

Section 3.9

Hydrology and Water Quality

This section addresses hydrology and water quality impacts that may result from implementation of the proposed San Rafael Transit Center Replacement Project (proposed project) and other build alternatives. The following discussion addresses existing hydrology and drainage conditions of the project area and surroundings, including drainage patterns, runoff quantity and quality, the capacity of the existing storm drain infrastructure, and flood hazards. It considers applicable goals and policies, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from project implementation, as applicable. Impacts related to the No-Project Alternative are discussed in Chapter 5, Alternatives to the Project.

3.9.1 Existing Conditions

3.9.1.1 Regulatory Setting

Federal

Federal Clean Water Act

The proposed project is subject to federal permit requirements under the federal Clean Water Act (CWA). The primary goal of the CWA is to maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. The CWA forms the basic national framework for the management of water quality and the control of pollution discharges; it provides the legal framework for several water quality regulations, including the National Pollutant Discharge Elimination System (NPDES), effluent limitations, water quality standards, pretreatment standards, antidegradation policy, nonpoint-source discharge programs, and wetlands protection. The United States Environmental Protection Agency (EPA) has delegated the administrative responsibility for portions of the CWA to state and regional agencies. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCBs) to preserve, protect, enhance, and restore water quality.

Under the NPDES permit program, EPA establishes regulations for discharging stormwater by municipal and industrial facilities and construction activities. Section 402 of the CWA prohibits the discharge of pollutants into waters of the United States from any point source unless the discharge complies with an NPDES permit.

The Anti-degradation Policy under EPA's Water Quality Standards Regulations (48 Federal Register 51400, 40 Code of Federal Regulations 131.12, November 8, 1983), requires states and tribes to establish a three-tiered anti-degradation program to prevent a decrease in water quality standards.

- Tier 1—Maintains and protects existing uses and water quality conditions that support such uses. Tier 1 is applicable to all surface waters.

- Tier 2—Maintains and protects “high-quality” waters where existing conditions are better than necessary to support “fishable/swimmable” waters. Water quality can be lowered in such waters but not to the point at which it would interfere with existing or designated uses.
- Tier 3—Maintains and protects water quality in outstanding national resource waters. Water quality cannot be lowered in such waters except for certain temporary changes.

Anti-degradation was explicitly incorporated into the federal CWA through 1987 amendments, codified in Section 303(d)(4)(B), requiring satisfaction of anti-degradation requirements before making certain changes in NPDES permits.

Section 303(d) of the CWA requires the SWRCB to list impaired waterbodies that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop Total Maximum Daily Loads (TMDLs) for these waters.

Section 404 of the CWA is administered and enforced by the U.S. Army Corps of Engineers. Section 404 establishes a program to regulate the discharge of dredged and fill material into waters of the United States, including wetlands and coastal areas below the mean high tide. The U.S. Army Corps of Engineers administers the day-to-day program and reviews and considers individual permit decisions and jurisdictional determinations. The U.S. Army Corps of Engineers also develops policy and guidance and enforces Section 404 provisions.

States and authorized tribes where the discharge would originate are generally responsible for issuing water quality certifications under Section 401 of the CWA. Pursuant to CWA Section 401, an applicant for a Section 404 permit to conduct any activity that may result in discharge into navigable waters must provide a certification from the RWQCB that such discharge will comply with state water quality standards. A Section 401 water quality certification verifies compliance with water quality requirements.

National Flood Insurance Program

The Federal Emergency Management Agency’s (FEMA’s) primary missions are to reduce the loss of life and property and protect the nation from all hazards, including flooding. FEMA is responsible for administering the National Flood Insurance Program (NFIP). The NFIP enables property owners in participating communities to purchase insurance as protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damages. In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all properties within Zone A, which are communities subject to a 100-year flood event. In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the floodplains of Flood Insurance Rate Maps.

State

California Porter-Cologne Water Quality Control Act

SWRCB regulates water quality through the Porter-Cologne Water Quality Act of 1969 (Porter-Cologne Act), which contains a complete framework for the regulation of waste discharges to both surface waters and groundwater of the state. The Porter-Cologne Act (California Water Code Section 13000 et seq.) is the principal law governing water quality regulation in California. It established a

comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act, the policy of the state is as follows:

- That the quality of all the waters of the state shall be protected,
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and
- That the state must be prepared to exercise its full power and jurisdiction to protect the quality of water in the state from degradation.

Through the SWRCB, the Porter-Cologne Act established nine RWQCBs that are charged with implementing its provisions and that have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrology regions. The SWRCB has numerous nonpoint-source¹ pollution-related responsibilities, including monitoring and assessment, planning, financial assistance, and management. The Porter-Cologne Act provides several options for enforcing waste discharge requirements and other orders.

The Porter-Cologne Act establishes a comprehensive program for the protection of beneficial uses of the waters of the state. California Water Code Section 13050(f) describes the beneficial uses of surface and groundwaters that may be designated by the state or regional boards for protection as follows: “Beneficial uses of the waters of the state that may be protected against quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.” Waterbodies with substantial evidence indicating that the waterbody supports rare, threatened, or endangered species are identified as RARE. Twenty-three beneficial uses are now defined statewide.

San Francisco Bay Water Quality Control Plan

The *San Francisco Bay Basin (Region 2) Water Quality Control Plan* (Basin Plan) is the San Francisco Bay RWQCB’s master water quality control planning document for the San Francisco Bay Basin (San Francisco RWQCB 2019). The Basin Plan designates beneficial uses and water quality objectives for “waters of the state,” including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan established water quality objectives for total dissolved solids, mineral constituents, and turbidity on a watershed-by watershed basis within the region, while objectives for total and fecal coliform bacteria, nutrients (total nitrogen and total phosphorus), pH, dissolved oxygen, and un-ionized ammonia are set on a region-wide basis.

Phase II Small Municipal Separate Storm Sewer System Program

The Municipal Stormwater Permitting Program regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s). Most of these permits are issued to a group of co-permittees

¹ According to EPA, “NPS (*nonpoint source*) pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification.” NPS pollution has many diffuse sources whereas point source pollution has a single, identified source (EPA 2020).

encompassing an entire metropolitan area. The MS4 permits require the discharger to develop and implement a Stormwater Management Plan/Program with the goal of reducing the discharge of pollutants to the maximum extent practicable, which is the performance standard specified in CWA Section 402(p). The management programs specify what stormwater best management practices (BMPs) will be used to address certain program areas. The program areas include public education and outreach, illicit discharge detection and elimination, construction and post-construction, and good housekeeping for municipal operations.

The NPDES permit is broken up into two phases: I and II. Phase I requires medium and large cities, or certain counties with populations of 100,000 or more, to obtain NPDES permit coverage for their stormwater discharges. Phase II requires regulated small municipal MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges. The City of San Rafael (City) is covered under the Phase II MS4 permit (Order WQ 2013-0001-DWQ NPDES No. CAS000004 as amended by order WQ 2015-0133-EXEC, Order WQ 2016-0069-EXEC, Order WQ 2018-0001-EXEC, and order WQ 2018-0007-EXEC). As a Phase II implementing city, the City should enforce development of a Stormwater Management Plan containing pre- and post-construction BMPs. The Golden Gate Bridge, Highway and Transportation District is considered a non-traditional small MS4 permittee and is also covered under Order No. 2013-0001-DWQ.

The RWQCB regulates discharges to waters through issuance of NPDES permits for point-source discharges for contaminants and waste discharge requirements for nonpoint-source discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The SWRCB and the RWQCBs can make their own investigations or may require dischargers to carry out water quality investigations and report on water quality issues.

NPDES General Permit for Construction Activities

The SWRCB has issued and periodically renews a statewide General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit). The Construction General Permit (Order No. 2009-0009-DWQ, NPDES No. CAR000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ) was adopted in 2009. The construction permitting is administered by the SWRCB, while the post-construction permitting is administered by the RWQCB. Development projects typically result in the disturbance of soil that requires compliance with the Construction General Permit. This statewide General Construction Permit regulates discharges from construction sites that disturb 1 or more acres of soil.

By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least 1 acre of total land area must comply with the provisions of this Construction General Permit and develop and implement an effective Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is required to contain 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 is required to list BMPs the discharger would use to protect stormwater runoff and the placement of those BMPs. Examples of BMPs include temporary vegetation, silt fences, and vegetative filter strips. Additionally, the SWPPP must contain the following elements: a visual monitoring program, a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site

discharges directly to a waterbody listed on the 303(d) list for sediment. Construction General Permit Section A describes the elements that must be contained in a SWPPP. A project applicant must submit a Notice of Intent to the SWRCB to be covered by the Construction General Permit and prepare the SWPPP before beginning construction. SWPPP implementation starts with the commencement of construction and continues through project completion. Upon project completion, the applicant must submit a Notice of Termination to the SWRCB to indicate that construction is completed.

For construction activities that would result in the disturbance of 1 or more acres, permittees must develop, implement, and enforce a program to reduce pollutant runoff in stormwater. This includes: (1) a program to prevent illicit stormwater discharges; (2) structural and non-structural BMPs to reduce pollutants in runoff from construction sites; and (3) prevention of discharges from causing or contributing to violations of water quality standards. Permittees are required to review construction site plans to determine potential water quality impacts and ensure proposed controls are adequate. These include preparation and submission of an Erosion and Sediment Control Plan with elements of a SWPPP, prior to issuance of building or grading permits.

NPDES Municipal Regional Permit Post-Construction Stormwater Quality Requirements

The City is a permittee under the NPDES Municipal Regional Permit and has the authority to administer Section E.12 regarding post-construction stormwater controls. The provisions require the installation of post-construction BMPs for new development as part of the federal NPDES program and the setting of standards for their implementation. The intent of these regulations is to rigorously control the quality and quantity of stormwater runoff from any new development that creates or replaces impervious area over 10,000 square feet (or 5,000 square feet for high water quality risk sites), so that receiving waters downstream are not adversely affected.

To comply with these requirements, projects meeting these criteria are required to install water quality stormwater runoff BMPs that filter or treat rainfall runoff generated from storm events up to approximately the 85th percentile rainfall event (or approximately the 1-inch storm event) before discharging into storm drains or natural drainage systems. Projects are required to capture 100 percent of rainfall runoff from new impervious surfaces and to treat it in post-construction stormwater systems. Projects are required to implement Low-Impact Development techniques such as harvesting and re-use, infiltration, evapotranspiration, and bioretention.

Industrial General Permit

The SWRCB has issued a statewide General Industrial Activities Stormwater Permit (Industrial Permit) for projects that do not require an individual permit for construction activities. The Industrial Permit (Order No. 2014-0057-DWQ) was adopted in 2014 and requires dischargers to develop and implement a SWPPP to reduce or prevent industrial pollutants in stormwater discharges, eliminate unauthorized non-storm discharges, and conduct visual and analytical stormwater discharge monitoring to verify the effectiveness of the SWPPP and submit an annual report. Industrial facilities such as manufacturers, landfills, mining, steam-generating electricity, hazardous waste facilities, transportation with vehicle maintenance, larger sewage and wastewater plants, recycling facilities, and oil and gas facilities are typically required to obtain Industrial Permit coverage. In the adoption of the Industrial Permit, the SWRCB recognized the need for a comprehensive training program to provide a statewide training specifically for individuals assisting

dischargers with compliance with this permit, standardized knowledge of implementing the Industrial Permit through training, and required quality assurance, sampling methods, and protocols for stormwater discharge sampling.

California Fish and Game Code Sections 1602

The California Department of Fish and Wildlife (CDFW) is a public trustee agency with a role in protecting water quality that is related to California Fish and Game Code Section 1602. CDFW coordinates with the SWRCB and uses the needs of fish and wildlife to inform water policy, legislation, and execution of water quality policy and management. CDFW participates in the development of high-profile water quality policies with statewide implications (e.g., Statewide Policies, Sacramento-San Joaquin River Delta) through coordination with regional and local agencies regarding water quality standards policy and permitting processes. In part, CDFW accomplishes this through ensuring compliance with Division 2, Chapter 6, Section 1602 of the California Fish and Game Code. CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife.

Local

~~Bay Conservation and Development Commission~~

~~The Bay Conservation and Development Commission (BCDC) has permitting authority for most projects in San Francisco Bay and along the shoreline, which is defined in the McAteer-Petris Act to include Bay waters up to the mean high-water line and the area 100 feet landward of and parallel to the mean high-water line of San Francisco Bay. Under the McAteer-Petris Act, an agency or individual must secure a permit from BCDC if it proposes to place fill, dredged sediment, or dredged materials in San Francisco Bay or certain tributaries within BCDC jurisdiction. Most activities within the 100-foot shoreline band are also subject to a permit from BCDC. The type of permit issued depends on the nature and scope of the proposed activities. Construction of those elements of the proposed project within BCDC's jurisdiction would require a Major Permit under the McAteer-Petris Act.~~

~~City of San Rafael General Plan 2040~~

~~The City of San Rafael General Plan 2020~~

~~The City of San Rafael General Plan 2020 contains the following goals and policies that are applicable to the proposed project (City of San Rafael 2016):~~

~~Air and Water Quality Element~~

~~**Policy AW-7. Local, State and Federal Standards.** Continue to comply with local, state, and federal standards for water quality.~~

~~**AW-7a. Countywide Stormwater Program.** Continue to participate in the countywide stormwater program and comply with its performance standards.~~

~~**AW-7b. Stormwater Runoff Measures.** Continue to incorporate measures for stormwater runoff control and management in construction sites.~~

~~**AW-7c. Water Quality Improvements in Canal and Other Waterways.** Support water quality improvement efforts in the San Rafael Canal, creeks, and drainageways in accordance with standards of the State Water Quality Control Board or any agencies with jurisdiction.~~

Policy AW-8. Reduce Pollution from Urban Runoff. Address non-point source pollution and protect receiving waters from pollutants discharged to the storm drain system by requiring Best Management Practices quality.

- Support alternatives to impervious surfaces in new development, redevelopment, or public improvement projects to reduce urban runoff into storm drain system, creeks, and the Bay.
- Require that site designs work with the natural topography and drainages to the extent practicable to reduce the amount of grading necessary and limit disturbance to natural water bodies and natural drainage systems.
- Where feasible, use vegetation to absorb and filter fertilizers, pesticides and other pollutants.

Policy AW-9. Erosion and Sediment Control. Establish development guidelines to protect areas that are particularly susceptible to erosion and sediment loss.

On August 2, 2021 the City Council adopted *San Rafael General Plan 2040*. Various general plan elements contain goals and policies related to hydrology and water quality that are applicable to the proposed project (City of San Rafael 2021a). These policies and programs, including those that address flooding and sea level rise, are summarized below.

Land Use Element

Goal LU-1. Well-Managed Growth and Change. Grow and change in a way that serves community needs, protects the environment, improves fiscal stability, and enhances the quality of life.

- **Policy LU 1.2. Development Timing.** For health, safety, and general welfare reasons, new development should only occur when adequate infrastructure is available, consistent with the following findings...

(d) The project has incorporated design and construction measures to adequately mitigate exposure to hazards, including flooding, sea level rise, and wildfire.

Conservation and Climate Change Element

Goal C-3. Clean Water. Improve water quality by reducing pollution from urban runoff and other sources, restoring creeks and natural hydrologic features, and conserving water resources.

- **Policy C-3.1. Water Quality Standards.** Continue to comply with local, state and federal water quality standards.
- **Policy C-3.2. Reduce Pollution from Urban Runoff.** Require Best Management Practices (BMPs) to reduce pollutants discharged to storm drains and waterways. Typical BMPs include reducing impervious surface coverage, requiring site plans that minimize grading and disturbance of creeks and natural drainage patterns, and using vegetation and bioswales to absorb and filter runoff.
 - **Program C-3.2C. Construction Impacts.** Continue to incorporate measures for stormwater runoff control, management, and inspections in construction projects and require contractors to comply with accepted pollution prevention planning practices. Provisions for post-construction stormwater management also should be included.
- **Policy C-3.3. Low Impact Development.** Encourage construction and design methods that retain stormwater on-site and reduce runoff to storm drains and creeks.

Safety and Resilience Element

Goal S-3. Resilience to Flooding and Sea Level Rise. Recognize, plan for, and successfully adapt to the anticipated effects of increased flooding and sea level rise.

- **Policy S-3.4: Mitigating Flooding and Sea Level Rise Impacts** Consider and address increased flooding and sea level rise impacts in vulnerable areas (see Figure 8-3) in development and capital projects, including resiliency planning for transportation and infrastructure systems.

- **Program S-3.4A: Development Projects.** Where appropriate, require new development, redevelopment projects, and substantial additions to existing development to consider and address increased flooding and sea level rise impact, and to integrate resilience and adaptation measures into project design.
- **Policy S-3.5: Minimum Elevations.** For properties in vulnerable areas, ensure that new development, redevelopment, and substantial additions to existing development meets a minimum required construction elevation. Minimum elevations and other architectural design strategies should provide protection from the potential impacts of a 100- year flood (a flood with a one percent chance of occurring in any given year), the potential for increased flooding due to sea level rise, and the ultimate settlement of the site due to consolidation of bay mud from existing and new loads and other causes.
- **Policy S-3.8: Storm Drainage Improvements.** Require new development to mitigate potential increases in runoff through a combination of measures, including improvement of local storm drainage facilities. Other measures, such as the use of porous pavement, bioswales, and “green infrastructure” should be encouraged.
 - **Program S-3.8A: Storm Drainage Improvements.** Consistent with Countywide and regional stormwater management programs, require new development with the potential to impact storm drainage facilities to complete hydrologic studies that evaluate storm drainage capacity, identify improvements needed to handle a 100-year storm, and determine the funding needed to complete those improvements.
 - **Program S-3.8B: Green Infrastructure Guidelines.** Evaluate potential measures to more sustainably manage stormwater, erosion, and improve water quality associated with urban runoff. This includes improvements such as rain gardens and permeable pavement, which attenuate flooding downstream and provide ecological benefits.

San Rafael General Plan 2040

The City is currently working on the Draft San Rafael General Plan 2040. The Draft San Rafael General Plan 2040 contains the following goals and policies that would be applicable to the proposed project (City of San Rafael 2020).

Conservation and Climate Change Element

Policy C-1.1: Wetlands Preservation. Require appropriate public and private wetlands preservation, restoration and/or rehabilitation through the regulatory process. Support and promote acquisition of fee title and/or easements from willing property owners.

Policy C-1.6: Creek Protection. Protect and conserve creeks as an important part of San Rafael's identity, natural environment, and green infrastructure. Except for specific access points approved per Policy C-1.7 (Public Access to Creeks), development-free setbacks shall be required along perennial and intermittent creeks (as shown on Figure 6-2) to help maintain their function and habitat value. Appropriate erosion control and habitat restoration measures are encouraged within the setbacks, and roadway crossings are permitted.

Policy C-1.9: Enhancement of Creeks and Drainageways. Conserve or improve the habitat value and hydrologic function of creeks and drainageways so they may serve as wildlife corridors and green infrastructure to improve stormwater management, reduce flooding, and sequester carbon. Require creek enhancement and associated riparian habitat restoration/creation for projects adjacent to creeks to reduce erosion, maintain storm flows, improve water quality, and improve habitat value where feasible.

Policy C-3.1: Water Quality Standards. Continue to comply with local, state and federal water quality standards.

Policy C-3.2: Reduce Pollution from Urban Runoff. Require Best Management Practices to reduce pollutants discharged to storm drains and waterways. Typical BMPs include reducing impervious surface coverage, requiring site plans that minimize grading and disturbance of creeks and natural drainage patterns, and using vegetation and bioswales to absorb and filter runoff.

Policy C-3.3: Low Impact Development. Encourage construction and design methods that retain stormwater on-site and reduce runoff to storm drains and creeks.

Policy C-3.4: Green Streets. Design streets and infrastructure so they are more compatible with the natural environment, mitigate urban heat island effects, and have fewer negative impacts on air and water quality, flooding, climate, and natural habitat.

Safety and Resilience Element

Policy S-2.5: Erosion Control. Require appropriate control measures in areas susceptible to erosion, in conjunction with proposed development. Erosion control measures should incorporate best management practices (BMPs) and should be coordinated with requirements for on-site water retention, water quality improvements, and runoff control.

Policy S-3.8: Storm Drainage Improvements. Require new development to mitigate potential increases in runoff through a combination of measures, including improvement of local storm drainage facilities. Other measures, such as the use of porous pavement, bioswales, and “green infrastructure” should be encouraged.

Marin County Flood Control and Water Conservation District

The Marin County Flood Control and Water Conservation District was formed in 1955 by an Act of the State Legislature found in Chapter 68 of the State Water Code. The Board of Supervisors sits as Board of the district and the district is staffed by the Department of Public Works. The boundaries of the district are contiguous with those of the County of Marin and eight zones have been established to address specific watershed flooding problems. Each zone has an advisory board of residents that reviews zone budgets and master plans and advises the district board on these matters. The district also maintains precipitation and stream gauges, publishes Creek Rating Tables, and oversees the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) and FEMA Flood Insurance programs.

Marin County Stormwater Pollution Program

The City is a member agency of the MCSTOPPP, which aims to prevent stormwater pollution, protect and enhance water quality in creeks and wetlands, preserve beneficial uses of local waterways, and comply with state and federal regulations. As a member agency, the City implements the San Rafael Urban Runoff Pollution Prevention Ordinance and funds the countywide MCSTOPPP, which provides for coordination and consistency of approaches among local stormwater programs. The San Rafael Urban Runoff Pollution Prevention Ordinance identifies stormwater BMPs, land development standards, and permitting requirements to ensure compliance with all appropriate regulations (MCSTOPPP 2020).

Furthermore, the San Rafael Sanitation District has implemented a Sewer System Management Plan to meet all RWQCB and SWRCB requirements. The Sewer System Management Plan aims to work cooperatively with local, state, and federal agencies to reduce, mitigate impacts of, and properly report any Sanitary Sewer Overflows that may affect water quality.

3.9.1.2 Environmental Setting

Surface Water and Groundwater

The project area is within the San Rafael Creek Watershed as shown in ~~The City of San Rafael General Plan 2020/2040~~, Figure 6-2. The San Rafael Creek Watershed is in the southern part of the city and encompasses 11 square miles. San Rafael Creek, south of the project area, The creek originates above Tamalpais Cemetery and flows through urbanized neighborhoods toward the San Rafael Canal, then enters San Rafael Bay in the vicinity of Pickleweed Park. The watershed's elevation ranges from approximately 1,100 feet in the hills to sea level at San Rafael Bay.

~~San Rafael Creek is south of the project area. San Rafael Creek drains a watershed of approximately 6.5 square miles with elevations ranging from sea level to approximately 1,100 feet. As a result of urbanization in the City, San Rafael Creek has been partitioned into two primary reaches: San Rafael Creek Canal and Mahon Creek. Existing drainage patterns identify that most of the project area drains south into San Rafael Creek before ultimately discharging into San Rafael Bay.~~

The project area, inclusive of the four alternatives, is within an urbanized and built-out area of Downtown San Rafael. Each of the alternative project sites considered in this analysis is developed with buildings, sidewalks, and asphalt parking areas, with minimal landscape vegetation. All runoff generated from the sites is directed toward stormwater drainage infrastructure that exists throughout the area. There are existing 18-inch and 48-inch storm drain main lines running west to east on 5th Avenue and two existing 14-inch storm drain lines running west to east on 3rd Street, east of the Sonoma-Marin Area Rail Transit (SMART) train tracks. Groundwater in the project area varies between 22 to 32 feet below the current ground surface. However, borings outside of but near the southern portion of the project area have recorded groundwater levels of 6 to 8 feet below the ground surface. In addition, borings made by the California Department of Transportation in the 1960s along the San Rafael Viaduct encountered groundwater between 4 and 6 feet below ground surface. Furthermore, the project area is not within a recognized groundwater basin.

Water Quality

The proposed project is within San Francisco Bay RWQCB jurisdiction. The concentration of pollutants in the surface runoff is determined by the quantity of a material in the environment and its characteristics. In an urban environment, the quantity of certain pollutants in the stormwater systems is generally associated with the intensity of land use. General hydrologic characteristics, land uses, and activities that involve pollutants have the greatest impact on water quality runoff. San Rafael Creek is 303(d) listed as impaired for diazinon and the San Francisco Bay Urban Creeks Diazinon TMDL was approved by EPA in 2007 (SWRCB 2018).

The RWQCB is charged with protecting all beneficial uses from pollution and nuisance that may occur as a result of waste discharges in the region. Beneficial use designations for any given waterbody do not rule out the possibility that other beneficial uses exist or have the potential to exist. Existing beneficial uses of San Francisco Bay identified in the Basin Plan include Industrial Service Supply, Industrial Process Supply, Commercial and Sport Fishing, Shellfish Harvesting, Estuarine Habitat, Fish Migration, Preservation of Rare and Endangered Species, Fish Spawning, Wildlife Habitat, Contact and Noncontact Water Recreation, and Navigation. Existing beneficial uses of San Rafael Creek identified in the Basin Plan include Warm and Cold Freshwater Habitat, Contact

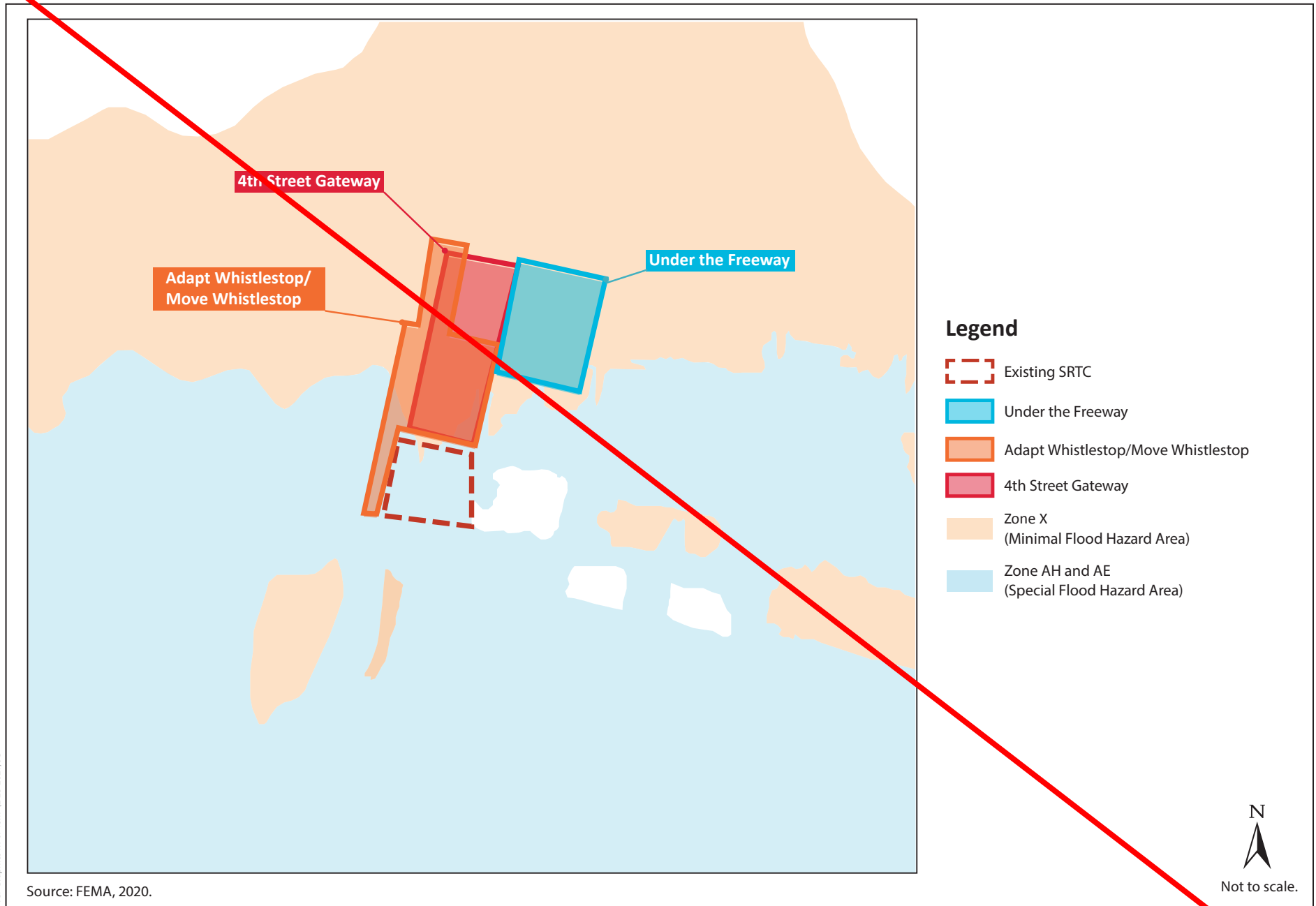
and Noncontact Water Recreation, and Wildlife Habitat. Existing beneficial uses that have not been formally designated in the Basin Plan are protected whether or not they are identified.

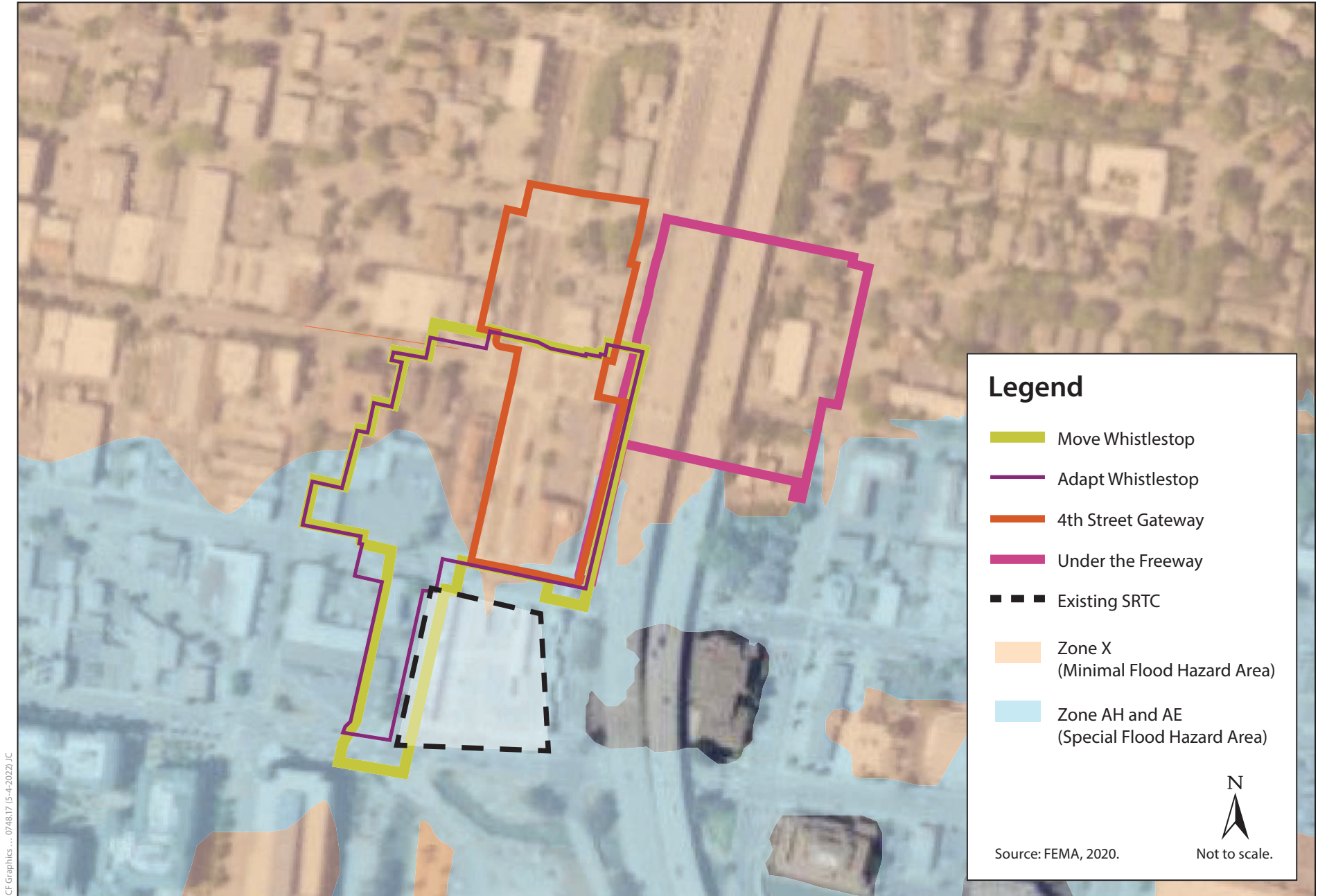
Floodplain

As shown on Figure 3.9-1, the existing San Rafael Transit Center is within FEMA Flood Zones AH and AE (EPA n.d.; FEMA 2020). The western portion of the site is within Zone AH, classified as an area inundated by a 1-percent annual chance (or 100-year) flood for which base flood elevations have been determined; flood depths range from 1 to 3 feet. The eastern portion of the project area is within Zone AE, classified as an area inundated by 1-percent annual chance flooding for which base flood elevations have been determined. The Move Whistlestop Alternative, Adapt Whistlestop Alternative, and 4th Street Gateway Alternative are primarily within Zone X, classified as an area of minimal flood hazard with a 0.2-percent annual chance (or 500-year) flood. However, the southernmost portion of the project area is within Zone AH. The Under the Freeway Alternative is entirely within Zone X. It is anticipated that flooding and storm surges will become more intense in the coming years as a result of climate change, and it is possible that FEMA's figures may underestimate future flood conditions. Flooding frequency is expected to increase as climate change influences sea level rise. The existing transit center site was assessed for projected changes in inundation potential resulting from sea level rise using the Our Coast Our Future visualization tool, which displays data from the Coastal Storm Modeling System (Point Blue Conservation Service and United States Geological Survey 2017). This model presents projected flood conditions under various sea level rise elevation scenarios, including 0.8 foot, 1.6 feet, 2.5 feet, 3.3 feet, and 4.1 feet. Under existing conditions, the Our Coast Our Future model shows that the existing transit center does not face flood risk from a no-storm² or annual storm scenario. This model shows that the southern portion of the existing transit center would begin to experience partial, intermittent inundation from a no-storm scenario and an annual storm scenario at the 4.1-foot sea level rise scenario. During stronger storm events, the extent of flooding increases. The model shows that the existing transit center begins to face partial inundation from a 100-year (1 percent annual chance) storm at the 3.3-foot sea level rise scenario. The frequency and reach of inundation would increase as sea level rise increased.

~~The sites of the Move Whistlestop Alternative and other build alternatives vary in susceptibility to flooding based on their location relative to San Rafael Creek, which is south of the project area. The model shows that the southern portion of the Move Whistlestop and Adapt Whistlestop Alternatives would begin to experience inundation under no-storm and annual storm conditions at the 4.1-foot sea level rise scenario, similar to the existing transit center. The model shows that the 4th Street Gateway and Under the Freeway Alternatives would not experience inundation under no-storm or annual storm conditions at the 4.1-foot sea level rise scenario because they are farther from San Rafael Creek. The Move Whistlestop and Adapt Whistlestop Alternatives could be partially, intermittently inundated by a 100-year storm under the 3.3-foot of sea level rise scenario, similar to the existing transit center. The 4th Street Gateway and Under the Freeway Alternatives would have similar but relatively lower risk of inundation in a 100-year storm under the 3.3-foot sea level rise scenario because they are farther from San Rafael Creek.~~

² A no-storm scenario considers potential flooding from daily tidal fluctuations.





3.9.2 Environmental Impacts

Four different build alternatives, which are all in Downtown San Rafael within 500 feet of the existing transit center, are being evaluated. Hydrology and water quality impacts were analyzed for the proposed project area, as each alternative would have a nearly equivalent impact. Impacts for the build alternatives are presented together unless they differ substantially among alternatives. Information for this section was obtained through resources available online including ~~The City of San Rafael General Plan 2020-2040~~, database maps, Urban Water Management Plan (MMWD 2016), and planning documents.

Technical information used to prepare this section was provided from the following resources:

- ~~City of San Rafael, The City of San Rafael General Plan 2020-2040~~ (City of San Rafael ~~2016~~2021a) and Environmental Impact Report (City of San Rafael ~~2004~~2021b)
- San Rafael Sanitation District *Sewer System Management Plan* (San Rafael Sanitation District 2015)
- Baseline Environmental Consulting, Phase 1 Environmental Site Assessment – San Rafael Transit Center Project (Baseline Environmental Consulting 2020)
- Parikh Consultants, Inc., Preliminary Geotechnical Design Recommendations, San Rafael Transit Center (Parikh 2020)

3.9.2.1 Methodology

Analysis of potential impacts related to hydrology and water quality was based on the existing and planned stormwater drainage systems and project elements were compared to baseline conditions, as described in Section 3.9.1.2, Environmental Setting, to conditions during construction and/or operations of the proposed project. The study area covered in the analysis consisted of the project area.

3.9.2.2 Thresholds of Significance

The following California Environmental Quality Act Guidelines Appendix G thresholds identify significance criteria to be considered for determining whether a project could have significant impacts related to hydrology and water quality.

Would the proposed project:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- 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 that would
 - result in substantial erosion or siltation on or off site?

- substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site?
- create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- impede or redirect flood flows?
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

3.9.2.3 Impacts

Impact HYD-1: Violate Any Water Quality Standards or Waste Discharge Requirements or Otherwise Substantially Degrade Surface or Ground Water Quality

Construction

Move Whistlestop Alternative

The proposed project would disturb more than 1 acre of land and must comply with the requirements of the NPDES Construction General Permit, which controls water pollution by regulating point and non-point sources that discharge pollutants into receiving waters. Project construction would occur over approximately 18 months and could result in additional sources of polluted runoff that would have short-term impacts on water quality through activities such as clearing and grading, stockpiling of soils and materials, construction equipment, paving, and painting. Grading, excavation, and other earthmoving activities would have the potential to cause substantial erosion and result in sediment transport to roadways or watercourses via storm drains. Additional construction activities could result in soil compaction and wind erosion impacts that could adversely affect soils and reduce the revegetation potential at specific locations. If erosion is not prevented or contained during construction, sediments and pollutants including oil, litter, solvents, and dust could be conveyed off site and into San Rafael Creek and San Rafael Bay waters, resulting in water quality degradation and the subsequent violation of water quality standards. This impact would be potentially **significant**. Mitigation Measure MM-HYD-CNST-1 would be implemented to reduce this impact to a less-than-significant level.

Mitigation Measure MM-HYD-CNST-1 would include the preparation and implementation of a SWPPP and participation with the Construction General Permit. The SWPPP would contain site-specific BMPs implemented to control pollutants in stormwater discharge.

In addition, Chapter 9.30, Urban Runoff Pollution Prevention, of the San Rafael Municipal Code regulates grading, drainage, and erosion. This chapter contains requirements regarding discharge and construction site stormwater runoff control.

Although small amounts of construction-related dewatering are covered under the Construction General Permit, the San Francisco Bay RWQCB has regulations specific to dewatering activities that typically involve reporting and monitoring requirements. In the event of dewatering during construction activities or before dewatering to surface water via a storm drain, the contractor would

obtain coverage under the NPDES Construction General Permit from the San Francisco Bay RWQCB. Coverage under the Construction General Permit typically includes dewatering activities as authorized non-stormwater discharges, provided that dischargers prove the quality of water to be adequate and not likely to affect beneficial uses. All requirements of dewatering would be met to ensure water quality is not affected.

In the event groundwater is encountered during construction, dewatering discharge methods would include options for discharge to surface water via a storm drain in compliance with waste discharge requirements to ensure that any discharges would be within the capacity of existing facilities and would not require the construction or expansion of existing facilities. Waste discharge requirements also include regulations specific to dewatering activities requirements. If it is found that the groundwater does not meet water quality standards, it must either be treated as necessary prior to discharge so that all applicable water quality objectives (as designated in the Basin Plan) are met or hauled off site instead for treatment and disposal at an appropriate waste treatment facility that is permitted to receive such water. For water to be discharged to San Francisco Bay, the contractor would be required to notify the San Francisco Bay RWQCB and comply with the board's requirements related to the quality of water and discharges.

Implementation of MM-HYD-CNST-1 and compliance with the San Rafael Municipal Code and Water District requirements would minimize the potential impacts of project construction effects on water quality.

Therefore, construction of the proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Potential impacts from construction activities would be ***less than significant with mitigation***.

Adapt Whistlestop Alternative

The Adapt Whistlestop Alternative construction impacts would be the same as those of the Move Whistlestop Alternative outlined above. Therefore, the impact would be ***less than significant with mitigation***.

4th Street Gateway Alternative

The 4th Street Gateway Alternative construction impacts would be the same as those of the Move Whistlestop Alternative outlined above. Therefore, the impact would be ***less than significant with mitigation***.

Under the Freeway Alternative

The Under the Freeway Alternative construction impacts would be similar to the impacts discussed for the Move Whistlestop Alternative above. However, the Under the Freeway Alternative would also require Section 401 and Section 404 CWA permits due to the required work in Irwin Creek. The area of impact on the creek would include 23,600 square feet of temporary impacts and 11,900 square feet of permanent impacts. As stated in Mitigation Measure MM-CNST-BIO-5, the project proponent would comply with any regulatory requirements determined as part of the state (Section 401 Water Quality Certification or waste discharge requirements, Lake and Streambed Alteration Agreement) and federal (Section 404 permit) processes for the work that would occur in Irwin Creek. With the implementation of Mitigation Measure MM-CNST-BIO-5, the impact would be ***less than significant with mitigation***.

Operations

Move Whistlestop Alternative

The project site has been previously developed with urban uses and does not include substantial vegetation or other pervious surfaces. Accordingly, implementation of the Move Whistlestop Alternative would not introduce new impervious surfaces to the area that could substantially increase the volume of runoff from the site. Notwithstanding, Move Whistlestop Alternative operation could contribute additional sources of polluted runoff such as pesticides, herbicides, oils, grease, debris, and other urban constituents to the stormwater drainage, which could flow into the City's stormwater system, San Rafael Creek, and San Rafael Bay. However, the Move Whistlestop Alternative is designed to have no negative impacts on downstream receiving waters related to stormwater pollutants through incorporation of stormwater treatment features. As described in Chapter 2, Project Description, the project design includes a total of seven bioscope vaults that would be installed at the southern portion of transit center drive aisles to treat runoff from the site prior to discharge into the existing storm drain infrastructure.

Furthermore, any project that includes site operation and maintenance has the potential to avoid or minimize impacts on receiving waters by changing the types and quantities of stormwater pollutants discharged from the site. The Move Whistlestop Alternative would reduce the volume of stormwater discharged downstream and the discharge of pollutants through the use of stormwater BMPs such as filters and bioscope vaults that remove pollutants combined with onsite retention of stormwater, which reduces the conveyance of any remaining pollutants. Additional post-construction design features would include:

- All new storm drain inlets and catch basins within the project site shall be marked with prohibitive language and/or graphical icons to discourage illegal dumping.
- Outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system shall be covered and protected by secondary containment.
- Permanent trash container areas shall be enclosed to prevent offsite transport of trash, or drainage from open trash container areas shall be directed to the sanitary sewer system.

San Rafael General Plan 2040 contains Policy S-3.8, Storm Drainage Improvements, which encourages new development to consider green infrastructure for stormwater drainage. The Downtown San Rafael Precise Plan's Design Vision for Downtown San Rafael identifies 4th Street between Tamalpais Avenue and B Street as a corridor that "could...be an opportunity to integrate green infrastructure for utilities, stormwater and flood control" (City of San Rafael 2021c). Green infrastructure improvements suggested in these City plans would be considered during final design. All applicable design features would be incorporated into project development plans and construction documents and would be operational at the time of project occupancy.

The Move Whistlestop Alternative would not generate any point sources of wastewater or other liquid or solid water contaminants. All of the wastewater generated would be discharged into a local sanitary sewer system that would convey the flows into the San Rafael Sanitation District collection system and then to the Central Marin Sanitation Agency treatment facilities prior to discharge to San Rafael Bay or any other receiving water. All wastewater would be properly treated. This would reduce impacts and ensure pollutants from wastewater flows do not violate water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.

As discussed above, the project applicant would be required to prepare a SWPPP and incorporate BMPs for post-construction conditions. Following compliance with NPDES and MS4 requirements, BMPs, MCSTOPPP, and relevant general plan policies and City requirements, project operations would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. No mitigation measures are required, and impacts would be *less than significant*.

Adapt Whistlestop Alternative

The Adapt Whistlestop Alternative operation impacts would be the same as those of the Move Whistlestop Alternative outlined above. Project design features would include one bioscape vault, four stormwater filters, and one bioretention area installed at the southern portion of the transit center drive aisles to treat the site's water before being discharged into the existing storm drain infrastructure. Therefore, the impact would be *less than significant*.

4th Street Gateway Alternative

The 4th Street Gateway Alternative operation impacts would be the same as those of the Move Whistlestop Alternative outlined above. Project design features would include two bioscape vaults, four stormwater filters, and one bioretention area installed at the southern portion of the transit center drive aisles to treat the site's water before being discharged into the existing storm drain infrastructure. Therefore, the impact would be *less than significant*.

Under the Freeway Alternative

The Under the Freeway Alternative operation impacts would be the same as those of the Move Whistlestop Alternative outlined above. Project design features would include one bioretention area installed in the centermost drive aisle of the northern portion of the transit facility to treat the site's water before being discharged into the existing storm drain infrastructure. Therefore, the impact would be *less than significant*.

Mitigation Measures

Under any build alternative that is selected and constructed, the following measures would be implemented. Refer to Mitigation Measure MM-BIO-CNST-5, Compensate for Temporary and Permanent Loss of Perennial Stream, in Section 3.3, Biological Resources.

MM-HYD-CNST-1: Prepare and Implement a Stormwater Pollution Prevention Plan

The proposed project will be required to implement a site-specific SWPPP that is consistent with the Construction General Permit. The SWPPP will include project construction features designed to protect the quality of stormwater runoff, known as BMPs. Construction BMPs could include, but not be limited to, the following:

- Minimization of disturbed areas to the portion of the project site necessary for construction
- Stabilization of exposed or stockpiled soils and cleared or graded slopes
- Establishment of permanent revegetation or landscaping as early as is feasible
- Removal of sediment from surface runoff before it leaves the project site by silt fences or other similar devices around the site perimeter

- Protection of all storm drain inlets on site or downstream of the project site to eliminate entry of sediment
- Prevention of tracking soils and debris off site through use of a gravel strip or wash facilities, which would be located at all construction exits from the project site
- Proper storage, use, and disposal of construction materials, such as solvents, wood, and gypsum
- Continual inspection and maintenance of all BMPs through the duration of construction
- Treatment requirements and operating procedures to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from material storage

The SWPPP will also contain a site map(s) showing the construction perimeter, existing and proposed buildings, stormwater collection and discharge points, general pre- and post-construction topography, drainage patterns across the site, and adjacent roadways; a visual monitoring program; a chemical monitoring program for “non-visible” pollutants; and a sediment monitoring plan, should the site discharge directly into a waterbody listed on the 303(d) list for sediment. Section A of the Construction General Permit lists all elements that must be contained in a SWPPP. Once grading begins, the SWPPP must be kept on site and updated as needed while construction progresses.

Impact HYD-2: Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge Such that the Project May Impede Sustainable Groundwater Management of the Basin

Construction and Operations

All Build Alternatives

The proposed project would not introduce new impervious surfaces on undeveloped land that would adversely affect groundwater recharge. The project site is developed with existing urban land use types and does not include vegetative cover that allows groundwater recharge on site. Accordingly, groundwater recharge would remain similar to existing conditions,

The Preliminary Geotechnical Design Recommendations (Parikh 2020) anticipate the project site would need to be excavated to 2 feet below ground surface. The depth of utility trenching is not known at this stage, but it is likely to be well above groundwater levels. However, the borings taken outside of but close to the southern portion of the project site, near Irwin Creek, have identified groundwater at 6 to 8 feet below the ground surface. In addition, borings made by the California Department of Transportation in the 1960s along the San Rafael Viaduct encountered groundwater between 4 and 6 feet below ground surface. As groundwater levels fluctuate seasonally, particularly near creeks, excavations for utility trenches may encounter groundwater in this area and may require dewatering, shoring, and other ground-stabilizing measures. If deemed necessary, construction-related dewatering would occur on a temporary basis and would not result in a loss of water that would substantially deplete groundwater supplies.

The Marin Municipal Water District (MMWD) provides water service to the City. MMWD’s primary water supply comes from seven rain-fed reservoirs and groundwater is not currently or planned to be used as a municipal water source supply by the MMWD. Groundwater resources would not be

used for project construction or operation. Accordingly, project implementation would not result in impacts on groundwater supplies within the City or MMWD. Therefore, the impact would be *less than significant*.

Mitigation Measures

No mitigation is required.

Impact HYD-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 that Would Result in Substantial Erosion or Siltation On or Off Site, Substantially Increase the Rate or Amount of Surface Runoff in a Manner that Would Result in Flooding On or Off Site, Create or Contribute Runoff Water that Would Exceed the Capacity of Existing or Planned Stormwater Drainage Systems or Provide Substantial Additional Sources of Polluted Runoff, or Impede or Redirect Flood Flows

Construction and Operations

Move Whistlestop Alternative

There are no natural drainage features (streams, creeks, swales or rivers) that would be affected by construction and operation of the Move Whistlestop Alternative.

During project construction, stormwater drainage patterns could be temporarily altered. However, as discussed above, BMPs would be implemented, as required in the project SWPPP, to minimize the potential for erosion or siltation in nearby storm drains and temporary changes in drainage patterns during construction. Therefore, potential erosion or siltation impacts during and following construction would be reduced to less-than-significant levels through compliance with the established regulatory framework.

The project site is currently developed and there are existing 18-inch and 48-inch storm drain main lines running west to east on 5th Avenue and two existing 14-inch storm drain lines running west to east on 3rd Street, east of the SMART train tracks. Proposed stormwater infrastructure for the Move Whistlestop Alternative would include a replacement storm drain main added along West Tamalpais Avenue between 2nd Street and through the 3rd Street intersection. Storm drain inlets and connections to existing storm drain mains would be added to the north side of the intersection of West Tamalpais Avenue and 2nd Street, the whole intersection of West Tamalpais Avenue and 3rd Street, along the north side of 3rd Street, and along the south side of 4th Street.

All proposed project improvements would connect to the existing storm drain system at new connection points and be modified to ensure effectiveness based on final site design. In compliance with local and regional regulations, the proposed project would be designed to minimize discharge from future operations and storm events.

As required by the San Francisco Bay RWQCB, the new stormwater drainage facilities would be planned and designed to satisfy the RWQCB's Municipal Regional Permit standards, and all other

applicable standards and requirements, which include ensuring that post-development flows do not exceed pre-development flows. The proposed project was designed to consider flood events consistent with San Rafael Municipal Code Title 18: Protection of Flood Hazard Areas. By maintaining stormwater flows at or below pre-development levels, the new stormwater drainage system would reduce the potential for both on- and offsite erosion effects.

The proposed project would not substantially increase runoff quantities, result in substantial erosion or siltation on or off site, or increase the rate of flooding on or off site. Runoff volumes would be similar to existing conditions and the Move Whistlestop Alternative would not exceed the capacity of existing or planned stormwater drainage systems. As discussed above, the project applicant would be required to apply for coverage under the NPDES Construction General Permit and prepare a SWPPP for the project site. The Construction General Permit would include implementation of BMPs to control potential construction-related pollutants. Following compliance with San Francisco Bay RWQCB, MS4 permit, NPDES, MCSTOPPP, and City requirements, project implementation would not result in substantial erosion or siltation on or off site, increase the rate or amount of surface runoff resulting in flooding on or off site, or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems. Impacts would therefore be ***less than significant***.

Adapt Whistlestop Alternative

Proposed stormwater infrastructure for the Adapt Whistlestop Alternative would include storm drain inlets and connections to existing storm drain mains along the north side of the intersection of West Tamalpais Avenue and 2nd Street, the whole intersection of West Tamalpais Avenue and 3rd Street, along the north side of 3rd Street, and along the south side of 4th Street.

The Adapt Whistlestop Alternative construction and operation impacts would be the same as those of the Move Whistlestop Alternative outlined above. Therefore, the impact would be ***less than significant***.

4th Street Gateway Alternative

Under the 4th Street Gateway Alternative, storm drain inlets and connections to existing storm drain mains would be added at locations between the SMART tracks and Heatherton Street, and along the north side of 3rd Street, the north side of 4th Street, and the south side of 5th Avenue. 4th Street Gateway Alternative construction and operation impacts would be the same as those of the Move Whistlestop Alternative outlined above. Therefore, the impact would be ***less than significant***.

Under the Freeway Alternative

Proposed stormwater infrastructure for the Under the Freeway Alternative would include a replacement storm drain main added along Irwin Street from south of 4th Street to north of 5th Avenue. Storm drain inlets and connections to existing and proposed storm drain mains would be added to the west side of Irwin Street between 4th Street and 5th Avenue. The Irwin Creek stormwater drainage channel is along the western boundary of the site, adjacent to Hetherton Street. The Under the Freeway Alternative would construct new box culverts over Irwin Creek to bridge over the creek and connect the transit center to Hetherton Street. Accordingly, the box culverts would provide water quality protection by limiting direct runoff into the waterway. Consequently, Under the Freeway Alternative construction and operation impacts would be the

same as those of the Move Whistlestop Alternative. Therefore, the impact would be ***less than significant***.

Mitigation Measures

No mitigation is required.

Impact HYD-4: In Flood Hazard, Tsunami, or Seiche Zones, Risk Release of Pollutants Due to Project Inundation

Construction and Operations

Move Whistlestop Alternative

The Move Whistlestop Alternative site is designated by FEMA as Zone X, which indicates minimal risk of flooding, but the southernmost portion of the site is within Zone AH, which indicates a 1-percent annual chance of flooding (FEMA 2020). Sea level rise modeling shows that the Move Whistlestop Alternative would not experience inundation under no-storm or annual storm conditions at the 4.1-foot sea level rise scenario. The Move Whistlestop Alternative could be partially, intermittently inundated by a 100-year storm at the 3.3-foot sea level rise scenario, similar to the existing transit center.

However, a system of levees has been constructed throughout the San Rafael Bay Front to contain floodwaters during significant rainstorms and/or coincident high tides to reduce potential flooding impacts in the City. Furthermore, policies in *San Rafael General Plan 2040* require elevated foundations in low-lying areas and flood-proofing buildings where sea level rise may result in inundation. Consistent with *San Rafael General Plan 2040*, the Move Whistlestop Alternative would incorporate design and construction measures to adequately reduce potential exposure to hazards including flooding and sea level rise and associated release of pollutants due to inundation. Accordingly, the potential for increased release of pollutants in a flood event would be less than significant.

As discussed in the *San Rafael General Plan 2040 & Downtown Precise Plan Final* ~~*San Rafael General Plan 2020 General Plan Update Draft Environmental Impact Report*~~, the potential for significant damage from tsunami or seiche is very low, considering the variable tides, distance from the bay front levee, and short duration of a tsunami or seiche (City of San Rafael 2021b). The Move Whistlestop Alternative is not in a tsunami inundation area, as shown in the Tsunami Inundation Map for the San Rafael/San Quentin Quadrangle (California Emergency Management Agency et al. 2009). The alternative is not in a tsunami inundation area and is approximately 0.13 mile northwest of the tsunami inundation line.

Furthermore, as discussed above, construction-related stormwater BMPs would be implemented to minimize degradation of water quality associated with stormwater runoff or construction-related pollutants. In addition, construction and maintenance activities would comply with local stormwater ordinances, stormwater requirements established by MS4 requirements, and regional waste discharge requirements. Operation would comply with stormwater requirements established by MS4 requirements and MCSTOPPP, and onsite stormwater treatment features including bioscope vaults and filters would reduce potential stormwater pollution. Accordingly, Move Whistlestop Alternative construction and operation impacts pertaining to risk release of pollutants due to project inundation would be ***less than significant***.

Adapt Whistlestop Alternative

The Adapt Whistlestop Alternative site is designated by FEMA as Zone X, which indicates minimal risk of flooding, but the southernmost portion of the site is within Zone AH, which indicates a 1-percent annual chance of flooding (FEMA 2020). The alternative is not in a tsunami inundation area and is approximately 0.15 mile northwest of the tsunami inundation line. Sea level rise modeling shows that the Adapt Whistlestop Alternative would not experience inundation under no-storm or annual storm conditions at the 4.1-foot sea level rise scenario. Sea level rise modeling shows that the Adapt Whistlestop Alternative could be partially, intermittently inundated by a 100-year storm at the 3.3-foot sea level rise scenario during stronger storm events, similar to the existing transit center.

Policies in San Rafael General Plan 2040 require elevated foundations in low-lying areas and flood-proofing buildings where sea level rise may result in inundation. Consistent with San Rafael General Plan 2040, the Adapt Whistlestop Alternative would incorporate design and construction measures to adequately reduce potential exposure to hazards including flooding and sea level rise and associated release of pollutants due to inundation. Similar to the Move Whistlestop Alternative, construction and operation impacts pertaining to risk release of pollutants due to project inundation would be ***less than significant***.

4th Street Gateway Alternative

A majority of the 4th Street Gateway Alternative site is designated by FEMA as Zone X, which is outside of the 100-year floodplain and indicates minimal risk of flooding. However, the southernmost portion of the site is within Zone AH, which is inside the 100-year floodplain and indicates a 1-percent annual chance of flooding (FEMA 2020). The site is approximately 0.18 mile northwest of the Tsunami Inundation Line. Sea level rise modeling shows that the 4th Street Gateway Alternative would not experience inundation under no-storm or annual storm conditions at the 4.1-foot sea level rise scenario. The 4th Street Gateway Alternative would have a similar but relatively lower risk of inundation than the Move Whistlestop Alternative (preferred alternative) in a 100-year storm at the 3.3-foot sea level rise scenario because it is farther from San Rafael Creek.

Policies in San Rafael General Plan 2040 require elevated foundations in low-lying areas and flood-proofing buildings where sea level rise may result in inundation. Consistent with San Rafael General Plan 2040, the 4th Street Gateway Alternative would incorporate design and construction measures to adequately reduce potential exposure to hazards including flooding and sea level rise and associated release of pollutants due to inundation. Similar to the Move Whistlestop Alternative, construction and operation impacts pertaining to risk release of pollutants due to project inundation would be ***less than significant***.

Under the Freeway Alternative

The Under the Freeway Alternative site is designated by FEMA as Zone X, which indicates minimal risk of flooding (FEMA 2020). The alternative is not in a tsunami inundation area and is approximately 0.17 mile north of the tsunami inundation line. As with the 4th Street Gateway Alternative, sea level rise modeling shows that the Under the Freeway Alternative would not experience inundation under no-storm or annual storm conditions at the 4.1-foot sea level rise scenario. The Under the Freeway Alternative would have a similar but relatively lower risk of inundation than the Move Whistlestop Alternative (preferred alternative) in a 100-year storm under the 3.3-foot sea level rise scenario because it is farther from San Rafael Creek.

Policies in San Rafael General Plan 2040 require elevated foundations in low-lying areas and flood-proofing buildings where sea level rise may result in inundation. Consistent with San Rafael General Plan 2040, the Under the Freeway Alternative would incorporate design and construction measures to adequately reduce potential exposure to hazards including flooding and sea level rise and associated release of pollutants due to inundation. Similar to the Move Whistlestop Alternative, construction and operation impacts pertaining to risk release of pollutants due to project inundation would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact HYD-5: Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan

Construction and Operations

All Build Alternatives

Groundwater is not used as a water supply by MMWD and the proposed project is not within a recognized groundwater basin, so no Sustainable Groundwater Management Plan applies. Furthermore, the project area is previously developed and does not contain permeable surfaces that provide for groundwater recharge.

During construction, stormwater management BMPs would be implemented to control construction site runoff and to reduce the discharge of pollutants to storm drain systems from stormwater and other nonpoint-source runoff, as required by Mitigation Measure MM-HYD-CNST-1. Compliance with permit requirements and implementation of water quality control measures and BMPs would ensure that water quality standards would be achieved, including the water quality objectives that protect designated beneficial uses of surface and groundwater, as defined in the Basin Plan. Construction runoff would also comply with the appropriate water quality objectives for the region. The NPDES Construction General Permit also requires stormwater discharges not to contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards, including designated beneficial uses.

Project design incorporates post-construction stormwater management features including bioscope vaults and filters to treat the site's water prior to discharge into exiting storm drain infrastructure. Therefore, the proposed project would not be a substantial source of pollutants that would result in significant impacts on surface water or groundwater quality. Additionally, the proposed project would implement and comply with the SWPPP and NPDES permit. Therefore, the proposed project would not conflict with a water quality control plan or groundwater management plan and **no impact** would occur.

Mitigation Measures

No mitigation is required.