	Medium	Environmental impact from a single major hazard event is likely to be localized, requiring some outside resources and support; and/or repair, clean-up, restoration, or preservation work.	2	2
	Essential Operations	Medium	Impact 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 major hazard event.	2	2
	Future Development	Medium	Future development trends will increase the impact/consequence of this hazard, but not significantly.	2	2
	Climate Change	High	Climate Change trends will significantly increase the risk of this hazard and its impacts.	3	3
Active Shooter Incidents	***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	6
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1	2
	Economic	Low	Total economic impact is not likely to be greater than $100,000.	1	1
	Environmental	No Impact	No environmental impacts from a single major hazard event are likely.	0	0
	Essential Operations	Medium	Impact 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 major hazard event.	2	2
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	No Impact	Climate change trends will not increase the risk of the hazard and its impacts.	0	0

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
Cybersecurity Threats	***Population and Life Safety***	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1	2
	Economic	Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2	2
	Environmental	No Impact	No environmental impacts from a single major hazard event are likely.	0	0
	Essential Operations	Medium	Impact 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 major hazard event.	2	2
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	No Impact	Climate change trends will not increase the risk of the hazard and its impacts.	0	0
Hazardous Materials Incidents	***Population and Life Safety***	Low	Populations exposed to this hazard are likely to experience minimal adverse impacts, such as ambulatory injuries.	1	3
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	Low	Less than $500,000 in property damages is expected from a single major hazard event or less than 5% of the property value within the jurisdiction.	1	2
	Economic	Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2	2
	Environmental	High	Environmental impact from a single major hazard event is likely to be significant, requiring extensive outside resources and support; and/or repair, clean-up, restoration, and/or preservation work.	3	3
	Essential Operations	Medium	Impact 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 major hazard event.	2	2

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	No Impact	Climate change trends will not increase the risk of the hazard and its impacts.	0	0
Terrorism (Weapons of Mass Destruction)	***Population and Life Safety***	High	Populations exposed to this hazard are likely to experience significant adverse impacts, such as fatalities and severe injuries.	3	9
	Underserved/Equity	Low	Underserved populations exposed to the hazard are likely to experience minimal adverse/disproportionate impacts, such as ambulatory injuries.	1	3
	Property Damage	High	More than $5 Million in property damages is expected from a single major hazard event, or damages are expected to occur to 15% or more of the property value within the jurisdiction.	3	6
	Economic	High	Where the total economic impact is likely to be greater than $10 Million.	3	3
	Environmental	Medium	Environmental impact from a single major hazard event is likely to be localized, requiring some outside resources and support; and/or repair, clean-up, restoration, or preservation work.	2	2
	Essential Operations	High	Impact greater 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 major hazard event.	3	3
	Future Development	Low	Future development trends will minimally increase impact/consequence of this hazard.	1	1
	Climate Change	No Impact	Climate change trends will not increase the risk of the hazard and its impacts.	0	0
Utility Interruptions	***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	6
	Underserved/Equity	Medium	Underserved populations exposed to the hazard are likely to experience some adverse/disproportionate impacts, such as injuries requiring acute medical care.	2	6
	Property Damage	No Impact	Little to no property damage is expected from a single major hazard event.	0	0
	Economic	Medium	Total economic impact is likely to be greater than $500,000, but less than or equal to $10 Million.	2	2
	Environmental	No Impact	No environmental impacts from a single major hazard event are likely.	0	0

Hazard Event	Impact Factor	Impact		Impact Factor	Weighted Factor
	Essential Operations	Medium	Impact 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 major hazard event.	2	2
	Future Development	No Impact	Future development trends will not increase the impact/consequence of the hazard, and/or may even decrease the impact/consequence of this hazard.	0	0
	Climate Change	Medium	Climate Change trends will increase the risk of this hazard and its impacts, but not significantly.	2	2

APPENDIX E. PLAN ADOPTION

[Placeholder for adoption documentation after State and FEMA Approval]