4.9 HYDROLOGY AND WATER QUALITY

This chapter describes the regulatory framework and existing conditions of the City of San Mateo Environmental Impact Report (EIR) Study Area and evaluates the potential hydrology and water quality impacts from adopting and implementing the proposed General Plan 2040 and proposed Climate Action Plan, and from future development and activities that could occur under the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts related to implementation of the proposed project.

4.9.1 ENVIRONMENTAL SETTING

4.9.1.1 REGULATORY FRAMEWORK

Federal Regulations

Clean Water Act

The United States Environmental Protection Agency (USEPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) (codified at 33 United States Code Sections 1251 to 1376) of 1972 is the primary federal law that governs and authorizes water quality control activities by the EPA, as well as the states. Various elements of the CWA, which address water quality, are discussed below.

Permits to dredge or fill waters of the United States are administered by the United States Army Corps of Engineers (USACE) under Section 404 of the CWA. "Waters of the United States" are defined as territorial seas and traditional navigable waters, perennial and intermittent tributaries to those waters, lakes and ponds and impoundments of jurisdictional waters, and wetlands adjacent to jurisdictional waters. The regulatory branch of the USACE is responsible for implementing and enforcing Section 404 of the CWA and issuing permits. Any activity that discharges fill material and/or requires excavation in waters of the United States must obtain a Section 404 permit. Before issuing the permit, the USACE requires that an analysis be conducted to demonstrate that the proposed project is the least environmentally damaging practicable alternative. Also, the USACE is required to comply with the National Environmental Policy Act before it may issue an individual Section 404 permit.

Under Section 401 of the CWA, every applicant for a Section 404 permit that may result in a discharge to a water body must first obtain State Water Quality Certification that the proposed activity will comply with State water quality standards. Certifications are issued in conjunction with USACE Section 404 permits for dredge and fill discharges. In addition, an application for Individual Water Quality Certification and/or Waste Discharge Requirements must be submitted for any activity that would result in the placement of dredged or fill material in waters of the State that are not jurisdictional to the USACE, such as isolated wetlands, to ensure that the proposed activity complies with State water quality standards. In California, the authority to either grant water quality certification or waive the requirement is delegated by the State Water Resources Control Board (SWRCB) to its nine Regional Water Quality Control Boards (RWQCB).

Under federal law, the USEPA has published water quality regulations under Volume 40 of the Code of Federal Regulations. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question and (2) criteria that protect the designated uses. Section 304(a) requires the USEPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. In California, the USEPA has delegated authority to the SWRCB and its RWQCBs to identify beneficial uses and adopt applicable water quality objectives.

When water quality does not meet CWA standards and compromises designated beneficial uses of a receiving water body, Section 303(d) of the CWA requires that water body be identified and listed as "impaired". Once a water body has been designated as impaired, a Total Maximum Daily Load (TMDL) must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, nonpoint, and natural sources that a water body may receive without exceeding applicable water quality standards, with a factor of safety included. Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States, including discharges from municipal separate storm sewer systems (MS4). Federal NPDES permit regulations have been established for broad categories of discharges, including point-source municipal waste discharges and nonpoint-source stormwater runoff. NPDES permits generally identify effluent and receiving water limits on allowable concentrations and/or mass emissions of pollutants in the discharge; prohibitions on discharges not specifically allowed under the permit; and provisions that describe required actions by the discharger, including industrial pretreatment, pollution prevention, self-monitoring, and other activities.

Under the NPDES Program, all facilities that discharge pollutants into waters of the United States are required to obtain a NPDES permit. Requirements for stormwater discharges are also regulated under this program. In California, the NPDES permit program is administered by the SWRCB through the nine RWQCBs. The City of San Mateo lies within the jurisdiction of San Francisco Bay RWQCB (Region 2) and is subject to the waste discharge requirements for the Municipal Separate Storm Sewer System (MS4) Permit (Order No. R2-2022-0018 and NPDES Permit No. CAS612008).

Under Provision C.3 of the MS4 Permit, the co-permittees use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is accomplished primarily through the implementation of low impact development techniques. In addition, projects that create and/or replace one acre or more of impervious surfaces must comply with the hydromodification requirements specified in the C.3.g provisions of the MS4 permit. These requirements include implementing stormwater control measures such that post-project runoff must match pre-project runoff from 10 percent of the pre-project 2-year flow rate up to the pre-project 10-year peak flow.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA. FEMA's minimum level of flood protection for new development is the 100-year flood event, also described as a flood that has a 1-in-100 chance of occurring in any given year.

Additionally, FEMA has developed requirements and procedures for evaluating earthen levee systems and mapping the areas affected by those systems. Levee systems are evaluated for their ability to provide protection from 100-year flood events, and the results of this evaluation are documented in the FEMA Levee Inventory System. Levee systems must meet minimum freeboard standards and must be maintained according to an officially adopted maintenance plan. Other FEMA levee system evaluation criteria include structural design and interior drainage.

As required by the FEMA regulations, all development constructed within the Special Flood Hazard Zone (as delineated on the FIRM) must be elevated so that the lowest floor is at or above the base flood elevation level. The term "development" is defined by FEMA as any human-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials. Per these regulations, if development in these areas occurs, a hydrologic and hydraulic analysis must be performed prior to the start of development and must demonstrate that the development does not cause any rise in base flood elevation levels, because no rise is permitted within regulatory floodways. Upon completion of any development that changes existing Special Flood Hazard Area boundaries, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision, as soon as practicable, but not later than six months after such data become available.

Rivers and Harbors Act of 1899

Under the Rivers and Harbors Act of 1899, the USACE requires permits for activities involving the obstruction of the navigable capacity of any waters of the United States or the construction of any structures in or over navigable waters of the United States, including ports, canals, navigable rivers, or other waters. "Navigable waters" under Section 10 of the Rivers and Harbors Act are defined as "those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce." Pursuant to Section 10 of the Rivers and Harbors Act, the USACE administers this regulatory program separate from the Section 404 program. A Section 10 permit may be required for structures or work outside the limits of navigable waters if the structure or work affects the course, location, condition, or capacity of the water body.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act provides the basic authority for the United States Fish and Wildlife Service (USFWS) to evaluate impacts to fish and wildlife from proposed water resource development projects. This act requires that all federal agencies consult with the USFWS, the National Marine Fisheries Service, and State wildlife agencies (i.e., the California Department of Fish and Wildlife or CDFW) for activities that affect, control, or modify waters of any stream or bodies of water. Under this act, the USFWS has responsibility for reviewing and commenting on all water resources projects. For example, it would provide consultation to the USACE prior to issuance of a Section 404 permit.

If a project may result in the "incidental take" of a listed species, an incidental take permit is required. An incidental take permit allows a developer to proceed with an activity that is legal in all other respects but that results in the "incidental taking" of a listed species. A habitat conservation plan must also accompany an application for an incidental take permit. The purpose of a habitat conservation plan is to ensure that the effects of the permitted action or listed species are adequately minimized and mitigated.

State Regulations

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code sections 13000 et seq.) is the basic water quality control law for California. This act established the SWRCB and divided the state into nine regional basins, each under the jurisdiction of an RWQCB. The SWRCB is the primary State agency responsible for the protection of California's water quality and groundwater supplies. The RWQCBs carry out the regulation, protection, and administration of water quality in each region. Each regional board is required to adopt a water quality control plan or basin plan that recognizes and reflects the regional differences in existing water quality, the beneficial uses of the region's ground and surface water, and local water quality conditions and problems. As stated previously, San Mateo is within the jurisdiction of the San Francisco Bay RWQCB (Region 2).

The Porter-Cologne Act also authorizes the SWRCB and RWQCBs to issue and enforce waste discharge requirements, NPDES permits, Section 401 water quality certifications, or other approvals. Other State agencies with jurisdiction over water quality regulation in California include the California Department of Health Services for drinking water regulations, the CDFW, and the Office of Environmental Health and Hazard Assessment.

State Water Resources Control Board

In California, the SWRCB has broad authority over water quality control issues for the State. The SWRCB is responsible for developing statewide water quality policy and exercises the powers delegated to the State by the federal government under the CWA. It also regulates public drinking water systems, NPDES wastewater discharges, water quality monitoring, water recycling programs, landfill disposal, water rights, and implements drought restrictions. As stated previously, the City of San Mateo is within the jurisdiction of the San Francisco Bay RWQCB (Region 2), which regulates surface water and groundwater quality in the

watershed that encompasses the following counties: Alameda, Contra Costa, San Francisco, Santa Clara (north of Morgan Hill), San Mateo, Marin, Sonoma, Napa and Solano.

SWRCB General Construction Permit

Construction activities that disturb one or more acres of land that could impact hydrologic resources must comply with the requirements of the newly reissued SWRCB Construction General Permit (Order WQ 2022-0057-DWQ). Under the terms of the permit, applicants must file Permit Registration Documents (PRD) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent, risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website.

Applicants must also demonstrate conformance with applicable best management practices (BMPs) and prepare a SWPPP containing a site map that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a sampling program to ensure compliance with water quality standards, and on-site collection of samples and inspection of BMPs during a qualifying precipitation event.

In addition, the City, under San Mateo Municipal Code (SMMC) Section 23.40.040(a), has the authority to require submittal of an interim and final Erosion and Sediment Control Plan (ESCP), if required by the City Engineer or Building Official. The ESCP must describe erosion and sediment control measures that will be implemented during the construction phase as well as final stabilization control measures as well as the calculation of maximum surface runoff amounts and sediment yield. This requirement may apply to projects that are less than one acre in size if they require grading permits or building permits that could result in non-stormwater discharges to a storm drain. Projects subject to the SWRCB Construction General Permit may include the ESCP provisions within the SWPPP.

SWRCB Board General Industrial Permit

The Statewide General permit for Storm Water Discharges Associated with Industrial Activities, Order No. 2014-0057-DWQ and amended by 2015-0122-DWQ (2018) implements the federally required storm water regulations in California for storm water associated with industrial activities that discharge to waters of the United States. This regulation covers facilities that are required by federal regulations or by the RWQCBs to obtain an NPDES permit. Dischargers are required to eliminate non-storm water discharges, develop SWPPPs that include BMPs, conduct monitoring of stormwater runoff, and submit all compliance documents via the SWRCB's SMARTS program.

SWRCB Trash Amendments

On April 7, 2015, the SWRCB adopted an amendment to the *Water Quality Control Plan for Ocean Waters of California* to control trash and Part 1, Trash Provisions, of the *Water Quality Control Plan for Inland*

Surface Waters, Enclosed Bays, and Estuaries of California. They are collectively referred to as "the Trash Amendments." The Trash Amendments apply to all surface waters of California and include a land-use-based compliance approach to focus trash controls on areas with high trash-generation rates. Areas such as high density residential, industrial, commercial, mixed urban, and public transportation stations are considered priority land uses. There are two compliance tracks for Phase I and Phase II MS4 permittees:

- Track 1: Permittees must install, operate, and maintain a network of certified full capture systems in storm drains that capture runoff from priority land uses.
- Track 2: Permittees must implement a plan with a combination of full capture systems, multibenefit projects, institutional controls, and/or other treatment methods that have the same effectiveness as Track 1 methods.

The Trash Amendments provide a framework for permittees to implement their provisions. Full compliance must occur within 10 years of the permit, and permittees must also meet interim milestones such as average load reductions of 10 percent per year. The amendment mandates that the City needs to install catch basin filters on all City catch basins by December 2, 2030.[1]

California Water Code Section 13751: Water Wells

Section 13751 of the Water Code requires a Well Completion Report (WCR) to be completed by each person who digs, bores, or drills a water well, cathodic protection well, groundwater monitoring well, or geothermal heat exchange well or abandons or modifies an existing well. The WCR should be filed with the California Department of Water Resources (DWR) within 60 days of the date that construction, alteration, abandonment, or destruction of a well is completed.[2] Completed WCRs are sent to and maintained at the DWR regional office that serves the area where the well is located.

California Coastal Act of 1976

The California Coastal Act of 1976 established three designated coastal management agencies to plan and regulate the use of land and water in the coastal zone: the California Coastal Commission, the San Francisco Bay Conservation and Development Commission (BCDC), and the California Coastal Conservancy. Under California's federally approved Coastal Management Program, the California Coastal Commission manages development along the California coast except for San Francisco Bay, which is overseen by the BCDC. The City of San Mateo is under the jurisdiction of the BCDC for all land within 100 feet of the shoreline. The mission of the California Coastal Conservancy is to purchase, protect, restore, and enhance coastal resources and provide shoreline access. Additional information on the BCDC is discussed under Regional Regulations, below.

[1] State Water Resources Quality Control Board, September 2022, Storm Water Program - Trash Implementation Program. https://www.waterboards.ca.gov/water_issues/programs/stormwater/trash_implementation.html, accessed April 4, 2023.

[2] California Department of Water Resources, 2022, Well Completion Reports, https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Completion-Reports, accessed October 5, 2022.

California Department of Fish and Wildlife

The CDFW protects streams, water bodies, and riparian corridors through the streambed alteration agreement process under Sections 1601 to 1606 of the California Fish and Game Code. The Fish and Game Code stipulates that it is "unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake" without notifying the CDFW, incorporating necessary mitigation, and obtaining a streambed alteration agreement. CDFW's jurisdiction extends to the top of banks and often includes the outer edge of riparian vegetation.

Water Conservation in Landscaping Act of 2006

The Water Conservation in Landscaping Act includes the State of California's Model Water Efficient Landscape Ordinance (MWELO), which requires cities and counties to adopt landscape water conservation ordinances. The MWELO was revised in July 2015 via Executive Order B-29-15 to address the ongoing drought and build resiliency for future droughts. State law requires all land use agencies, which includes cities and counties, to adopt a WELO that is at least as efficient as the MWELO prepared by the DWR. The 2015 revisions to the MWELO improve water conservation in the landscaping sector by promoting efficient landscapes in new developments and retrofitted landscapes. The revisions increase water efficiency by requiring more efficient irrigation systems, incentives for grey water usage, improvements in on-site stormwater capture, and limiting the portion of landscapes that can be covered in high-water-use plants and turf. New development projects that include landscape areas of 500 square feet or more are subject to the MWELO. This applies to residential, commercial, industrial, and institutional projects that require a permit, plan check, or design review. The previous landscape size threshold for new development projects was 2,500 square feet.[3] The size threshold for rehabilitated landscapes has not changed and remains at 2,500 square feet. SMMC Chapter 23.72, *Water Conservation in Landscaping,* adopts these requirements.

Regional Regulations

San Francisco Bay Regional Water Quality Control Board

The City of San Mateo is within the jurisdiction of the San Francisco Bay RWQCB (Region 2). The San Francisco Bay RWQCB addresses regionwide water quality issues through the creation and triennial update of the *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan). The Basin Plan was adopted in 1995 and most recently amended in November 2020. [4] This Basin Plan designates beneficial uses of the State waters within Region 2, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards established in the Basin Plan. The *Water Quality Control Policy for the Enclosed Bays and Estuaries of*

[3] County of San Mateo, 2022, Water Efficient Landscape Ordinance (WELO), https://www.smcgov.org/planning/water-efficient-landscape-ordinance-welo, accessed April 4, 2023.

[4] California Regional Water Quality Control Board, San Francisco Bay Region, May 2017, *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*, https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/docs/BP_all_chapters.pdf, accessed April 4, 2023.

California, as adopted by the SWRCB in 1995 and last amended in 2018, also provides water quality principles and guidelines to prevent water quality degradation and protect the beneficial uses of waters of enclosed bays and estuaries.[5] The San Francisco Bay RWQCB also administers the MS4 permit for San Mateo County and the municipalities within San Mateo County, including the City of San Mateo.

San Francisco Bay Conservation and Development Commission

The California Coastal Act carries out its mandate locally through the BCDC. BCDC's jurisdiction for San Francisco Bay includes all sloughs, marshlands between mean high tide and five feet above mean sea level, tidelands, submerged lands, and land within 100 feet of the shoreline. This includes the San Francisco Bay shorelines within the EIR Study Area.

The current BCDC policy allows for the protection of existing and planned development from flooding by the placement of fill, encourages innovative means of dealing with flood danger, and states that local governments will determine how best to deal with development projects inland of BCDC's jurisdiction, which extends 100 feet inland from the shoreline. The provisions of BCDC's *San Francisco Bay Plan* do not apply outside BCDC's jurisdiction for purposes of implementing the California Environmental Quality Act (CEQA).[6]

The new BCDC policies require sea level rise risk assessments to be conducted when planning shoreline areas or designing large shoreline projects within BCDC's jurisdiction. Risk assessments are not required for repairs of existing facilities, interim projects, small projects that do not increase risks to public safety, and infill projects within existing urbanized areas. Projects within the shoreline band, the area within 100 feet of the shoreline, need only address risks to public access.

As a permitting authority along the San Francisco Bay shoreline, BCDC is responsible for granting or denying permits for any proposed fill, extraction of materials, or change in the use of any water, land, or structure within BCDC's jurisdiction. Permits may be granted or denied only after public hearings and after the process for review and comment has been completed by the City. BCDC will approve the permit if it is determined that the project is in accordance with defined standards for use of the shoreline, provisions for public access, and advisory review of appearance.

Projects within BCDC jurisdiction that involve bay fill must be consistent with the policies of the BCDC's *San Francisco Bay Plan* on the safety of fills and shoreline protection. Land elevation changes caused by tectonic activity or consolidation/compaction of soft soils, such as bay muds, is variable around the San Francisco Bay. Consequently, some parts of the San Francisco Bay may experience a greater relative rise in sea level than other areas. According to BCDC policies, new projects built on fill or near the shoreline should be set back from the edge of the shore so that the project will not be subject to dynamic wave

[5] State Water Resources Control Board, 1995, *Water Quality Control Policy for the Enclosed Bays and Estuaries of California, as Adopted by Resolution No. 95-84 on November 16, 1995,* https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1995/rs1995_0084.pdf, accessed April 4, 2023.

[6] San Francisco Bay Conservation and Development Commission, 2011, *Resolution No. 11-08: Adoption of Bay Plan Amendment Adding New Climate Change Findings and Policies to the Bay Plan,* https://www.bcdc.ca.gov/proposed_bay_plan/10-01Resolution.pdf, accessed April 4, 2023.

energy; be built so the bottom floor of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project; be specifically designed to tolerate periodic flooding; or employ other effective means of addressing the impacts of future sea level rise and storm activity.

Municipal Regional Stormwater NPDES Permit

Municipal stormwater discharge in the City of San Mateo is subject to the Waste Discharge Requirements (WDRs) of the MS4 Permit (Order No. R2-2022-0018 and NPDES Permit No. CAS612008). Provision C.3 of the MRP requirements applies to all new development or redevelopment projects that create or replace 5,000 square feet of impervious surfaces. Provision C.3 of the MS4 Permit also mandates that new development and redevelopment projects must: (1) incorporate site design, source control, and stormwater treatment on-site; (2) minimize the discharge of pollutants in stormwater runoff and non-stormwater discharge; and (3) minimize the rate and volume of stormwater runoff under post-development conditions. Low-impact development (LID) methods are the primary mechanisms for implementing such controls.

New development projects must design and construct stormwater treatment systems that capture a percentage of the flow rate or volume from a specified storm event based on the sizing criteria described in the C.3 provisions of the MRP. The treatment systems use LID measures that include rainwater harvesting and reuse, infiltration, evapotranspiration, and biotreatment/bioretention.

In order to comply with Provision C.3 of the MS4 Permit, regulated projects would be required to submit a Stormwater Control Plan (SCP) and C.3 and C.6 Development Review Checklist with building plans, to be reviewed and approved by the City of San Mateo. The SCP must be prepared under the direction of and certified by a licensed and qualified professional, which includes civil engineers, architects, or landscape architects.

San Mateo Countywide Water Pollution Prevention Program

The San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) is a partnership of the City/County Association of Governments (C/CAG), the County of San Mateo, and 20 incorporated cities within the county, which share a common NPDES permit. This partnership also relies on each of the municipalities to implement local stormwater pollution prevention and control activities for its own local storm drain systems. The SMCWPPP's Stormwater Resource Plan (SRP) outlines priorities, key elements, strategies, and evaluation methods to implement the SMCWPPP. The comprehensive program includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. The SRP also includes a public education effort, target pollutant reduction strategies, and watershed assessment and monitoring. The SRP, in conjunction with the NPDES permit adopted by the Water Board, is designed to enable SMCWPPP to meet the requirements of the CWA.

Post-construction stormwater quality requirements pursuant to the SMCWPPP are described in the C.3 Regulated Projects Guide (Version 1.0) issued in January 2020.[7] The C.3 Regulated Projects Guide includes instructions for implementing site design measures, source controls, stormwater treatment measures, construction site controls, and low-impact development measures.

San Mateo County Multi-Jurisdictional Hazard Mitigation Plan

The purpose of hazard mitigation planning is to reduce the loss of life and property by minimizing the impact of disasters. The *San Mateo County Multi-Jurisdictional Hazard Mitigation Plan* (MJHMP), updated in 2021 in accordance with the federal Disaster Mitigation Action of 2000 (DMA 2000), provides an assessment of natural hazards in the county and a set of short-term mitigation actions to reduce or eliminate the long-term risk to people and property from these hazards. The San Mateo Jurisdictional Annex of the MJHMP provides an assessment of hazards and vulnerabilities, and a set of mitigation actions for San Mateo specifically while considering the results from the countywide effort. In the context of an MJHMP, mitigation is an action that reduces or eliminates long-term risk to people and property from hazards, including wildfire. Mitigation actions related to flood, sea level rise, and dam failure in the San Mateo Jurisdictional Annex of the MJHMP include participation in mutual aid agreements, continued implementation of floodplain management measures, incorporation of FEMA guidelines into the planning process, assessment and mitigation of urban drainage flooding, and incorporation of San Mateo County's sea level rise vulnerability assessments recommendations into city plans.

The MJHMP must be reviewed and approved by the Federal Emergency Management Agency (FEMA) every five years to maintain eligibility for disaster relief funding. As part of this process, the California Governor's Office of Emergency Services reviews all local hazard mitigation plans in accordance with DMA 2000 regulations and coordinates with local jurisdictions to ensure compliance with FEMA's Local Mitigation Plan Review Guide. As part of the proposed project, the MJHMP is adopted in its entirety into the proposed Safety Element by reference.

San Mateo County Storm Water Resources Plan

The San Mateo County Stormwater Resource Plan (SRP) is a comprehensive document that addresses specific stormwater runoff issues in the county with a watershed-based approach. The main goals of the SRP are to identify and prioritize opportunities to better utilize stormwater as a resource in San Mateo County through a detailed analysis of watershed processes, surface and groundwater resources, input from stakeholders and the public, and analysis of multiple benefits that can be achieved through strategically planned stormwater management projects.[8] These projects aim to capture and manage stormwater more sustainably, reduce flooding and pollution associated with runoff, improve biological functioning of plants, soils, and other natural infrastructure, and provide many community benefits, including cleaner air and water and enhanced aesthetic value of local streets and neighborhoods. Senate

[7] San Mateo Countywide Water Pollution Prevention Program, January 2020, *C.3 Regulated Projects Guide*, https://www.flowstobay.org/wp-content/uploads/2020/03/SMCWPPP-C.3-Regulated-Project-Guide-High-Res_021220_0.pdf, accessed April 4, 2023.

[8] City/County Association of Governments of San Mateo, February 2017, *Stormwater Resource Plan for San Mateo County*, https://ccag.ca.gov/wp-content/uploads/2017/02/SMC-SRP-Report-FINAL-1.pdf, accessed April 4, 2023.

Bill 985 (Pavley, 2014) requires SRPs to be developed to be eligible for funding from future State bond measures for stormwater and dry weather capture projects.[9]

San Mateo County Flood & Sea Level Rise Resiliency District (OneShoreline)

In April 2018, the C/CAG Countywide Water Coordination Committee proposed the formation of a countywide agency to address sea level rise, flooding, coastal erosion, and regional stormwater infrastructure. Assembly Bill 825 was signed into law in September 2019 and, on January 1, 2020, the San Mateo County Flood and Sea Level Rise Resiliency District, more commonly known as OneShoreline, was formed.

With startup funding from San Mateo County and 20 incorporated cities, OneShoreline has initiated several projects to protect against the impact of sea level rise. In terms of financial losses due to climate change, San Mateo County is the most vulnerable county in California. By 2100, it is estimated that over 40 percent of the land could be affected.[10] OneShoreline is working with several cities within San Mateo County to update their General Plans, Specific Plans, and zoning ordinances to address future conditions brought on by climate change. They also are preparing a Planning Guidance Policy that can be used by cities and San Mateo County to account for climate-driven flooding, stormwater capture, groundwater rise, and sea level rise in planning documents, processes, and approvals. The City of San Mateo has provided several iterations of the proposed General Plan mapping, goals, policies, and actions relating to flooding, sea level rise, and groundwater to OneShoreline staff for review and comment.

Local Regulations

San Mateo General Plan 2030

The City of San Mateo General Plan 2030 goals, policies, and actions that are relevant to hydrology and water quality are primarily in the Conservation, Open Space, Parks and Recreation Element, Public Services and Facilities (PSF) Element, and Safety Element. As part of the proposed project, some existing General Plan goals, policies, and actions would be amended, substantially changed, or new policies would be added. Applicable goals, policies, and actions are identified and assessed for their effectiveness and potential to result in an adverse physical impact later in this chapter under Section 4.9.3, *Impact Discussion*.

City of San Mateo Municipal Code

The SMMC includes various directives pertaining to hydrology and water quality. The SMMC is organized by title, chapter, and section, and in some cases, articles. Provisions related to hydrology and water quality impacts are included in Title 7, *Health, Sanitation, and Public Nuisance*, and Title 23, *Buildings and Construction*.

[9] City/County Association of Governments of San Mateo, 2022, San Mateo Storm Water Resources Plan, https://ccag.ca.gov/srp/, accessed April 4, 2023.

[10] San Mateo County, 2023, OneShoreline, https://oneshoreline.org/frequently-asked-questions/ accessed April 12, 2023.

- Chapter 7.39, *Stormwater Management and Discharge Control*, aims to protect and enhance the water quality of the watercourses, water bodies, and wetlands within the City by eliminating non-stormwater discharges to the municipal separate storm drain, controlling the discharge to municipal separate storm drains from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in stormwater discharges to the maximum extent practicable. As stated in Section 7.39.090, *Discharge of Pollutants*, all discharges of material other than stormwater must be in compliance with a NPDES permit issued for the discharge. Construction projects must obtain a Stormwater Pollution Prevention Program construction permit form the Director of Public Works prior to site development planning application approval, as required by Section 7.29.170, *Stormwater Pollution Prevention Construction Permit*. Section 7.39.210, *Stormwater Treatment Facilities*, allows the Director to require permanent stormwater treatment facilities be designed into projects and Section 7.29.235, *Stormwater Management Permit*, requires a Stormwater Management permit from the Director prior to approval. Section 7.39.245, *Threatened Discharge*, prohibits the discharge of any domestic waste or industrial waste into storm drains, gutters, creeks, or San Francisco Bay.
- Chapter 23.33, *Floodplain management*, requires project applicants to obtain a development permit from the City's Floodplain Administrator and construct new development in accordance with the standards in SMMC Section 23.33.050, *Provisions for Flood Hazard Reduction,* prior to the start of construction or development within a Flood Hazard Area (i.e., 100-year floodplain). The standards of construction vary depending on whether the proposed structure is in a regular 100-year floodplain or in a coastal high hazard area. The standards of construction include provisions for flood risk reduction, including anchoring and flood-resistant materials and construction methods, with the lowest floors elevated above the base flood elevation or higher.
- Chapter 23.72, *Water Conservation in Landscaping*, requires project applicants of new construction and rehabilitated landscapes to complete the landscape project application and documentation package and comply with the landscape and irrigation maintenance schedule requirements listed in this chapter of the SMMC. Section 23.72.070, *Water Budget Calculations*, lists requirements for the project applicant to prepare water budge calculations. Section 23.72.090, *Irrigation Design Plan*, outlines the requirements for permanent irrigation systems for the efficient use of water. Section 23.72.100, *Grading Design Plan*, requires grading of a project site to be designed to minimize soil erosion, runoff, and water waste. Section 23.72.150, *Stormwater Management and Rainwater Retention*, requires implementation of stormwater BMPs consistent with the City stormwater management plans into the landscape and grading design plans to minimize runoff and to increase on-site rainwater retention and infiltration.
- Chapter 3.64, *Fees,* provides the authority for the City to issue fees subject to change for each fiscal year, as per the budget submitted by the City Manager to the City Council. Fees related to stormwater include fees to obtain a Stormwater Pollution Prevention Program (STOPP) Construction Permit from the City, an Erosion Control Compliance Fee (refundable deposit) for projects of one acre or more, and a Stormwater Management Permit Annual Fee.

4.9.1.2 EXISTING CONDITIONS

Topography and Climate

The EIR Study Area extends from about 600 feet above sea level in the hills in the Highlands area to sea level on the northeastern edge of the city adjacent to San Francisco Bay. Most of the city is relatively flat with elevations ranging from 40 feet above sea level or less.

San Mateo has a Mediterranean climate, which consists of hot, dry summers and cool, wet winters. The area receives about 20 inches of rain annually, which is primarily recorded during the seven-month stretch between October and April. The winter average low temperature is about 41 degrees Fahrenheit in January and February, and the average summer high temperature is about 78 degrees Fahrenheit in September.[11] Due to two gaps in the Santa Cruz Mountains to the west, weather from the Pacific Ocean can result in gusty afternoon winds and fog in the late afternoon through early morning in the summer.

Regional Hydrology

San Mateo is located within the San Francisco Bay watershed, which is further divided into sub-watersheds. The EIR Study Area is located within seven sub-watersheds, as shown in Figure 4.9-1, *San Mateo Watersheds*. Water typically flows from the southwest to the northeast through natural and urbanized creeks and eventually drains into San Francisco Bay or the Marina Lagoon. The seven watersheds are described below:

- San Mateo Creek Watershed. The San Mateo Creek Watershed encompasses 35 square miles and originates near Sweeney Ridge in the Santa Cruz Mountains. It includes three reservoirs: San Andreas Lake, and Upper and Lower Crystal Springs Reservoirs. San Mateo Creek flows through parts of unincorporated San Mateo County, the Town of Hillsborough, and the City of San Mateo and flows into San Francisco Bay at Ryder Park.[12]
- Laurel Creek Watershed. The Laurel Creek Watershed drains approximately 4.6 square miles and originates near Laurelwood Park and Sugarloaf Mountain. Laurel Creek flows east into the O'Neill Slough and the Marina Lagoon. Stormwater runoff is controlled by three dams on Laurel Creek, which are crucial to prevent flooding in the surrounding neighborhoods during wet weather.
- 19th Avenue Watershed. The 19th Avenue Watershed begins in the hills near the College of San Mateo. It includes Borel Creek, Madera Creek, and Beresford Creek. Flow from these creeks becomes underground channels for portions of the middle of the watershed and then resurfaces aboveground east of the CalTrain tracks and is designated as the 19th Avenue Drainage Channel. It eventually discharges into the Marina Lagoon.
- 16th Avenue Watershed. The 16th Avenue Watershed is located between the San Mateo Watershed and 19th Avenue Watershed. Most of Leslie Creek that flows through San Mateo is an engineered

[11] Desert Research Institute, 2023. Period of Record Monthly Climate Summary, https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?casmat+sfo, accessed on April 5, 2023.

[12] FlowsToBay, 2023, Major Creeks of San Mateo County. https://www.flowstobay.org/data-resources/resources/creeks-of-san-mateo-county/ accessed on April 5, 2023.

channel known as the 16th Avenue Drainage Channel, that flows northeast through the city, turning north and flowing between Lodi Avenue and Van Buren Street and then east and discharging into the Marina Lagoon at Bayside Park.

- North San Mateo Watershed. The North San Mateo Watershed encompasses the northern portion of San Mateo, including the North Shoreview neighborhood and portions of the North Center neighborhood. Stormwater runoff from this watershed drains directly to San Francisco Bay via storm drains under Poplar and Peninsula Avenues. Stormwater runoff discharges into San Francisco Bay near Seal Point Park.
- Shoreview Park Watershed. This watershed comprises a small area that includes the City's Wastewater Treatment Plant and a portion of the Shoreview neighborhood. Stormwater from this area is controlled by a pump station that pumps water directly into San Francisco Bay.
- Mariners Island Watershed. This watershed is east of Marina Lagoon and encompasses the Bridgepointe area and the neighborhoods of Harbortown and Mariner's Green. Stormwater discharge from this area drains directly into Marina Lagoon. A tidal gate near the mouth of Seal Slough regulates tidal influx from San Francisco Bay to the Marina Lagoon, which is important to prevent a population explosion of midges in the area.

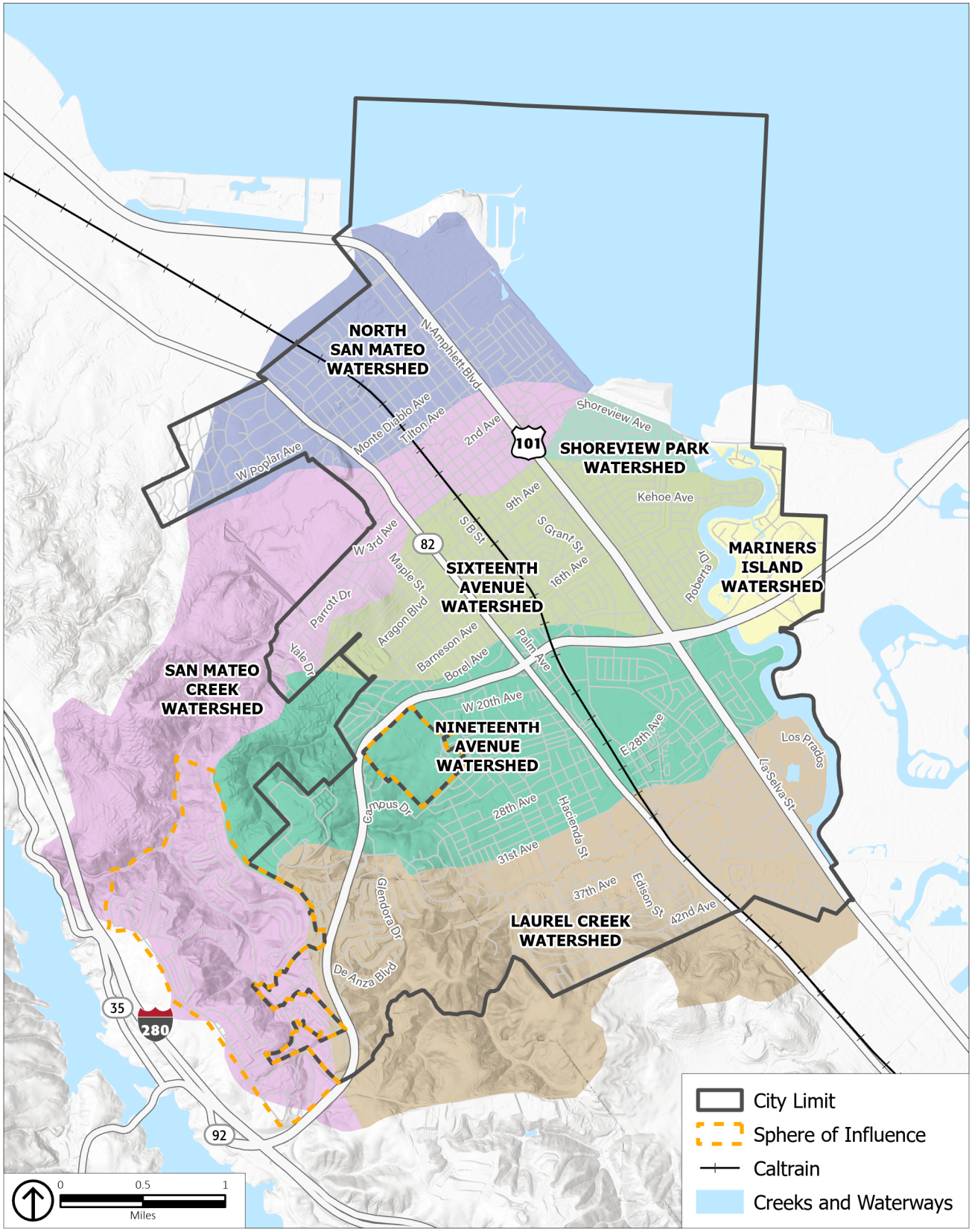
Local Hydrology

Stormwater runoff in the City of San Mateo is conveyed to San Francisco Bay and Marina Lagoon via a network of 130 miles of storm drains, 20 miles of creeks and drainage channels, a flood control lagoon, ten pump stations, and a three-mile Bayfront levee.[13] There are four major drainage basins within the city:[14]

- The San Mateo Creek drainage basin encompasses 35 square miles, with four square miles within San Mateo. Approximately 30 percent of the City's stormwater drains into San Mateo Creek. Storm flows are regulated in the upper reaches of the creek by Lower Crystal Springs Dam and two reservoirs. The San Francisco Water Department controls winter and springtime releases from the dam to approximately 1,000 cubic feet per second (cfs), which is the capacity of the creek channel at Polhemus Bridge.
- The North San Mateo drainage basin is in the northeastern portion of the city, including the North Shoreview neighborhood and portions of the North Central neighborhood. Stormwater from this area drains directly into San Francisco Bay via storm drains beneath Poplar and Peninsula Avenues.
- The Marina Lagoon drainage basin includes the 16th Avenue Drainage Channel, the 19th Avenue Drainage Channel, Laurel Creek, and stormwater runoff that discharges directly into the Marina Lagoon. The drainage basin is located in the southern two-thirds of San Mateo and consists of approximately 10 square miles.

[13] City of San Mateo, 2023, Clean Creeks and Flood Protection Initiative. https://www.cityofsanmateo.org/2288/Clean-Creeks-and-Flood-Protection-Initia, accessed on April 6, 2023.

[14] City of San Mateo, 2009, *City of San Mateo General Plan Update Draft Environmental Impact Report*, dated July 27, 2009.



Source: City of San Mateo, 2022; PlaceWorks, 2023.

Figure 4.9-1
San Mateo Watersheds

- The 3rd and Detroit drainage basin comprises a small area near the City's Wastewater Treatment Plan and a portion of the Shoreview neighborhood. Stormwater from this area is controlled by a pump station that pumps water directly into San Francisco Bay.

A Storm Drain Master Plan was completed in 2004 that analyzed the stormwater collection system and identified upgrade improvements for some areas of the city to provide adequate flood protection.

Based on the New Year's Eve storm and flooding event and the city's aging stormwater infrastructure, the City is proposing the Community Flood and Storm Protection Initiative, which would be a comprehensive stormwater system evaluation and upgrade program funded through a user fee and would include the following:

- Assessments of the current condition and capacity of the storm drain system
- An updated Storm Drain Master Plan
- Marina Lagoon dredging and maintenance
- Flood prevention and stormwater system capacity improvement programs
- Stormwater pump station upgrades
- Levee improvements

The initiative would require property owner approval via a citywide ballot measure and would cost homeowners approximately $8 per month. The stormwater fee is scheduled for a vote by City residents on a Fall 2023 ballot.

Groundwater

Most of the EIR Study Area is within the San Mateo Plain Subbasin of the Santa Clara Valley Groundwater Basin.[15] The southwestern portion of the city in the hills is not within a designated groundwater basin. This basin is designated as a very low priority basin and therefore is not regulated under the Sustainable Groundwater Management Act. This is because there is very little groundwater use in this basin (less than 2,700 acre-feet/year) and it is mostly due to private well pumping in the subbasin areas south of the City Limits (Redwood City and Menlo Park).

The EIR Study Area is served primarily by two water providers: California Water Service Company (Cal Water), Mid-Peninsula District and Estero Municipal Improvement District (EMID). Cal Water provides water service for most of the EIR Study Area, while EMID provides water to the Mariners Island portion of San Mateo. There are two small areas within the EIR Study Area at the end of West Poplar Avenue (approximately 15 acres) and at the end of Parrot Drive (approximately 7 acres) that are provided with potable water by the Town of Hillsborough. However, these areas do not use groundwater and are already developed with residential properties.

Cal Water and EMID supplies with water purchased from the San Francisco Public Utilities Commission (SFPUC). The SFPUC's water supplies consist of surface water imported from the Sierra Nevada via the

[15] San Mateo County, 2023, San Mateo County GIS Open Data, San Mateo Plain Subbasin. https://data-smcmaps.opendata.arcgis.com/datasets/san-mateo-plain-subbasin/explore?location=37.529784%2C-122.220423%2C11.96 accessed on April 6, 2023.

Hetch Hetchy Project and local surface water from the San Francisco Bay Region. Groundwater is not used for municipal water supply in the city.[16]

Shallow groundwater is typically encountered in San Mateo at depths ranging from 3 to 20 feet below ground surface (bgs).[17] If construction dewatering is required with future development within the EIR Study Area, an application for a groundwater waste discharge permit must be completed and submitted to the City for review and approval. Required information includes the source and estimated discharge volume, proposed discharge point to the sewer system and list of contaminants (if present) and expected concentration. The applicant may be required to collect groundwater samples representative of the water quality anticipated in the discharge if construction dewatering occurs in an area of known or potential groundwater contamination.

Water Quality

Surface water quality is affected by point-source and non-point source pollutants. Point source pollutants are emitted at a specific point, such as a pipe, and nonpoint-source pollutants are typically generated by surface runoff from diffuse sources, such as streets, paved areas, and landscaped areas. Point-source pollutants are controlled with pollutant discharge regulations or water discharge requirements. Nonpoint-source pollutants are more difficult to monitor and control, although they are important contributors to surface water quality in urban areas.

Stormwater runoff pollutants vary based on land use, topography, the amount of impervious surface, the amount and frequency of rainfall, and irrigation practices. Runoff in developed areas typically contains oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, herbicides, particulate matter, nutrients, animal waste, and other oxygen-demanding substances from landscaped areas. The highest pollutant concentrations usually occur at the beginning of the wet season during the “first flush,” when early rainfall flushes out pollutants that have accumulated on hardscape surfaces during the preceding dry months.

The San Francisco Bay RWQCB monitors surface water quality through implementation of the Basin Plan and designates beneficial uses for surface water bodies and groundwater within San Mateo County and San Mateo. The beneficial uses for surface water bodies and groundwater within the EIR Study Area are listed in Table 4.9-1, *Designated Beneficial Uses of Water Bodies in the EIR Study Area*.

[16] California Water Service, 2021, *2020 Urban Water Management Plan: Mid-Peninsula District*. https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed April 6, 2023.

[17] Gregg Drilling, 2023, Northern California Groundwater Depth Table.

TABLE 4.9-1 DESIGNATED BENEFICIAL USES OF WATER BODIES IN THE EIR STUDY AREA

Water Body	Designated Beneficial Use
Surface Water	
San Mateo Creek	FRSH, COLD, MIGR, RARE, SPWN, WARM, WILD, REC-1, REC-2
Polhemus Creek	COLD, WARM, WILD, REC-1, REC-2
Marina Lagoon	EST, WILD, REC-1, REC-2
Seal Slough	EST, RARE, WILD, REC-1, REC-2
Leslie Creek	WARM, WILD, REC-1, REC-2
Borel Creek	WARM, WILD, REC-1, REC-2
Laurel Creek	WARM, WILD, REC-1, REC-2
O'Neill Slough	EST, WILD, REC-1, REC-2
San Francisco Bay Lower	IND, COMM, SHELL, EST, MIGR, RARE, SPWN, WILD, REC-1, REC-2, NAV
Groundwater	
Santa Clara Valley, San Mateo Plain	MUN, PRO, IND, AGR (Potential Use)

Notes: Municipal and Domestic Water Supply (MUN), Industrial Process Water Supply (PRO), Industrial Service Water Supply (IND), Agricultural Supply (AGR), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Freshwater Replenishment (FRSH), , Cold Freshwater Habitat (COLD), Fish Migration (MIGR), Navigation (NAV), Preservation of Rare and Endangered Species (RARE), Shellfish Harvesting (SHELL), Fish Spawning (SPWN), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), Water Contact Recreation (REC-1), Noncontact Water Recreation (REC-2).
Source: San Francisco Bay RWQCB, 2019, *Water Quality Control Plan (Basin Plan).*

In addition to the establishment of beneficial uses and water quality objectives, another approach to improve water quality is a watershed-based methodology that focuses on all potential pollution sources and not just those associated with point sources. If a body of water does not meet established water quality standards under traditional point source controls, it is listed as an impaired water body under Section 303(d) of the Clean Water Act. For 303(d) listed water bodies, a limit is established that defines the maximum amount of pollutants that can be received by that water body. Listed impaired water bodies in the EIR Study Area and their associated pollutants of concern are presented in Table 4.9-2, *Listed Impaired Water Bodies in San Mateo*.

TABLE 4.9-2 LISTED IMPAIRED WATER BODIES IN SAN MATEO

Name	Pollutants of Concern		
Lower San Mateo Creek	Toxicity		
Laurel Creek	Diazinon [a]		
Marina Lagoon, Lakeshore Park Beach	Indicator Bacteria [b]		
Marina Lagoon, Aquatic Park	Indicator Bacteria		
Lower San Francisco Bay	▪ DDT [c] ▪ Dioxin Compounds [d] ▪ Furan Compounds [e]	▪ Invasive Species ▪ Mercury ▪ PCBs [f]	▪ Dieldrin [a] ▪ Chlordane [c] ▪ Trash

Notes:
a. Used as an insecticide.
b. Pathogen bacteria (>126 E. Coli organisms per 100 ml).
c. Used as a pesticide.
d. Burning processes, such as commercial or municipal waste incineration, backyard burning, and the use of fuels, such as wood, coal, or oil, produce dioxins. The compounds collect in high concentrations in soils and sediments.
e. Furan is a flammable liquid compound found in common organic solvents.
f. PCBs were used widely in electrical equipment like capacitors and transformers. They were banned in the US in 1979.
Source: State Water Resource Control Board, 2023, California 2018 Integrated Report.

Flood Zones

FEMA determines floodplain zones to assist cities in mitigating flooding hazards through land use planning. FEMA also outlines specific regulations for any construction within a 100-year floodplain. The 100-year floodplain is defined as an area that has a 1 percent chance of being inundated during a 12-month period. FEMA also prepares maps for 500-year floods, which mean that, in any given year, the risk of flooding in the designated area is 0.2 percent.

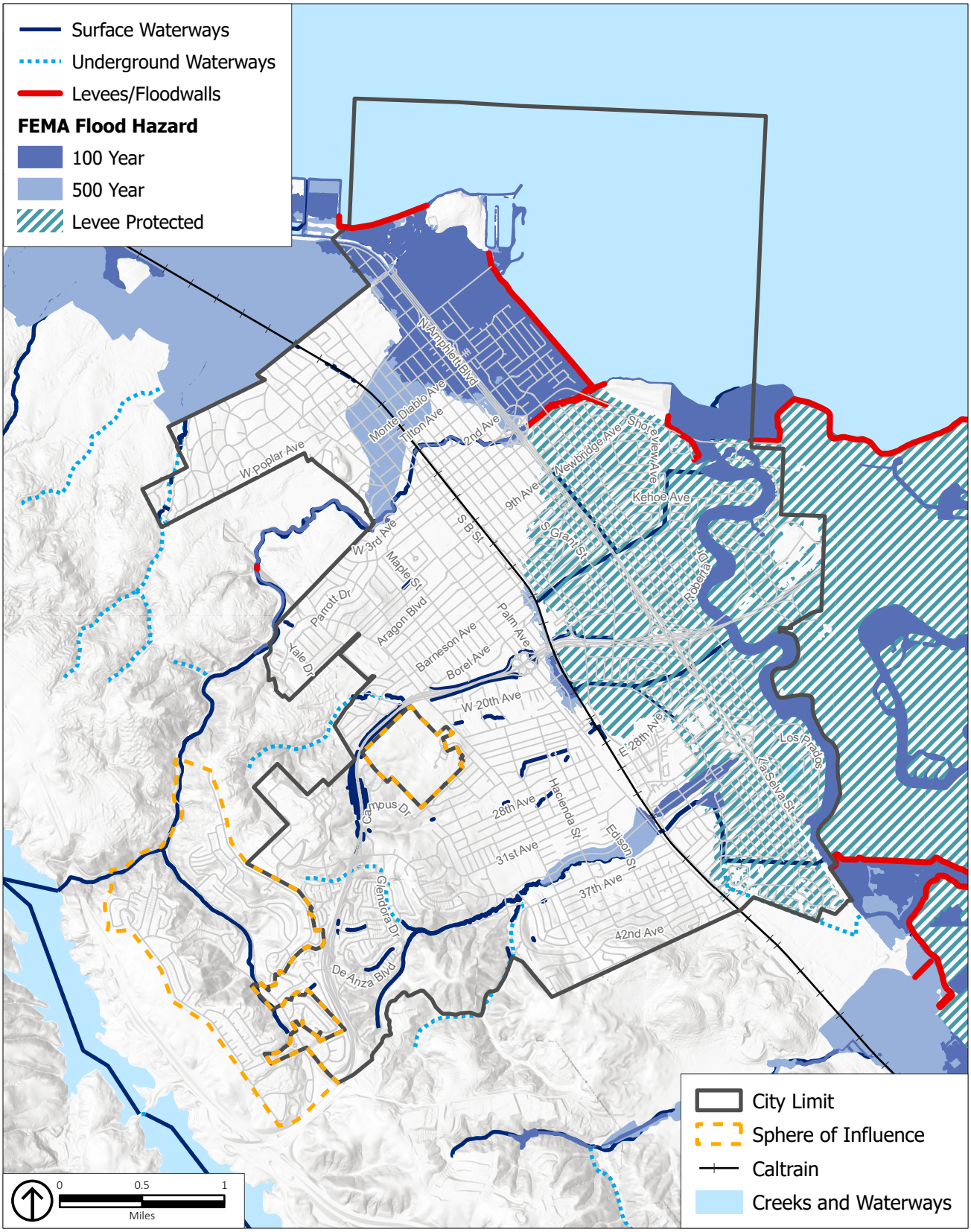
In some locations, FEMA also provides measurements of base flood elevations for the 100-year flood, which is the minimum height of the flood waters during a 100-year event. Base flood elevation (BFE) is reported in feet above sea level. Depth of flooding is determined by subtracting the land's height above sea level from the base flood elevation. Areas within the 100-year flood hazard area that are financed by federally backed mortgages are subject to mandatory federal insurance requirements and building standards to reduce flood damage.

There are two main types of flooding that occur in the EIR Study Area: 1) tidal flooding and 2) riverine flooding. Tidal flooding occurs during king tides. Riverine flooding occurs when the local streams and rivers overtop their banks during extreme rainfall events. Coupled with flat topography and a high groundwater table, stormwater runoff from these events can exceed the capacity of the City's storm drain system. Tidal and riverine flooding can also occur simultaneously, and the effects are compounded by climate change and sea level rise. Localized flooding can also occur in flat, urbanized areas of the city after heavy rain events.

The City is susceptible to flooding from San Francisco Bay due to the combined effect of high tides, heavy storm flows, and sea level rise due to global warming. A series of levees protect the city from tidal flooding. Without this levee protection, the area between the railroad tracks and the Bay would be directly exposed to saltwater inundation.[18] The levee system includes floodwalls and pump stations to protect residents from 100-year flood scenarios. Non-federal levees are located along the shoreline of Seal Point Park and over 1,300 feet of levees have been upgraded along the San Mateo and Burlingame border.

A map of the EIR Study Area locations that are within the 100-year floodplains is shown on Figure 4.9-2, *Potential Flood Hazards*. FEMA maps areas at risk of inundation from a 100-year flood, which has a one percent chance of occurring in any year, and a 500-year flood, where the risk of flooding is 0.2 percent annually, as shown in Figure 4.9-2. These areas are primarily located along creeks, including Laurel Creek and San Mateo Creek, and east of El Camino Real. The 100-year flood zone is also known as a Special Flood Hazard Area; homeowners with mortgages within the Special Flood Hazard Area are required to be protected by flood insurance. The locations of the 500-year floodplain are also shown on Figure 4.9-2, but there are no restrictions on building within the 500-year floodplain. Figure 4.9-2 also shows the levees and floodwalls along the shoreline areas of the city and along San Mateo Creek and Marina Lagoon. The map also shows the areas in the city that are outside of the 100-year and 500-year floodplains due to protection from the levee system.

[18] City of San Mateo, 2017, San Mateo Local Hazard Mitigation Plan.



Source: FEMA, 2022; PlaceWorks, 2023.

Figure 4.9-2
Potential Flood Hazards

As shown on Figure 4.9-2, most of the area in the northern portion of San Mateo north of the San Mateo Creek outlet and east of El Camino Real is in the 100-year floodplain as well as the banks of the various rivers and Marina Lagoon that run through San Mateo. Most of the area south of San Mateo Creek is not in the 100-year floodplain due to protection from levees.

In 2018, FEMA performed a coastal study with a preliminary map dated April 5, 2019. An estimated 176 homes within the North Central neighborhood were added to the 100-year floodplain. A map of the added 100-year floodplain areas is shown on Figure 4.9-3, *2019 Revised Floodplain Map of San Mateo*.

In May 2020, the North Shoreview Flood Improvement Project was approved, and an Assessment District was formed for the North Shoreview and North Central neighborhoods to fund a portion of the improvements. The scope of work includes raising 1,300 feet of the levee segment between San Mateo and Burlingame off Airport Boulevard and increasing the pump capacity at the Coyote Point and Poplar Avenue pump stations. The project has been completed and the documentation is being submitted to FEMA for review. Once FEMA accredits the levee system, the newly added areas would be removed from the 100-year floodplain and the FEMA map would be revised.

Remaining projects to address tidal flooding include raising the North Levee at Coyote Point Beach, constructing an inboard levee, and upgrading the Coyote Point and Poplar pump stations. Remaining projects to address riverine flooding include capacity and drainage improvements to Laurel Creek in the vicinity of the San Mateo/Glendale Village neighborhood. Other sources of residual flooding that will be addressed in future capital improvement programs include overflows from San Mateo Creek near El Camino and capacity restrictions and local drainage at the 19th Avenue Channel.[19]

In addition, the City of Foster City is implementing the Levee Improvement Project, which includes sheet pile floodwalls, earthen levees, and conventional floodwalls, intended to protect the area from a 100-year storm and up to 3 feet of sea level rise. The levee improvement project would provide flood protection in accordance with FEMA guidelines to retain FEMA levee accreditation for approximately 17,000 properties in Foster City and San Mateo.[20]

Dam Inundation Zones

Partial or complete dam failures can occur from one or more of the following causes:

- Earthquake
- Overtopping caused by floods that exceed the dam capacity due to Inadequate spillway capacity
- Internal erosion caused by embankment or foundation leakage, or piping/rodent activity
- Improper design resulting in structural failure of dam materials
- Foundation failure
- Inadequate operation, maintenance and upkeep
- Settling and cracking of concrete or embankment dams

[19] City of San Mateo, 2023, FEMA Flood Zone Overview. https://www.cityofsanmateo.org/1794/FEMA-Flood-Zone-History accessed on April 7, 2023.

[20] City of Foster City, 2023, Foster City Levee Improvements Project, https://fostercitylevee.org/, accessed on May 24, 2023.

- Failure of upstream dams on the same waterway.

There are six dams that have the potential to cause flooding in San Mateo in the event of a catastrophic dam failure: San Andreas, Lower Crystal Springs, Laurel Creek, two dams on East Laurel Creek, and Tobin Creek in Hillsborough. The two East Laurel Creek Dams control peak stormwater runoff and are too small to be regulated by the California Division of Safety of Dams (DSOD). The Tobin Creek Dam is also too small to be regulated and these three dams do not have mapped inundation zones. However, failure of these dams would only result in very localized flooding. The other three dams (San Andreas, Lower Crystal Springs, and Laurel Creek) are large enough to be regulated by the DSOD.

California Water Code requires owners of all dams under DSOD jurisdiction (except dams classified as low downstream hazard) to prepare dam inundation maps. These maps must be updated every ten years or when there are changes to downstream development or terrain. The dam inundation maps are submitted to DSOD for review and approval. Once the maps are approved, the dam owner must submit the map with the Emergency Action Plan to the California Office of Emergency Services (Cal OES) for review and approval. Dam inundation areas for these three dams are shown on Figure 4.9-4, *Dam Inundation Zones*.

San Andreas Dam is a 105-foot-high earthen embankment dam built in 1870 and located in the San Mateo Creek Watershed. It impounds San Andreas Reservoir, which provides water to almost one million customers in northern San Mateo County and San Francisco. Failure of this dam would result in released water flowing south and overtopping Lower Crystal Springs Dam, resulting in flooding in San Mateo. The dam is owned and operated by SFPUC and is classified as an extremely high hazard dam because it has the potential to impact highly populated areas and critical facilities or have short evacuation times. The seismic stability and hydraulic performance of the dam is currently being evaluated with extensive geotechnical investigations.

The Lower Crystal Springs Dam was constructed in 1888 as part of the Hetch Hetchy water system. It is a 149-foot-high gravity concrete dam owned and operated by the SFPUC and the reservoir impounds water which supplies San Francisco and most of the cities within San Mateo County. It is classified as an extremely high hazard dam but is listed as being in satisfactory condition. Although it is located adjacent to the San Andreas Fault, it survived the 1906 and 1989 earthquakes without any significant damage. The dam was inspected in 2010 and it was determined to be structurally sound and able to withstand an 8.3 magnitude earthquake. Based on this evaluation, the potential for dam failure is low.[21] Significant upgrades to the dam and nearby overpass bridge were completed between 2010 and 2015 to restore maximum storage capacity of the reservoir. The dam inundation area follows San Mateo Creek and spreads out near Hillsborough Park, inundating portions of Hillsborough, San Mateo, and Foster City.

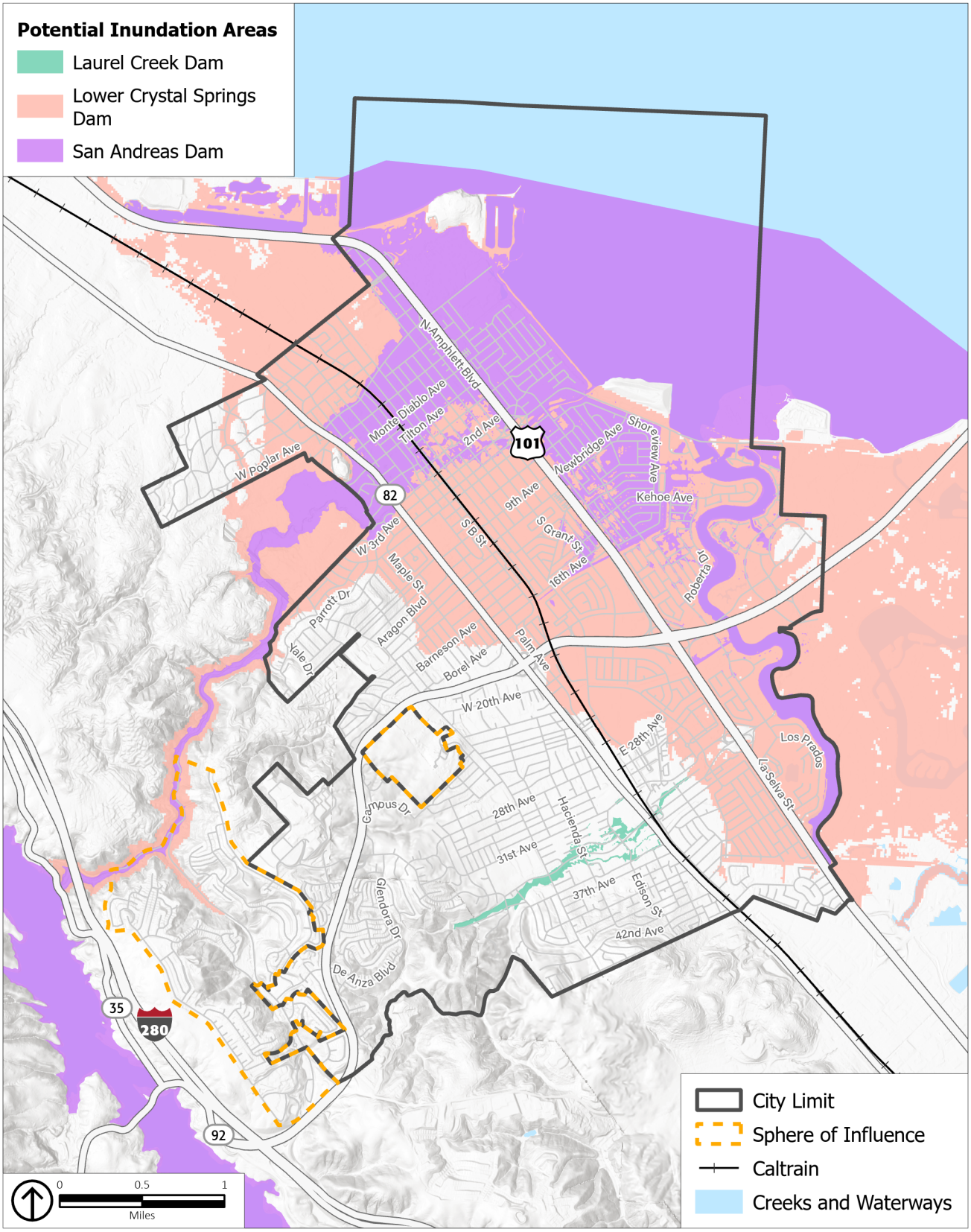
[21] City of San Mateo, 2017. Local Hazard Mitigation Plan.

HYDROLOGY AND WATER QUALITY

Source: City of San Mateo, 2019.

0 .2
Scale (Miles)

Figure 4.9-3
2019 Revised Floodplain Map of San Mateo



Source: Cal OES, 2023; PlaceWorks, 2023.

Figure 4.9-4
Dam Inundation Zones

Laurel Creek Dam was constructed in 1969; it is a 40-foot-high earth fill dam and is owned and operated by the City of San Mateo. It is located at the upstream end of Laurelwood Drive. The purpose of the dam is to control peak stormwater runoff from the upstream watershed and prevent flooding. Temporary retention by the dam reduces the peak stormwater flow rate of Laurel Creek from 600 cfs to 300 cfs and thereby controls the downstream flow. A 30-inch reinforced culvert at the base of the dam serves as the emergency spillway. The dam is classified as a high downstream hazard due to the potential to impact highly populated areas. However, the most recent DSOD reports indicate that the dam is structurally sound and will perform without failure during a major seismic event. The dam inundation zone follows Laurel Creek, spreads out near the Hillsdale Shopping Center, and extends into the neighborhood to the east.

There have been no dam failures in the City or County of San Mateo, other than the failure of a small dam in the community of El Granada in 1926.[22] However, there has been instances of Laurel Creek Dam and East Laurel Creek Dam being overtopped after heavy rainfall. The Laurel Creek Dam was overtopped in the 1970s, flooding a portion of the San Mateo Village neighborhood, and the East Laurel Creek Dam was overtopped in the 1980s, damaging homes immediately downstream.

There are no State or local restrictions for development in dam inundation zones; however, each dam owner is required to prepare an emergency action plan (EAP) and coordinate its response to a dam incident with local authorities. The San Mateo County Department of Emergency Management maintains copies of the most recent dam EAP and inundation maps and uses this information to plan notification for downstream areas in the event of a dam failure. Also, the San Mateo Office of Emergency Services, which is part of the San Mateo Consolidated Fire Department, manages and maintains emergency plans and training for City staff and the community.

Sea Level Rise

According to OneShoreline, San Mateo County as a whole is the most vulnerable county in California to sea level rise because of its extensive coastline and Bay shoreline and the number of people and value of properties and critical assets in sea level rise-prone areas. Along the shoreline of the city, sea levels are projected to rise between 1.1 to 2.7 feet by 2050, with levels above 2 feet likely, and 3.4 to 10.2 feet by 2100 (depending on the scenario). However, it is possible that sea levels could rise faster than these projections. Figure 4.9-5, *Sea Level Rise 2050*, Figure 4.9-6, *Sea Level Rise 2050 + 100-Year Storm*, and Figure 4.9-7, *Sea Level Rise 2100*, display the expected sea level rise in San Mateo in 2050 (24 inches), sea level rise in San Mateo in 2050 with a 100-year storm, and sea level rise in San Mateo in 2100 (84 inches), respectively, based on guidance from the Ocean Protection Council's 2018 Updated California Sea Level Rise Guidance, featuring models from the Adapting to Rising Tides program of the San Francisco Bay Conservation and Development Commission (BCDC). These figures do not reflect the improvements currently underway for the Foster City levee system.

Rising sea levels can also cause the shoreline to flood more frequently and severely during storms or king tide events. King tides are abnormally high, predictable astronomical tides that occur about twice per

[22] San Mateo County, 2021. 2021 Multijurisdictional Local Hazard Mitigation Plan.

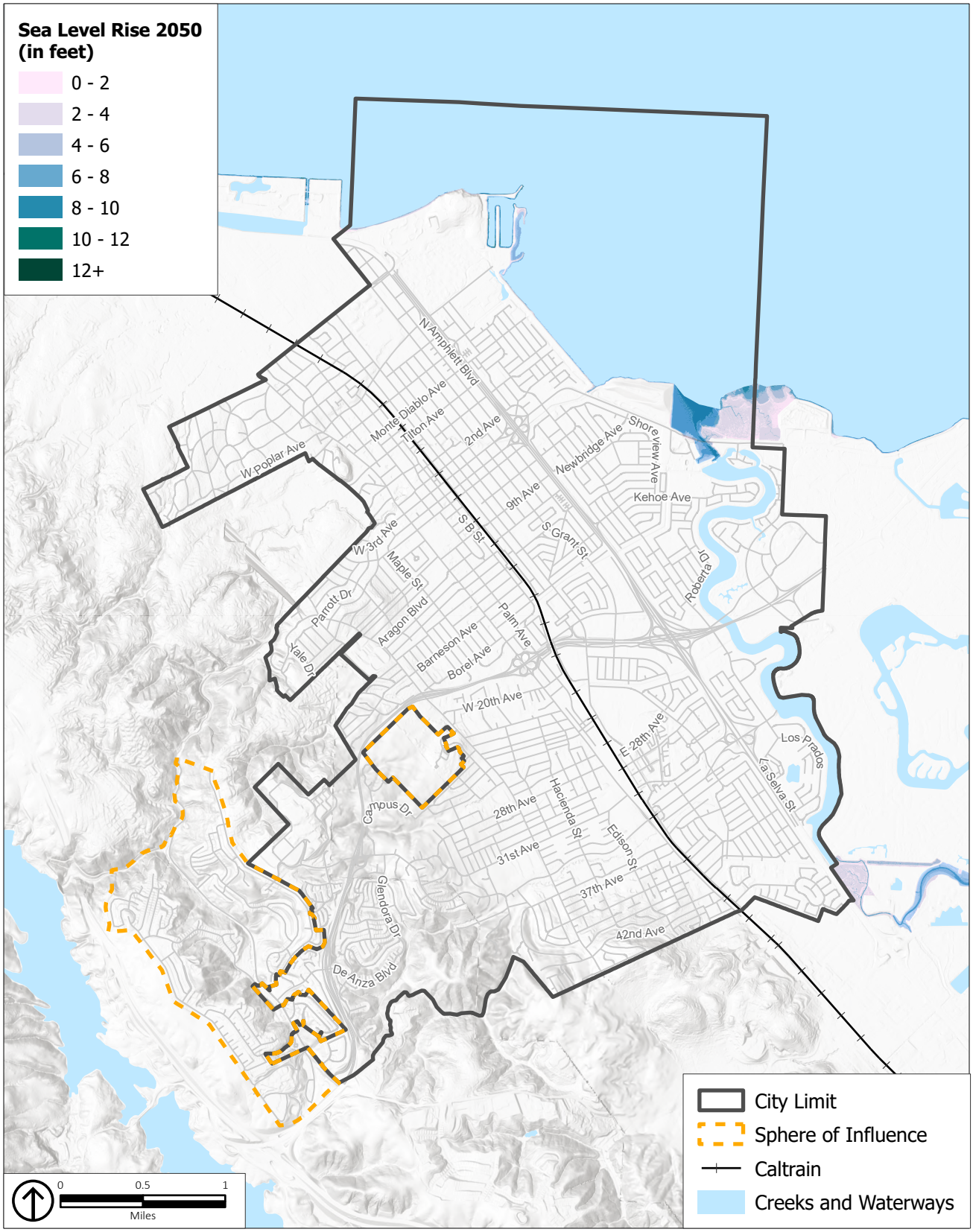
year, with the highest tides occurring when the earth, moon, and sun are aligned. Because sea level rise will cause ocean levels to be higher during normal conditions, shoreline floods can reach further onto land. For example, a storm that has a one in five chance of occurring in a given year (known as a five-year storm) can create a temporary increase in sea levels of approximately 24 inches. The goals, policies, and actions in the proposed General Plan call for planning for a medium- to high-risk aversion scenario in 2100. This scenario uses a 1 in 200 chance for sea level rise projections, providing a precautionary projection that can be used for less adaptive (less able to make changes that reduce harm in response to hazards), more vulnerable developments or populations that will experience moderate to high consequences if actions are not taken to address sea level rise in these areas.

Rising sea levels may impact a portion of San Mateo's housing, commercial buildings, essential infrastructure, and economic drivers, as low-lying land near the shoreline could be subject to more frequent shoreline flooding. Affected essential infrastructure includes US Highway 101, State Route 92, and the Caltrain station and associated railroad infrastructure. Meanwhile, rising tides may increase groundwater levels, inundating contaminated soils. Given that some contaminated sites in San Mateo sit near the shoreline, rising groundwater may cause contaminated soils to leach into new, different areas.

However, there is a levee system in place along the San Mateo shoreline and portions of San Mateo Creek and Marina Lagoon that provide protection from tidal flooding and sea level rise. As shown in Figure 4.9-2, *Potential Flood Hazards*, the portions of San Mateo south of San Mateo Creek are protected by FEMA accredited levees and are not within the 100-year floodplain. The Coyote Point Levee and the Bayfront Levee are not currently FEMA accredited and therefore the areas of San Mateo inland from the shoreline are in the 100-year floodplain. The City's Public Works Department has recently completed the North Shoreview Flood Improvement Project, which included raising a 1,300-foot levee segment, installing backup power generation, and increasing pumping capacity at the Coyote Point and Poplar Avenue Pump Stations.[23] The project documentation is being submitted to FEMA for review and it is anticipated that the levee system will be FEMA accredited and the, properties within the North Shoreview and North Central neighborhoods will be removed from the FEMA flood map as no longer within the 100-year floodplain. The levee system along San Mateo's shoreline provides a level of protection to residents and businesses from tidal flooding and sea level rise.

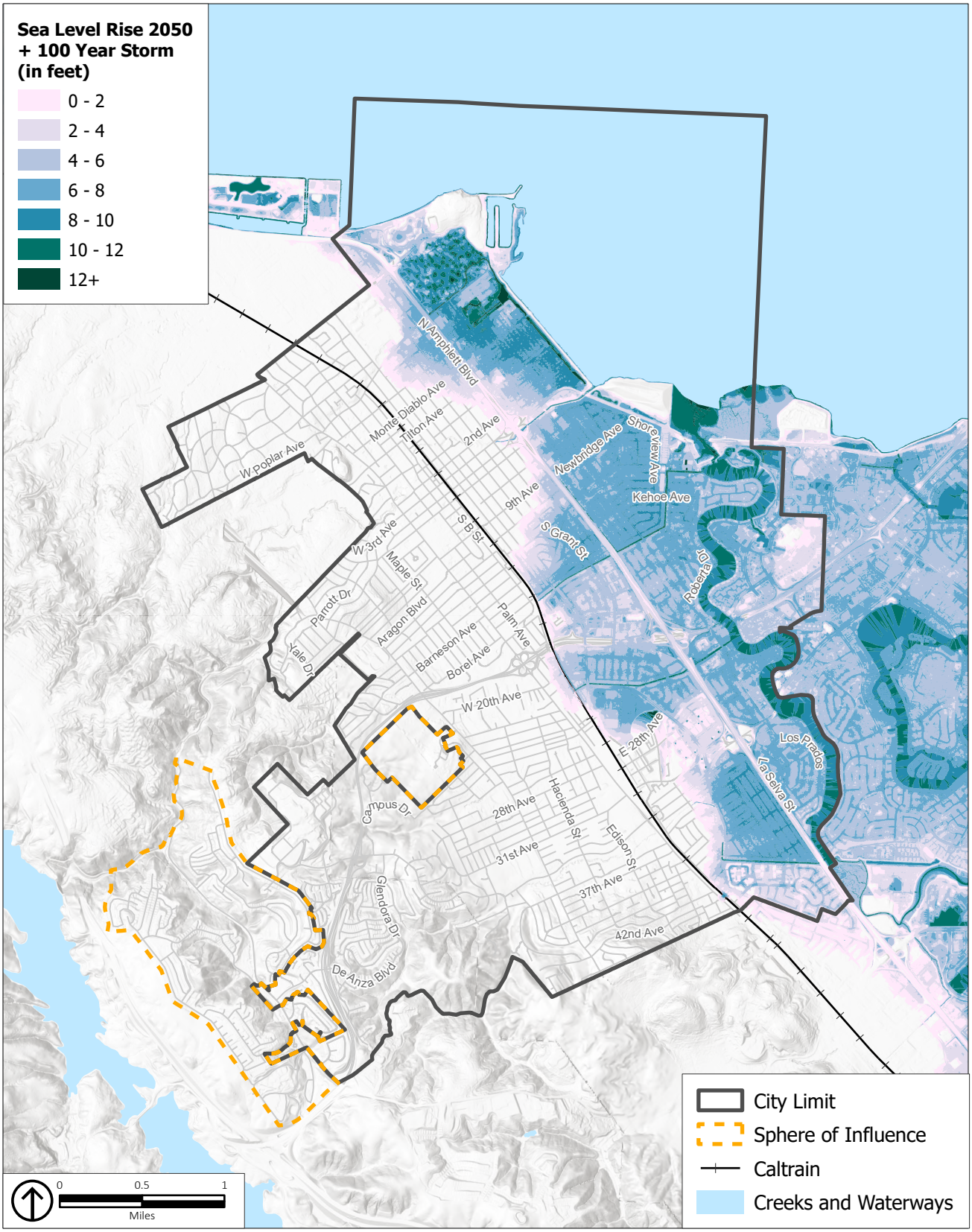
Additionally, to proactively address the potential impacts of sea level rise, the City of San Mateo is working with regional, State, and federal partners. The City regularly participates in data gathering and mapping; collaborates with OneShoreline; manages a new assessment district to fund necessary flood protection improvements; and completes infrastructure projects to provide flood protection. The City is also engaged through the BayCAN collaborative, a Bay Area-wide collaborative network of local governments and organizations focused on responding effectively and equitably to the impacts of climate change.

[23] City of San Mateo, North Shoreview Levee and Pump Station Improvement Project, https://www.cityofsanmateo.org/1794/FEMA-Flood-Zone-History#tab57a3dafb-bd81-4e8d-b78b-e9d88b335aea_0, accessed June 30, 2023.



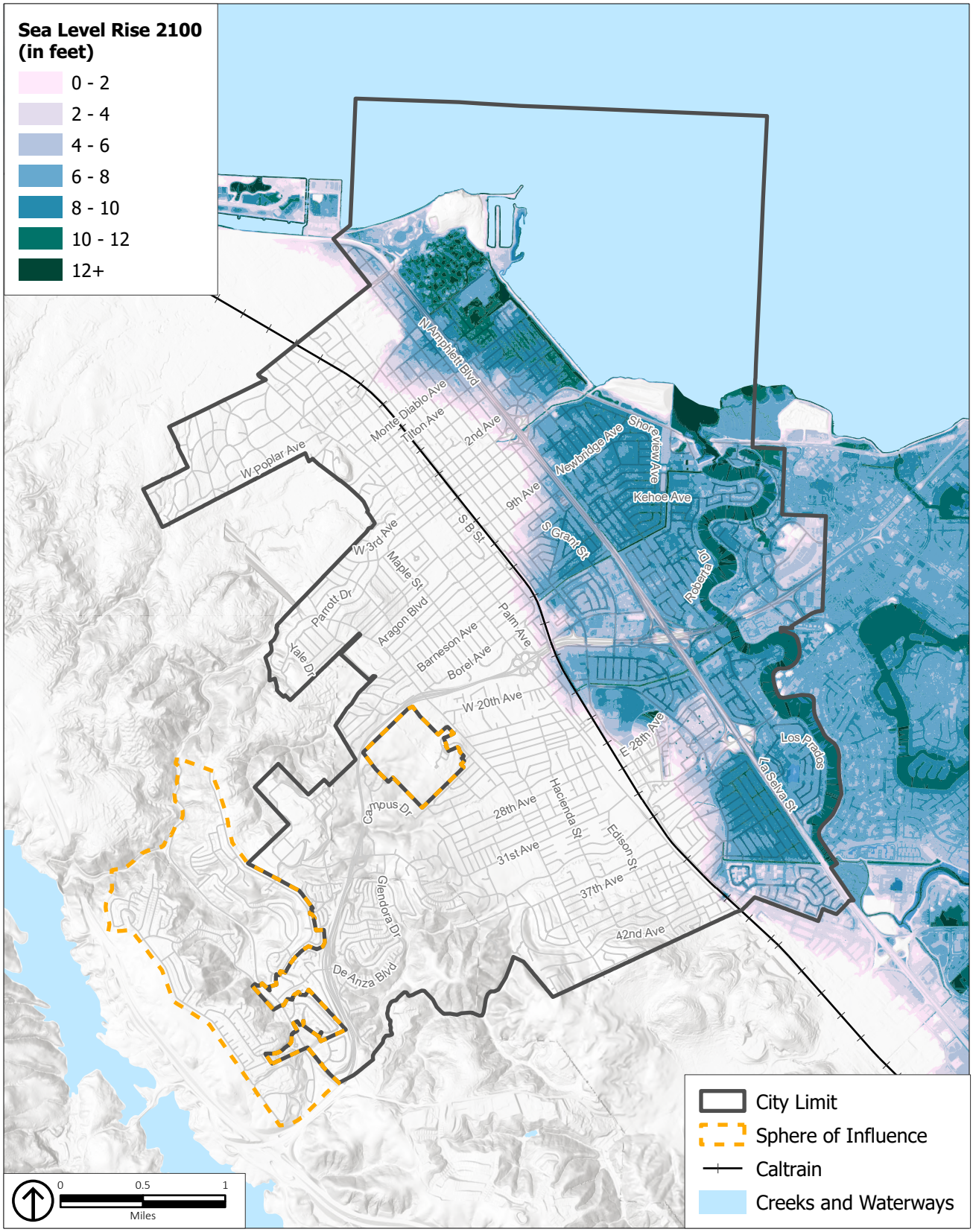
Source: PlaceWorks, 2023.

Figure 4.9-5
Sea Level Rise 2050



Source: PlaceWorks, 2023.

Figure 4.9-6
Sea Level Rise 2050 + 100 Year Storm



Source: PlaceWorks, 2023.

Figure 4.9-7
Sea Level Rise 2100

Tsunami

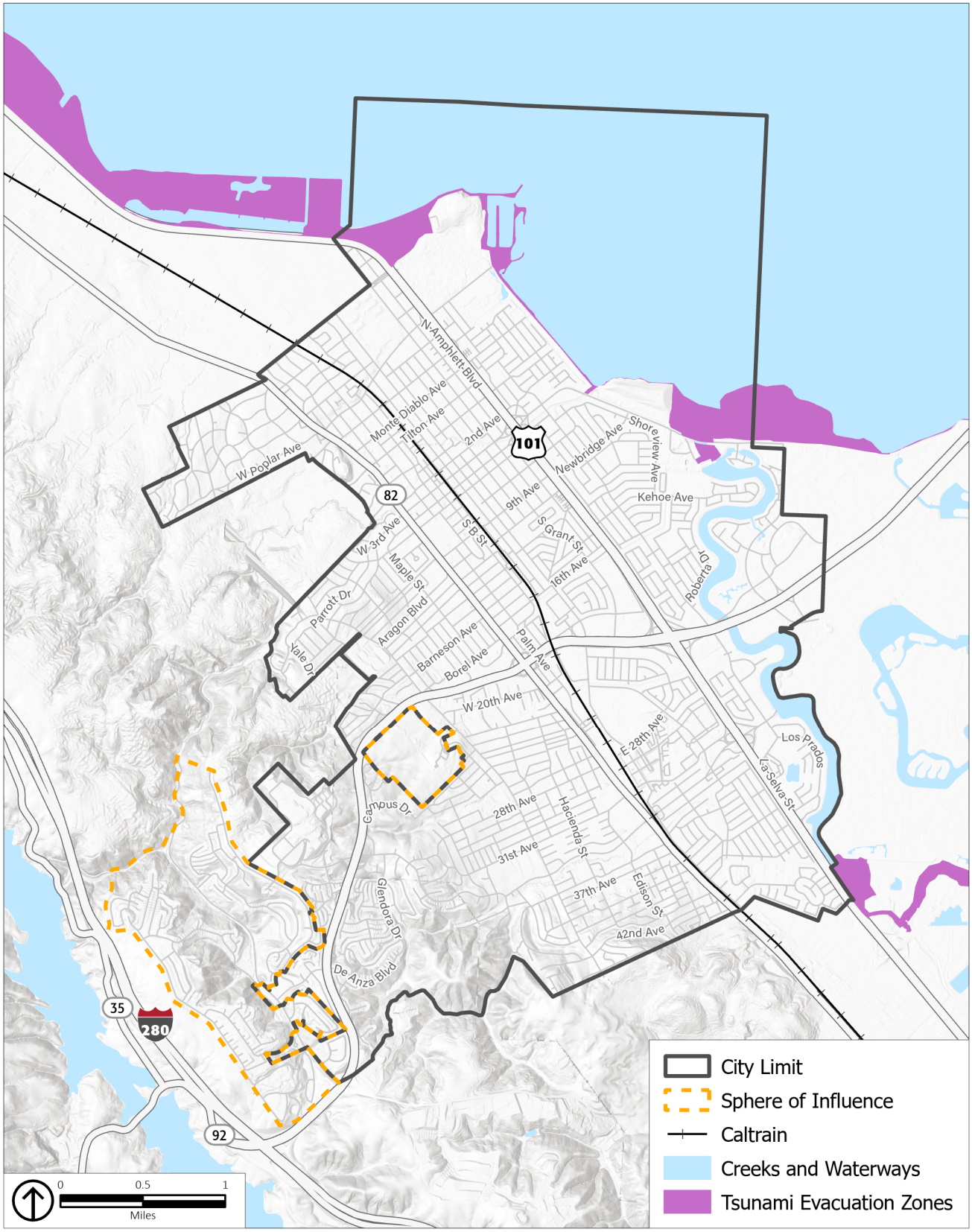
A tsunami is a series of traveling ocean waves generated by a rare, catastrophic event, including earthquakes, submarine landslides, and submarine or shoreline volcanic eruptions. Tsunamis can travel over the ocean surface at speeds of 400 to 500 miles per hour or more, and wave heights at the shore can range from inches to 50 feet. Factors influencing the size and speed of a tsunami include the source and magnitude of the triggering event, as well as off-shore and on-shore topography. A bayfront levee system currently protects portions of the city from high tides and waves; however, this could be overtopped by a tsunami.

Tsunamis that could potentially impact the city can result from offshore earthquakes in or around the Bay Area or from distant events. It is most common for tsunamis to be generated by offshore subduction faults such as those in Washington, Alaska, Japan, and South America. Tsunami waves generated by these distant sites can travel across the ocean or down the coast but would result in several hours of warning time. Local tsunamis could also result from offshore strike-slip faults with little warning time. However, the Bay Area faults that are off the Pacific coastline or under portions of San Francisco Bay are not likely to produce significant tsunamis because they move side to side rather than up and down, which is the displacement needed to create significant tsunamis. The greatest risk of a significant tsunami in the Bay Area is from tsunamis generated by earthquakes elsewhere in the Pacific. A tsunami originating in the Pacific Ocean would lose significant energy passing through San Francisco Bay. [24]

Although the Bay Area has experienced tsunamis in the past, they have not created significant damage. Most of the damage has occurred along the Pacific Coast. The 1964 Alaska earthquake resulted in wave heights of up to 1.1 meters along the San Francisco, Marin, and Sonoma County coastlines. The 2011 Magnitude 9.0 earthquake in Japan caused damage to marinas and ports in Santa Cruz and Crescent City, but no damage within San Francisco Bay.

The California Office of Emergency Services (CalOES) has developed tsunami evacuation maps, indicating areas that should evacuate given a tsunami warning. As shown on Figure 4.9-8, *Tsunami Evacuation Zones*, only the areas of San Mateo outside of the City's levee system are at risk for tsunamis, including the adjacent marshlands, tidal flats and former bay margin lands that are still at or below sea level. The likelihood of a major tsunami created by a Magnitude 9.1 offshore earthquake in Alaska causing flooding of the San Mateo bayfront area is very remote because a wave height of 20 feet at the Golden Gate Bridge would reach Coyote Point with a maximum runup of 5 feet at high tide. The largest tsunami in the last 120 years had a height of 7.4 feet at Golden Gate, causing a 2-foot runup along the San Mateo shoreline. [25]

[24] City of San Mateo, 2017, San Mateo Local Hazard Mitigation Plan.
[25] City of San Mateo, 2017, San Mateo Local Hazard Mitigation Plan.



Source: CGS, 2022; PlaceWorks, 2023.

Figure 4.9-8
Tsunami Evacuation Zones

Seiche

A seiche is an oscillation wave generated in a closed or partially closed body of water, which can be compared to the back-and-forth sloshing in a bathtub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes, tsunamis, or landslides into the water body. Bodies of water such as bays, harbors, reservoirs, ponds, and swimming pools can experience seiche waves up to several feet in height during a strong earthquake. However, for a seiche to occur in San Francisco Bay, the wave frequency of a tsunami would have to match the resonance frequency of the Bay. The typical frequency of a tsunami is ten minutes to an hour, and the resonance frequency of San Francisco Bay is somewhere between one to ten hours. Therefore, tsunamis have frequencies too short to resonate within San Francisco Bay and a seiche is considered unlikely. There are no large bodies of water within the EIR Study Area that could trigger a seiche. Seiches associated with large bodies or water, such as Lake Tahoe and the Great Lakes are typically one foot high or less. Therefore, the probability that San Andreas, Lower Crystal Springs, or Laurel Creek Dams would be overtopped by a seiche is negligible since all of the reservoirs have a freeboard greater than one foot.

4.9.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant hydrology and water quality impact if it would:

1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in a substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows.
4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.
6. In combination with past, present, and reasonably foreseeable projects, result in cumulative hydrology and water quality impacts in the area.

4.9.3 IMPACT DISCUSSION

HYD-1 The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Construction Impacts

Buildout under the proposed project would involve soil disturbance, construction, and operation of land uses that could generate pollutants affecting stormwater. Clearing, grading, excavation, and construction activities have the potential to impact water quality through soil erosion and increasing the amount of silt and debris carried in runoff. Additionally, the use of construction materials, such as fuels, solvents, and paints, may present a risk to surface water quality. Finally, the refueling and parking of construction vehicles and other equipment on-site during construction may result in oil, grease, or related pollutant leaks and spills that may discharge into the storm drain system.

To minimize these potential impacts, future development that involves the disturbance of one acre or more of land would require compliance with the Construction General Permit (CGP) Order WQ 2022-0057-DWQ, which includes the preparation and implementation of a SWPPP. A SWPPP requires the incorporation of BMPs to control sediment, erosion, and hazardous materials contamination of runoff during construction and prevent contaminants from reaching receiving water bodies. The CGP also requires that prior to the start of construction activities, the project applicant must file PRDs with the SWRCB, which includes a Notice of Intent, risk assessment, site map, annual fee, signed certification statement, and a SWPPP. The construction contractor is required to maintain a copy of the SWPPP at the site and implement all construction BMPs identified in the SWPPP during construction activities. Prior to the issuance of a grading permit, the project applicant is required to provide proof of filing of the PRDs with the SWRCB. Categories of potential BMPs that would be implemented for the proposed project are described in Table 4.9-3, *Construction Best Management Practices*.

TABLE 4.9-3 CONSTRUCTION BEST MANAGEMENT PRACTICES

Category	Purpose	Examples
Erosion Controls and Wind Erosion Controls	▪ Use project scheduling and planning to reduce soil or vegetation disturbance (particularly during the rainy season) ▪ Prevent or reduce erosion potential by diverting or controlling drainage ▪ Prepare and stabilize disturbed soil areas	Scheduling, preservation of existing vegetation, hydraulic mulch, hydroseeding, soil binders, straw mulch, geotextile and mats, wood mulching, earth dikes and drainage swales, velocity dissipation devices, slope drains, streambank stabilization, compost blankets, soil preparation/roughening, and non-vegetative stabilization
Sediment Controls	▪ Filter out soil particles that have been detached and transported in water	Silt fence, sediment basin, sediment trap, check dam, fiber rolls, gravel bag berm, street sweeping and vacuuming, sandbag barrier, straw bale barrier, storm drain inlet protection, manufactured linear sediment controls, compost socks and berms, and biofilter bags

TABLE 4.9-3 CONSTRUCTION BEST MANAGEMENT PRACTICES

Category	Purpose	Examples
Wind Erosion Controls	▪ Apply water or other dust palliatives to prevent or minimize dust nuisance	Dust control soil binders, chemical dust suppressants, covering stockpiles, permanent vegetation, mulching, watering, temporary gravel construction, synthetic covers, and minimization of disturbed area
Tracking Controls	▪ Minimize the tracking of soil offsite by vehicles	Stabilized construction roadways and construction entrances/exits, and entrance/outlet tire wash
Nonstorm Water Management Controls	▪ Prohibit discharge of materials other than stormwater, such as discharges from the cleaning, maintenance, and fueling of vehicles and equipment ▪ Conduct various construction operations, including paving, grinding, and concrete curing and finishing, in ways that minimize non-stormwater discharges and contamination of any such discharges	Water conservation practices, temporary stream crossings, clear water diversions, illicit connection/discharge, potable and irrigation water management, and the proper management of the following operations: paving and grinding, dewatering, vehicle and equipment cleaning, fueling and maintenance, pile driving, concrete curing, concrete finishing, demolition adjacent to water, material over water, and temporary batch plants
Waste Management and Controls (i.e., good housekeeping practices)	▪ Manage materials and wastes to avoid contamination of stormwater	Stockpile management, spill prevention and control, solid waste management, hazardous waste management, contaminated soil management, concrete waste management, sanitary/septic waste management, liquid waste management, and management of material delivery storage and use

Source: Compiled by PlaceWorks from information provided in the California Stormwater Quality Association's Construction BMP Handbook.

Submittal of the PRDs and implementation of the SWPPP throughout the construction phase of development pursuant to the proposed project will address anticipated and expected pollutants of concern from construction activities. Furthermore, as required in SMMC, Section 7.39.170, any construction project that involves land disturbance and requires a site development planning application must obtain a Stormwater Pollution Prevention Program Construction Permit from the Director of Public Works. In addition, the City complies with Section C.6, *Construction Site Control*, of the San Francisco MS4 permit and confirms implementation of appropriate BMPs with construction site inspections. As a result, water quality impacts associated with construction activities would be *less than significant*.

Operational Impacts

Development and activities under the proposed project may result in long-term impacts to the quality of stormwater and urban runoff, subsequently impacting downstream water quality and/or San Francisco Bay. Developments can potentially create new sources for runoff contamination through changing land uses. As a consequence, developments within the EIR Study Area as a whole may have the potential to increase the post-construction pollutant loadings of certain constituent pollutants associated with the proposed land uses and their associated features, such as landscaping and plaza areas.

To help prevent long-term impacts associated with land use changes and in accordance with the requirements of the MS4 permit (Order No. R2-2022-0018) and the SMCWPPP C.3 Regulated Projects Guide, designated new development and significant redevelopment projects that involve the creation and/or replacement of 5,000 square feet or more of impervious surface must incorporate low impact development (LID) site design, source control, and stormwater treatment measures to address post-construction stormwater runoff. These regulated projects would be required to submit a Stormwater Control Plan (SCP) and C.3 and C.6 Development Review Checklist with building plans, to be reviewed and approved by the City of San Mateo.

In addition, projects that create and/or replace one acre or more of impervious surfaces and are located in a mapped susceptible area must comply with the hydromodification requirements specified in the C.3.g provisions of the MS4 permit. The hydromodification provisions require that post-project runoff rates and durations must match pre-project runoff rates and durations for ten percent of the 2-year peak flow up to the pre-project 10-year peak flow. In general, the western and southwestern portions of San Mateo are within the areas subject to hydromodification requirements.

All regulated projects are required to prepare an SCP that demonstrates that the project incorporates site design measures and treatment facilities that will:

- Minimize imperviousness
- Retain or detain stormwater
- Slow runoff rates
- Reduce pollutants in post-development runoff

In particular, the SCP would show that all runoff from impervious areas is either dispersed to landscape or routed to a properly designed LID treatment facility.[26] LID is an approach to land development (or redevelopment) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features and minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. There are many practices that have been used to adhere to these principles, such as bioretention facilities, rain gardens, vegetated rooftops, rain barrels, and permeable pavements. By implementing LID principles and practices, water can be managed in a way that reduces the impact of built areas and promotes the natural movement of water within an ecosystem or watershed. Applied on a broad scale, LID can maintain or restore a watershed's hydrologic and ecological functions.

Since the proposed project does not include specific development plans, SCPs are not required at this time. New development and redevelopment projects within the EIR Study Area would be required to prepare SCPs consistent with the guidance in the SMCWPPP C.3 Regulated Guide and the MS4 permit at the time of project application.

As part of the statewide mandate to reduce trash within receiving waters, the City is required to adhere to the requirements of the California Trash Amendments. The requirements include the installation and maintenance of trash screening devices at all public curb inlets, grate inlets, and catch basin inlets. The

[26] SMCWPPP, 2020, C.3 Regulated Projects Guide.

trash screening devices must be certified trash full capture systems and must be installed on all inlets by 2030.

Additionally, all development under to the proposed project would be required to comply with the requirements of the SMMC, which prohibits illicit discharge into the storm drain system and includes policies to reduce the pollutants in stormwater (Section 7.39.120) and protect the water quality of watercourses (Section 7.39.130). All development that discharges storm water associated with industrial activity shall also comply with the requirements of the General Industrial Permit (Order No. 2014-0057-DWQ, last amended in 2018).

The proposed Conservation, Open Space, and Recreation (COS) and Public Services and Facilities (PSF) Elements of the proposed General Plan contain goals, policies, and actions that require local planning and development decisions to consider impacts to water quality. The following General Plan 2040 goals, policies, and actions would serve to minimize potential adverse impacts on water quality and stormwater discharge:

- Goal COS-1: Protect and enhance the City's natural resource areas that provide plant and animal habitat and benefit human and ecological health and resilience.
    - Policy COS 1.8: Development Near Wetlands or Water. Avoid wetlands development where feasible (as defined under California Environmental Quality Act [CEQA] Guidelines, Section 15364). Restrict or modify proposed development in areas that contain wetlands or waters to ensure the continued health and survival of special-status species and sensitive habitat areas. Development projects shall be designed to avoid impacts on sensitive resources, or to adequately mitigate impacts by providing on-site or off-site replacement at a higher ratio. Project design modification should include adequate avoidance measures, such as the use of setbacks, buffers, and water quality, drainage-control features, or other measures to ensure that no net loss of wetland acreage, function, water quality protection, and habitat value occurs. This may include the use of setbacks, buffers, and water quality, drainage-control features, or other measures to maintain existing habitat and hydrologic functions of retained wetlands and waters of the US.
    - Policy COS 1.9: Wetland Development Mitigation. If an applicant has demonstrated that wetlands avoidance is not feasible, provide replacement habitat on-site through restoration and/or habitat creation to ensure no net loss of wetland acreage, function, water quality protection, and habitat value. Allow restoration of wetlands off-site only when an applicant has demonstrated that on-site restoration is not feasible. Off-site wetland mitigation should consist of the same habitat type as the wetland area that would be lost.
- Goal COS-3: Protect and improve San Mateo's creeks as valuable habitat and components of human and environmental health.
    - Policy COS 3.1: Aesthetic and Habitat Values – Public Creeks. Preserve and enhance the aesthetic and habitat values of creeks, such as San Mateo, Laurel, and Beresford Creeks, and other City-owned channels in all activities affecting these creeks, including revegetation, rewilding, erosion control, and adequate setbacks for structures.

- Policy COS 3.2: Aesthetic and Habitat Values – Private Creeks. Encourage preservation and enhance the aesthetic and habitat values of privately owned sections of all other creeks and channels, shown in Figure COS-3 [of the proposed General Plan].
- Policy COS 3.3: Groundwater Protection. Support the County of San Mateo's efforts to protect the quality and quantity of groundwater resources in the city.
- Policy COS 3.4: Groundwater Infiltration. Protect existing open spaces, natural habitat, floodplains, and wetland areas that allow for percolation and infiltration of stormwater runoff to slow and reduce the flow of runoff and improve water quality and identify areas to protect when considering new development.

- Goal PSF-3: Maintain sewer, storm drainage, and flood-control facilities adequate to serve existing needs, projected population, and employment growth and that provide protection from climate change risk.
  - Policy PSF 3.6: Stormwater System. Operate, upgrade, and maintain a stormwater drainage and flood-control system that safely and efficiently conveys runoff to prevent flooding and protect life and property; minimizes pollutants discharging to creeks and San Francisco Bay; manages stormwater as a resource and not a waste; and protects against the impacts of climate change.
  - Policy PSF 3.7: Water Quality Standards. Manage City creeks, channels, and the Marina Lagoon to meet applicable State and federal water quality standards. Protect and restore creeks to a level acceptable for healthy marine and bird habitat.
  - Policy PSF 3.8: Stormwater Pollution Prevention. In accordance with requirements in the Municipal Regional Stormwater Permit, implement programs, plans, and policies to ensure pollutants are minimized in stormwater runoff.
  - Policy PSF 3.9: Low Impact Development. Minimize stormwater runoff and pollution by encouraging low-impact design (LID) features, such as pervious parking surfaces, bioswales, and filter strips in new development.
  - Policy PSF 3.10: New Creekside Development Requirements. Require that new creekside development protect and improve setbacks, banks, and waterways adjacent to the development projects to increase flood protection and enhance riparian vegetation and water quality. Prevent erosion of creek banks.
  - Policy PSF 3.11: Hydrologic Impacts of Creek Alteration. Ensure that improvements to creeks and other waterways do not cause adverse hydrologic impacts, adversely affect adjacent properties, or significantly increase the volume or velocity of flow of the subject creek.
  - Policy PSF 3.12: Levee System. Continue to assess, maintain, and upgrade the City's levee system. Collaborate with the Federal Emergency Management Agency, OneShoreline, and neighboring agencies to ensure adequate flood control and sea level rise protection.
  - Actions PSF 3.13: City Infrastructure Studies and Master Plans. Develop and coordinate studies and master plans to assess infrastructure and to develop a Capital Improvement Program for necessary improvements. Incorporate climate change risks, such as the impacts of droughts, increasing storm events, sea level rise, and groundwater changes in the planning process.

- Action PSF 3.14: Stormwater Treatment. Continue to participate in the San Mateo Countywide Stormwater Pollution Prevention Program to ensure compliance with the National Pollutant Discharge Elimination System (NPDES) permit to prevent water pollution from point and non-point sources.
- Action PSF 3.15: Green Infrastructure. Implement the City's Green Infrastructure Plan to gradually shift from a traditional stormwater conveyance system ("gray") to a more natural system that incorporates plants and soils to mimic watershed processes, capture and clean stormwater, reduce runoff, increase infiltration, and create healthier environments ("green").
- Action PSF 3.16: Stormwater Pollution Prevention Education. Partner with other agencies and organizations, such as Flows to Bay, to help inform residents and businesses of ways to protect water quality and prevent stormwater pollution.
- Action PSF 3.17: Stormwater Requirements for Development. In accordance with State regulatory mandates, require applicable new and redevelopment projects to incorporate site design, source control, treatment, and hydromodification management measures to minimize stormwater runoff volumes and associated pollutants. Stormwater management via green infrastructure systems shall be prioritized.
- Action PSF 3.18: Incentives for Low-Impact Development. Develop and implement incentives to encourage applicants to include low-impact design features in new development.

Implementation of the proposed General Plan goals, policies, and actions listed above, in conjunction with adherence to SMCWPPP and MS4 permit requirements, development under the proposed project would not violate any water quality standards or waste discharge requirements for both construction and operational phases, and impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

HYD-2	**The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.**

Implementation of the proposed project would result in a significant environmental impact if it would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. New development under the proposed project could result in an increase in impervious surfaces, thus reducing groundwater recharge.

Groundwater Recharge

Development under the proposed project would be required to implement BMPs and LID measures—which include on-site infiltration—where feasible. The SMCWPPP guidance document and the MS4 Permit require site design measures, source control measures, LID standards, and hydromodification measures to be included in an SCP that must be submitted to and approved by the City. These measures minimize the

impact of impervious areas by including pervious pavements, drainage to landscaped areas and bioretention areas, and the collection of rooftop runoff in rain barrels or cisterns for new development projects. These measures also increase the potential for groundwater recharge. In addition, groundwater within the EIR Study Area is not used by municipal water agencies and is limited in capacity and quality.

If construction dewatering is required with future development within the EIR Study Area, an application for a groundwater waste discharge permit must be completed and submitted to the City for review and approval. The applicant may be required to collect groundwater samples representative of the water quality anticipated in the discharge if construction dewatering occurs in an area of known or potential groundwater contamination. Construction dewatering could have a temporary effect on the shallow groundwater aquifer, but this effect would be limited in terms of the quantity of water withdrawn and the duration of the withdrawal. Therefore, construction dewatering would not result in a significant impact in terms of groundwater recharge.

Groundwater Use

The groundwater basin that underlies most of the City of San Mateo is designated as a very low priority basin and therefore is not regulated under the Sustainable Groundwater Management Act. This is because there is very little groundwater use in this groundwater basin and it is mostly due to private well pumping in the areas south and outside of the city.

As discussed in Section 4.9.1.2, *Existing Conditions*, Cal Water and EMID supplies with water purchased from the SFPUC. The SFPUC's water supplies consist of surface water imported from the Sierra Nevada via the Hetch Hetchy Project and local surface water from the San Francisco Bay Region. Groundwater is not used for municipal water supply in the city.[27]

As discussed in impact discussion HYD-1, the Conservation, Open Space, and Recreation (COS) and Public Services and Facilities (PSF) Elements of the proposed General Plan contain goals, policies, and actions that require local planning and development decisions to consider impacts to water quality. The proposed General Plan goals, policies, and action listed in impact discussion HYD-1 would serve to minimize potential adverse impacts on groundwater. Specifically, proposed Policies COS 3.3, COS 3.4, and COS-5 require the City to support the County of San Mateo's efforts to protect the quality and quantity of groundwater resources in the city by protecting existing open spaces, natural habitat, floodplains, and wetland areas that allow for percolation and infiltration of stormwater runoff to reduce the flow of runoff and improve water quality, and protecting groundwater when considering new development projects. Proposed Action PSF 3.13 would require the City to develop and coordinate studies and master plans to assess infrastructure and to develop a Capital Improvement Program for necessary improvements and incorporate groundwater changes in the planning process.

[27] California Water Service, 2021, *2020 Urban Water Management Plan: Mid-Peninsula District*. https://www.calwater.com/docs/uwmp2020/MPS_2020_UWMP_FINAL.pdf, accessed April 6, 2023.

Future development under the project would not use groundwater supplies or interfere with groundwater recharge, and the proposed General Plan goals, policies, and actions would further protect groundwater; therefore, impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

HYD-3	**The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i) result in a substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows..**

Erosion and Siltation

New development or redevelopment within the EIR Study Area and changes in land use could result in an increase in impervious surfaces. This, in turn, could result in an increase in stormwater runoff, higher peak discharges to storm drains, and the potential to cause erosion or siltation in streams. Increases in tributary flows can exacerbate creek bank erosion or cause destabilizing channel incision.

All potential future development pursuant to the proposed project would be required to implement construction-phase BMPs as well as post-construction site design, source control measures, and treatment controls in accordance with the requirements of the CGP, the SMMC, the MS4 Permit, and the SMCWPPP C.3 Regulated Projects Guide. Typical construction BMPs include silt fences, fiber rolls, catch basin inlet protection, water trucks, street sweeping, and stabilization of truck entrance/exits. Each new development or redevelopment project that disturbs one or more acre of land would be required to prepare and submit a SWPPP to the SWRCB that describes the measures to control discharges from construction sites. In addition, any construction project within the City that involves land disturbance and requires a site development planning application must obtain a Stormwater Pollution Prevention Program Construction Permit from the Director of Public Works.

Once potential future development projects have been constructed, C.3 requirements in the MS4 permit for new development or redevelopment projects must be implemented and include site design measures, source control measures, LID, and treatment measures that address stormwater runoff and would reduce the potential for erosion and siltation. Site design measures include limits on clearing, grading, and soil compaction; minimizing impervious surfaces; conserving the natural areas of the site as much as possible; complying with stream setback ordinances; and protecting slopes and channels from erosion. LID measures include the use of permeable pavements, directing runoff to pervious areas, and the construction of bioretention areas. The SCP must also include operation and maintenance procedures and an agreement to maintain any stormwater treatment and control facilities for perpetuity. Adherence to the streambed alteration agreement process under Sections 1601 to 1606 of the California Fish and Game

Code would further reduce erosion and siltation impacts that may occur due to streambed alterations. Projects subject to hydromodification must also maintain the pre-project creek erosion potential by implementing various control measures. Compliance with these regional and local regulatory requirements will ensure that erosion and siltation impacts from new development and redevelopment projects would be *less than significant*.

Flooding On- or Off-Site

New development and/or redevelopment and changes in land uses could result in an increase in impervious surfaces, which in turn could result in an increase in stormwater runoff, higher peak discharges to drainage channels, and the potential to cause nuisance flooding in areas without adequate drainage facilities. However, all potential future development must comply with the requirements of the MS4 Permit and the SMCWPPP C.3 Regulated Projects Guide. Regulated projects must implement BMPs, including LID BMPs and site design BMPs, which effectively minimize imperviousness, retain or detain stormwater on-site, decrease surface water flows, and slow runoff rates. Projects that create and/or replace one acre of impervious surface must also adhere to the hydromodification requirements of the MS4 permit and the SMCWPPP document to ensure that post-project runoff does not exceed pre-project runoff for 10 percent of the 2-year to 10-year peak flow rates. Adherence to these regulatory requirements would minimize the amount of stormwater runoff from new development and redevelopment within the EIR Study Area. Therefore, future projects under the proposed project would not result in flooding on- or off-site, and impacts would be *less than significant*.

Stormwater Drainage System Capacity

As stated in the impact discussions above, an increase in impervious surfaces with new development or redevelopment within the EIR Study Area could result in increases in stormwater runoff, which in turn could exceed the capacity of existing or planned stormwater drainage systems. All potential future development and redevelopment projects would be required to comply with the MS4 permit requirements and follow the SMCWPPP guidance document when designing on-site stormwater treatment facilities. The hydrology study and SCP for each project is subject to City review to verify that the on-site storm drain systems and treatment facilities can accommodate stormwater runoff from the site and would not exceed the capacity of downstream drainage systems at the point of connection. Also, implementation of the C.3 provisions of the MS4 permit for new development, which include LID design and bioretention areas, would minimize increases in peak flow rates or runoff volumes, thus reducing stormwater runoff to the storm drain system. Finally, as part of the permitting process, new development projects would be required to pay public utility fees, as per SMMC Chapter 7.39, which includes a Stormwater Pollution Prevention Program (STOPPP) Construction Permit and annual Stormwater Management Permit fees. The collected money is used to help finance improvements to the municipal storm drain system to accommodate increased flows.

Potential future development within the EIR Study Area would be mainly infill projects or the intensification of existing land uses and would be in developed urban areas with existing impervious surfaces and existing storm drain systems. With the implementation of the C.3 provisions for new projects within the EIR Study Area, there should not be a significant increase in impervious surfaces or stormwater runoff to the City's storm drain system.

Further, new development and redevelopment within the EIR Study Area would not create substantial additional sources of polluted runoff. During the construction phase, projects would be required to prepare SWPPPs and implement erosion control plans, thus limiting the discharge of pollutants from the site. During operation, projects must implement BMPs and LID measures that minimize the amount of stormwater runoff and associated pollutants.

With implementation of these control measures and regulatory provisions to limit runoff from new development sites, the proposed project would not result in significant increases in runoff that would exceed the capacity of existing or planned storm drain facilities, and the impact is *less than significant.*

Redirecting Flood Flows

The discussion above regarding on- and off-side flooding is also applicable to the analysis of impeding or redirecting flood flows. Since new development projects are required to comply with C.3 provisions of the MS4 Permit and retain stormwater on-site via the use of bioretention facilities, any flood flows would also be retained for a period of time on-site, which would minimize the potential for flooding impacts. Impact discussion HYD-4 discusses the potential for impeding or redirecting flood flows with development in areas within the 100-year floodplain. Based on these discussions, impacts related to impeding or redirecting flood flows would be *less than significant*.

The Safety (S) Element of the proposed General Plan provides guidance to help protect the community and mitigate potential impacts from natural and human-caused hazards. In addition to the proposed goals, policies, and actions identified in impact discussion HYD-1, the following General Plan 2040 goals, policies, and actions would minimize flood risks:

- Goal S-1: Minimize potential damage to life, environment, and property through timely, well-prepared, and well-coordinated emergency preparedness, response plans, and programs
  - Policy S 1.1: Emergency Readiness. Maintain the City's emergency readiness and response capabilities, especially regarding hazardous materials spills, natural gas pipeline ruptures, fire hazards, wildland fire risk, earthquakes, pandemics, and flooding. Focus primarily on areas identified by the City as underserved and most vulnerable to loss of life and property due to proximity to hazardous incidences, and work to ensure funding is available to these communities as a key component of emergency readiness
  - Policy S 1.2: Local Hazard Mitigation Plan. Incorporate by reference the San Mateo County Multi-jurisdictional Local Hazard Mitigation Plan, approved by the Federal Emergency Management Agency (FEMA) in 2021, along with any future updates or amendments, into this Safety Element in accordance with Government Code Section 65302.6.
  - Policy S 1.3: Location of Critical Facilities. Avoid locating critical facilities, such as hospitals, schools, fire, police, emergency service facilities, and other utility infrastructure, in areas subject to slope failure, wildland fire, flooding, sea level rise, and other hazards, to the extent feasible.
  - Policy S 1.11: Evacuation Education. Include information about safe and effective evacuation as part of natural disaster awareness, prevention, and community education and training efforts.

Share information about how to prepare for evacuations, potential evacuation routes and shelter locations, how to receive notifications, and other relevant topics.

- Policy S 1.12: Inclusive Outreach. Notify the community of potential hazards affecting their neighborhood. Use outreach and engagement methods that encourage broad representation and are culturally sensitive, particularly for equity priority communities.
- Action S 1.16: Evacuation Routes. Maintain adequate evacuation routes as identified by arterial streets shown in the Circulation Element, Figure C-3 [of the proposed General Plan]. Evaluate each evacuation route's feasibility using a range of hazard criteria. Update this map on a regular basis to reflect changing conditions and State requirements for evacuation routes.
- Action S 1.17: Regular Updates. Update the Safety Element with each Housing Element update, or every eight years, as necessary, to meet State and local requirements.
- Action S 1.18: Automatic and Mutual-Aid Agreements. Participate in mutual-aid agreements with other local jurisdictions to provide coordinated regional responses, as necessary, to fire, flood, earthquake, critical incidents, and other hazard events in San Mateo and the surrounding area. Work with local jurisdictions to share resources and develop regional plans to implement disaster mitigation and resilience strategies, such as government continuity, emergency operations centers, and communications redundancies.
- Action S 1.27: Emergency Notification System. Develop an emergency notification system (e.g., SMC Alert and Nixle) for flood-prone neighborhoods and businesses before, during, and after a climate hazard event, to assist with evacuation and other support activities. This includes coordination with the San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline) on its early flood warning notification system.

With compliance with the MS4 permit, SMCWPPP requirements, and proposed General Plan goals, policies, and actions, potential future development would not result in substantial erosion or siltation and would not substantially increase the rate of surface runoff which would result in flooding, impede or redirect flood flows, or exceed the capacity of the drainage system. Impacts would be *less than significant.*

Significance without Mitigation: Less than significant.

HYD-4	**The proposed project would not, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.**

Pollutant Release in Flood Hazard Zones

Buildout pursuant to the proposed project could involve development of some projects in FEMA 100-year flood zones. As shown on Figure 4.9-2, *Potential Flood Hazards*, most of the land north of San Mateo Creek and east of US Highway 101 and limited areas along Laurel Creek, Borel Creek and Marina Lagoon are within the 100-year floodplain. A large area of the city west of Marina Lagoon is protected from flooding by levees and is outside of the 100-year floodplain.

Future development under the proposed project in 100-year flood zones would be subject to floodplain requirements listed in SMMC Chapter 23.33. Prior to the start of construction or development within a Flood Hazard Area (i.e., 100-year floodplain), the City of San Mateo requires project applicants to obtain a development permit from the City's Floodplain Administrator and construct new development in accordance with the standards in SMMC Section 23.33.050. The standards of construction vary depending on whether the proposed structure is in a regular 100-year floodplain or in a coastal high hazard area. The standards of construction include provisions for flood risk reduction, including anchoring and flood-resistant materials and construction methods, with the lowest floors elevated above the base flood elevation or higher. OneShoreline recommends that new development be elevated 3 feet above the base flood elevation in areas that are impacted by sea level rise. Prior to occupancy of any building, a Letter of Map Revision (LOMR) and an elevation certificate must be provided to and approved by the City. Compliance with FEMA's National Flood Insurance Program requirements and SMMC requirements would reduce potential flood hazards and ensure that pollutants are not released during flood inundation.

Additionally, as discussed in Section 4.9.1.1, *Regulatory Framework*, the San Mateo Jurisdictional Annex of the MJHMP includes hazard mitigation actions to help reduce the risk of damage or injury from floods. These actions include continued implementation of floodplain management measures, incorporation of FEMA guidelines into the planning process, assessment and mitigation of urban drainage flooding.

Pollutant Release in Dam Inundation Zones

As shown in Figure 4.9-4, *Dam Inundation Zones*, areas of San Mateo are within the inundation zones of the San Andreas Dam, Lower Crystal Springs Dam, and Laurel Creek Dam. The probability of dam failure is very low, and San Mateo has never been impacted by a major dam failure. In addition, dam owners are required to maintain emergency action plans (EAPs) that include procedures for damage assessment and emergency warnings. An EAP identifies potential emergency conditions at a dam and specifies preplanned actions to help minimize property damage and loss of life should those conditions occur. EAPs contain procedures and information that instruct dam owners to issue early warning and notification messages to downstream emergency management authorities, such as the City's Office of Emergency Services. Because the likelihood of catastrophic dam failure is very low, impacts related to the release of pollutants due to dam inundation are not considered to be significant.

Pollutant Release from Tsunami

Given the history of tsunamis in the San Francisco Bay Area, the risk of flooding due to a tsunami event is considered to be unlikely for the City of San Mateo.[28] Tsunami hazards in San Francisco Bay are much smaller than along the Pacific Coast because the bays are enclosed body of waters. However, as shown on Figure 4.9-8, *Tsunami Evacuation Zones*, some areas along the San Mateo shoreline are within the mapped tsunami inundation zones.

Due to the infrequent nature of tsunamis and relatively low predicted tsunami wave height in the area, the City is reasonably safe from tsunami hazards. Furthermore, SMMC Chapter 23.33 includes

[28] City of San Mateo, 2017. San Mateo Local Hazard Mitigation Plan.

requirements for development within coastal high-hazard areas, which includes tsunami zones. Also, a bayfront levee protects a large portion of the city from high tides and waves. Although the lower elevation portions of the levees could be overtopped by a tsunami, the potential for significant damage is low given the very low probability of a tsunami impacting the city.

In addition, there are various precautions and warning systems that would be implemented by the City in the event of a tsunami. The City uses an automated telephone and text message system (SMC Alert) that can notify affected portions of the community when emergency alerts or notifications are needed. Also, the National Oceanic and Atmospheric Administration operates the National Tsunami Warning Center and the Pacific Tsunami Warning Center that alert local authorities to order the evacuation of low-lying areas, if necessary. As discussed previously in Section 4.9.1, *Environmental Setting*, the probability of a seiche occurring that would cause flooding and the release of pollutants is negligible.

Pollutant Release Due to Sea Level Rise

As discussed in the Flood Hazard discussion above, potential development under the proposed project involves development in areas that will be inundated by sea level rise and associated coastal flooding. As shown on Figure 4.9-5 through Figure 4.9-7, most of the city east of the railroad tracks is projected to be impacted by sea level rise by 2100.

The City is a member of OneShoreline, which is working to build solutions to the climate change impacts of sea level rise, flooding, and coastal erosion. Potential adaptation measures include elevating structures to account for sea level rise, shoreline setbacks, disclosure requirements, raising shoreline levees and floodwalls, and raising roadways to maintain evacuation routes.

Future development under the proposed project within 100 feet of San Francisco Bay shoreline would be subject to review and approval by the BCDC. Future large shoreline projects, including shoreline protection projects, would be required to conduct a sea level rise risk assessment and be designed to be resilient to a midcentury sea level rise projection. BCDC requires that, if it is likely that the project will remain in place longer than midcentury, an adaptive management plan be developed to address the long-term impacts that will arise, based on the risk assessment. Potential new development under the proposed project more than 100 feet inland from San Pablo or San Francisco Bay shoreline would not be subject to BCDC review. However, future development would be required to comply with SMMC Chapter 23.33, which restricts development in floodable areas and requires protection for new development within inundation areas.

Sea level rise is also expected to raise groundwater levels, inundating contaminated soils. Given that some contaminated sites in San Mateo sit near the shoreline, rising groundwater associated with sea level rise may cause release of pollutants.

Sea level rise and associated groundwater rise are considered to be an effect of the environment on the project. As explained in Chapter 4, *Environmental Analysis,* of this Draft EIR, the California Supreme Court has determined that the evaluation of the significance of project impacts under CEQA should focus on the potential impacts of the proposed project on the environment, including whether the proposed project may exacerbate any existing environmental hazards. Sea level rise is an existing environmental hazard in

San Mateo. The discussion in this section explains the potential of the proposed project to exacerbate impacts from sea level rise. However, the effects of sea level rise on the proposed project are not subject to CEQA review following the *California Building Industry Association vs. Bay Area Air Quality Management District* (CBIA vs. BAAQMD) case.[29] Therefore, this EIR does not make a finding regarding level of impact from sea level rise.

Summary

The proposed General Plan goals, policies, and actions listed in impact discussions HYD-1 and HYD-3 address the potential for flooding, dam inundation, and tsunamis. In conjunction with the implementation of the City's floodplain management requirements, coordination with OneShoreline, and activation of the City's emergency response system in the case of a dam failure or tsunami, the potential impact that there would be a release of pollutants from flooding, tsunamis, or seiches would be *less than significant.*

Significance without Mitigation: Less than significant.

HYD-5 The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Adherence to the State CGP, the SMMC, the MS4 Permit, and the SMCWPPP guidance document would ensure that surface and groundwater quality are not adversely impacted during construction and operation of development pursuant to the proposed project. As a result, future development would not obstruct or conflict with the implementation of the San Francisco Bay Basin Water Quality Control Plan. Also, potential future development would be served by either CalWater or EMID, which rely solely on surface water supply. Groundwater is not currently used or planned to be used as a municipal water supply source, and the groundwater basin that includes the City of San Mateo is not regulated under the Sustainable Groundwater Management Act, because of very limited groundwater use, and is not required to prepare a groundwater sustainability plan. Therefore, the proposed project would not obstruct or conflict with the RWQCB's Basin Plan or a groundwater management plan, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

HYD-6 The proposed project would not, in combination with past, present, and reasonably foreseeable projects, result in cumulative hydrology and water quality impacts in the area.

The geographic context used for the cumulative assessment to hydrology, drainage, flooding, and water quality encompasses the watersheds within the EIR Study Area, as shown on Figure 4.9-1, *San Mateo Watersheds*. New development in these watersheds could increase impervious areas, thus increasing

[29] *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369.

runoff and flows into the storm drainage systems. Potential future development would be required to comply with the MS4 Permit, implement BMPs that direct drainage to landscaped areas, and integrate bioretention facilities into the site design. Implementation of these BMPs on a regional basis would reduce cumulative impacts to hydrology and drainage to *less than significant*.

All projects would be required to comply with the SMMC and various water quality regulations that control construction-related and operational discharge of pollutants into stormwater. The water quality regulations implemented by the San Francisco Bay RWQCB take a basinwide approach and consider water quality impairment in a regional context. For example, the NPDES Construction Permit ties receiving water limitations and basin plan objectives to terms and conditions of the permit, and the MS4 Permit encompasses all of the surrounding municipalities to manage stormwater systems and be collectively protective of water quality. Projects in these watersheds would implement structural and nonstructural source-control BMPs that reduce the potential for pollutants to enter runoff, and treatment control BMPs that remove pollutants from stormwater. Therefore, cumulative water quality impacts would be *less than significant* after compliance with these permit requirements, and impacts would not be cumulatively considerable.

Projects in the watersheds may be constructed within 100-year flood zones, areas of sea level rise, or tsunami inundation zones. Projects within the 100-year flood zone would be mandated to purchase flood insurance through the National Flood Insurance Program. Projects within tsunami zones and areas subject to sea level rise may also purchase voluntary flood insurance through this program. In addition, other jurisdictions within these watersheds regulate development within flood zones in a similar manner as SMMC Chapter 23.33 and in compliance with FEMA standards to limit cumulative flood hazard impacts. Therefore, cumulative impacts to hydrology, drainage, and flooding would be *less than significant*, and impacts of the proposed project would not be cumulatively considerable.

Significance without Mitigation: Less than significant.

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