Appendix J. Simi Valley Double Track and Platform Project Water Quality Assessment Report

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METROLINK

Water Quality Assessment Report

Simi Valley Double Track and Platform Project

February 2021

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Contents

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Acronyms

bgs	below ground surface
BMP	best management practice
CP	control point
CWA	Clean Water Act
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FRA	Federal Railroad Administration
H&H	hydrologic and hydraulic
HCP	hydromodification control plan
LA	load allocation
MP	mile post
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
Project	Simi Valley Double Track and Platform Project
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SCRRA	Southern California Regional Rail Authority
SGMA	Sustainable Groundwater Management Act of 2014
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TGM	Technical Guidance Manual for Stormwater Quality Measures
TMDL	total maximum daily load
U.S.	United States
UPRR	Union Pacific Railroad
VCL	Ventura County Line
WLA	waste load allocation

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1 Introduction

The purpose of this report is to document the existing water quality conditions within the Simi Valley Double Track and Platform Project (Project) study area, which includes the Project footprint and adjacent areas, pursuant to federal, state, and local regulatory requirements. This report describes the regulatory and environmental setting for hydrology and water quality in the Project study area, analyzes impacts on hydrology and water quality that would result from implementation of the Project, and provides mitigation measures, if applicable, to reduce the effects of any potentially significant impacts.

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2 Project Description

2.1 Project Overview

The Southern California Regional Rail Authority (SCRRA) is proposing the Simi Valley Double Track and Platform Project to improve safety at the Simi Valley Station and to increase operational capacity on Metrolink's Ventura County Line (VCL). The Project includes at-grade crossing improvements and the construction of new rail infrastructure. The Project would occur primarily within existing railroad right-of-way (ROW) owned by SCRRA and Union Pacific Railroad (UPRR) from Sequoia Avenue east to the Arroyo Simi Railroad Bridge just south of Stearns Street in the City of Simi Valley, California. The Project would add 2.20 miles of main track and increase the passenger capacity at the Simi Valley Station by adding an additional platform and pedestrian undercrossing. In addition, an existing signal at Sycamore Drive would be relocated, and a new signal would be installed approximately 2,000 feet west of Erringer Road.

The objectives of the Project are to improve safety by adding pedestrian safety features and improve reliability by allowing more efficient train operations; allow for an hourly bidirectional service, a half-hourly regional train to dispatch in the peak direction, and an hourly express train in the peak direction along Metrolink's VCL, which operates on the Ventura Subdivision between Moorpark and Los Angeles Union Station; and include at-grade crossing improvements at Sequoia Avenue, Tapo Canyon Road, Tapo Street, East Los Angeles Avenue, and Hidden Ranch Drive in support of the city's future application with the Federal Railroad Administration (FRA) for quiet zone status along the alignment.

2.2 Goals and Objectives

The Project includes the following objectives:

- Objective 1: Improve safety and reliability of the existing rail system
- Objective 2: Increase operational capacity of the existing VCL passenger rail system and increase passenger capacity at the Simi Valley Station
- Objective 3: Implement infrastructural improvements that will support the city's future applications to FRA for quiet zone status along the alignment

2.3 Project Location

For the purposes of the environmental impact report, SCRRA defined a Project study area, which comprises the Project's physical footprint along the approximately 2.20-mile segment of SCRRA's Ventura Subdivision with a 500-foot buffer. The Project study area begins at its western terminus at Sequoia Avenue and ends east of Hidden Ranch Drive, just west of the Arroyo Simi Railroad Bridge, within the City of Simi Valley. Figure 2-1 shows the regional location of the Project. Figure 2-2 shows the Project's location in southern Simi Valley, the extent of the proposed improvements, and the Project study area. The Project study area is part of the Simi Land Grant on the United States Geological Survey *Simi Valley East, California* 7.5-minute series topographical quadrangle. As shown on Figure 2-2, the Project is located between Mile Post (MP) 436.20 and MP 438.40.

2.4 Project Components

As shown on Figure 2-3 (Sheet 1 through 9), the Project would include construction of a new side platform (south of the existing platform) and pedestrian underpass at the existing Simi Valley Station, the construction of a second main track along a 2.20-mile stretch of Metrolink's existing Ventura Subdivision from MP 436.20 to MP 438.40, and the implementation of two new control points (CP) at MP 436.30 (CP Sequoia) and MP 438.40 (CP Arroyo) (Figure 2-3). New intermediate signals would be installed at MP 433.96, MP 435.13, and MP 437.30. Additionally, Project improvements would include supplemental safety measures at the existing grade crossings at Sequoia Avenue, Tapo Canyon Street, Tapo Street, East Los Angeles Avenue, and Hidden Ranch Drive, which would support future applications by the city to FRA for quiet zone status along the alignment.[1] Existing wet and dry utilities (above and below grade) within the Project study area would also be protected in place or relocated pending final engineering design and final placement of the proposed infrastructure.

2.4.1 Physical Improvements

The Project would include multiple improvements to the existing Simi Valley Station, including construction of a second platform, a supporting pedestrian undercrossing (or underpass), and passenger emergency egress to enhance passenger safety. The existing platform would also be reconfigured to remove the curvature within the existing platform to the north side of the main line tracks. In conjunction with these station improvements, SCRRA proposes the installation of approximately 2.20 miles of new main track within existing rail ROW, new railroad signals and positive train control towers, and related supplemental safety measures at existing at-grade crossings. These improvements are described in more detail below.

Track and Civil

SCRRA proposes the construction of an approximately 2.20-mile segment of second mainline track, from Barnes Street in the west to Hidden Ranch Road in the east, to enhance operational capacity on Metrolink's VCL. The track improvements are described in further detail below:

- Approximately 900 feet of the main track would be reprofiled east of CP Sequoia.
- West of Tapo Street (to Barnes Street), a new second track would be placed within SCRRA ROW. The new track would be constructed north of the existing main line track and would connect to the existing track east of Tapo Street to form Main Track 1.
- Approximately 900 feet of existing track between East Los Angeles Avenue and Tapo Street would be shifted to accommodate the new tracks tying into the existing track. In addition, an existing UPRR spur track between East Los Angeles Avenue and Tapo Street, within SCRRA ROW, would be shifted to accommodate the second track on the north side.

[1] Upon completion of the Project, the City of Simi Valley would be required to complete the Quiet Zone Creation Process in accordance with the regulations, policies, and procedures established by the Federal Railroad Administration (FRA) in its Train Horn Final Rule, as amended on August 17, 2006 (49 Code of Federal Regulations Part 222).

- Approximately 1,400 feet of existing track would be shifted between East Los Angeles Avenue to Simi Valley Station to accommodate the installation of a second track south of the existing track, within UPRR ROW. These two main tracks are shown and labeled as MT-1 and MT-2 on Figure 2-3 (Sheets 3 through 6). The new track on the south side of the ROW would connect to the existing track just east of Tapo Street, such that the new track east of Tapo Street and existing track west of Tapo Street form Main Track 2.

At the Simi Valley Station, the existing and proposed station platforms would be shifted eastward to maintain approximately 19-foot track centers for 150 feet beyond the platforms to accommodate the inter-track fence. The 19-foot track spacing through station limits would avoid placing track curvature within Hidden Ranch Drive, avoid the need to obtain more ROW through the station, and maintain clearance from the Arroyo Simi Bike Path. The 780-foot length of the existing platform would be maintained, and the new platform would be a minimum of 680 feet. The existing track alignment would be maintained at four of the at-grade crossings (Sequoia Avenue, Tapo Canyon Street, Tapo Street, and East Los Angeles Avenue), but the track alignment would be shifted approximately 6 inches south at the Hidden Ranch Drive crossing to eliminate curvature between the platform and the crossing.

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Figure 2-1. Regional Location

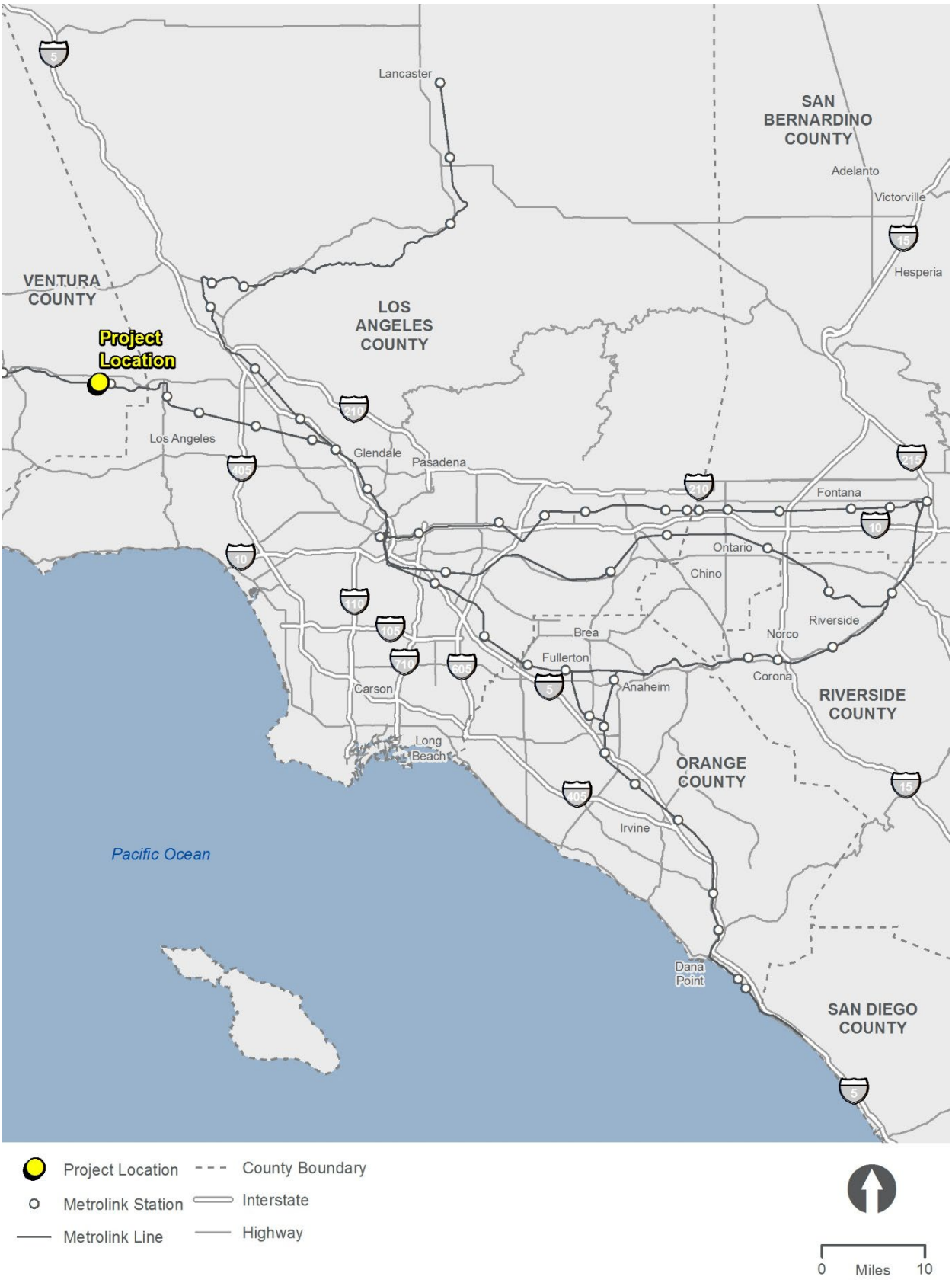

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Figure 2-2. Project Location

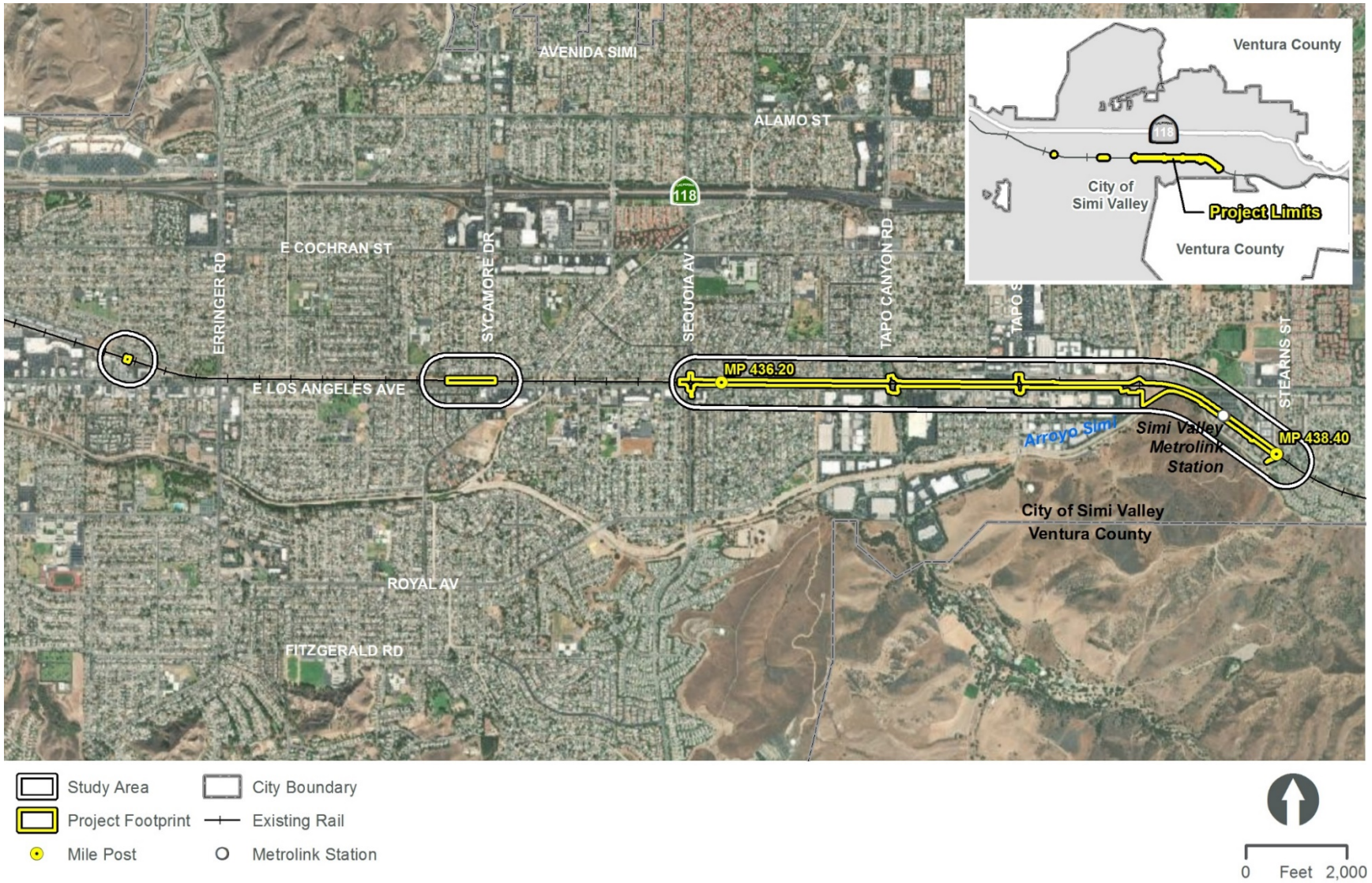

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Figure 2-3. Project Detail Map

(Sheet 1 of 9)

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Figure 2-3. Project Detail Map
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Figure 2-3. Project Detail Map
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Figure 2-3. Project Detail Map
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Figure 2-3. Project Detail Map
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Figure 2-3. Project Detail Map
(Sheet 6 of 9)

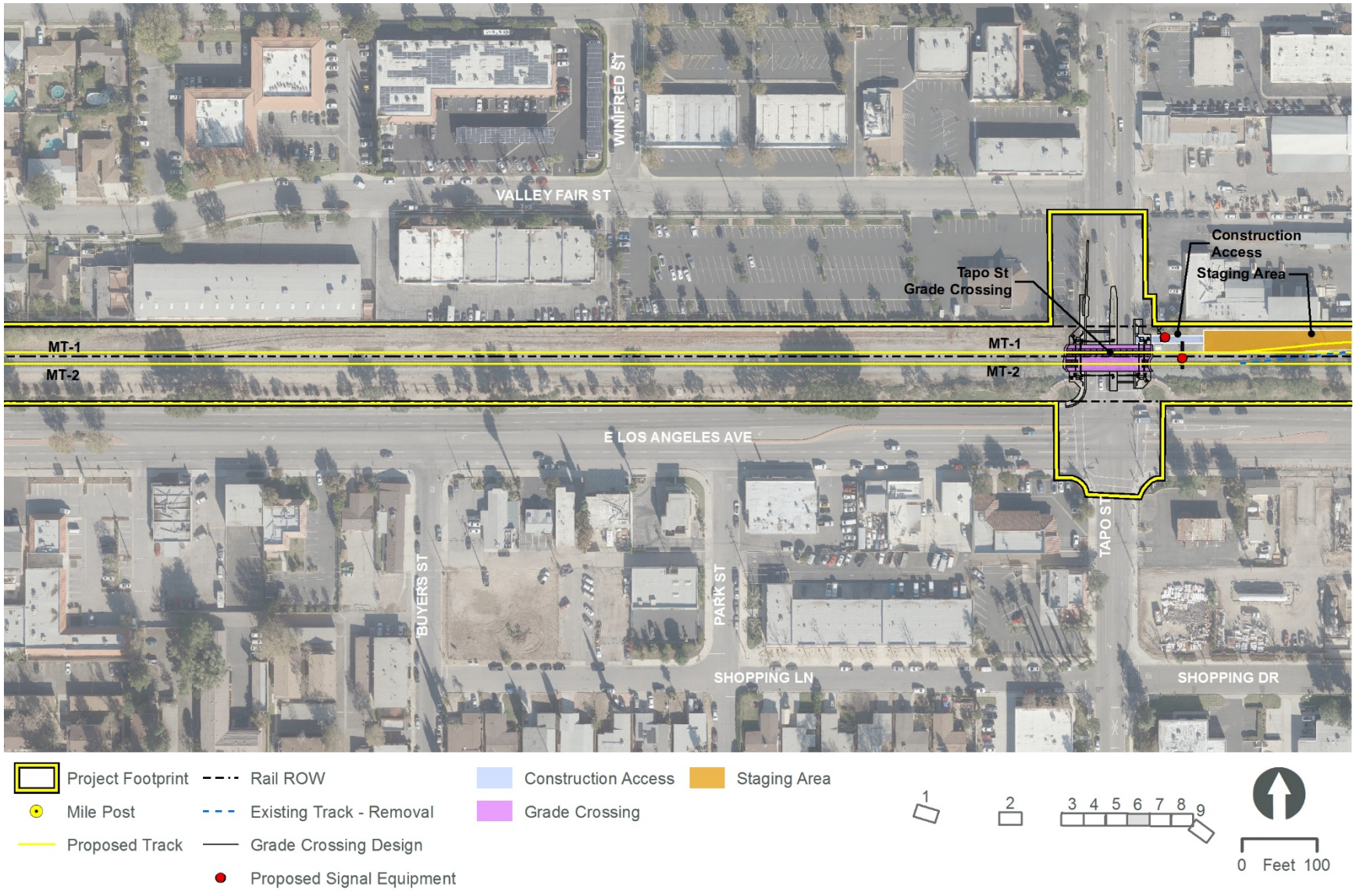

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Figure 2-3. Project Detail Map
(Sheet 7 of 9)

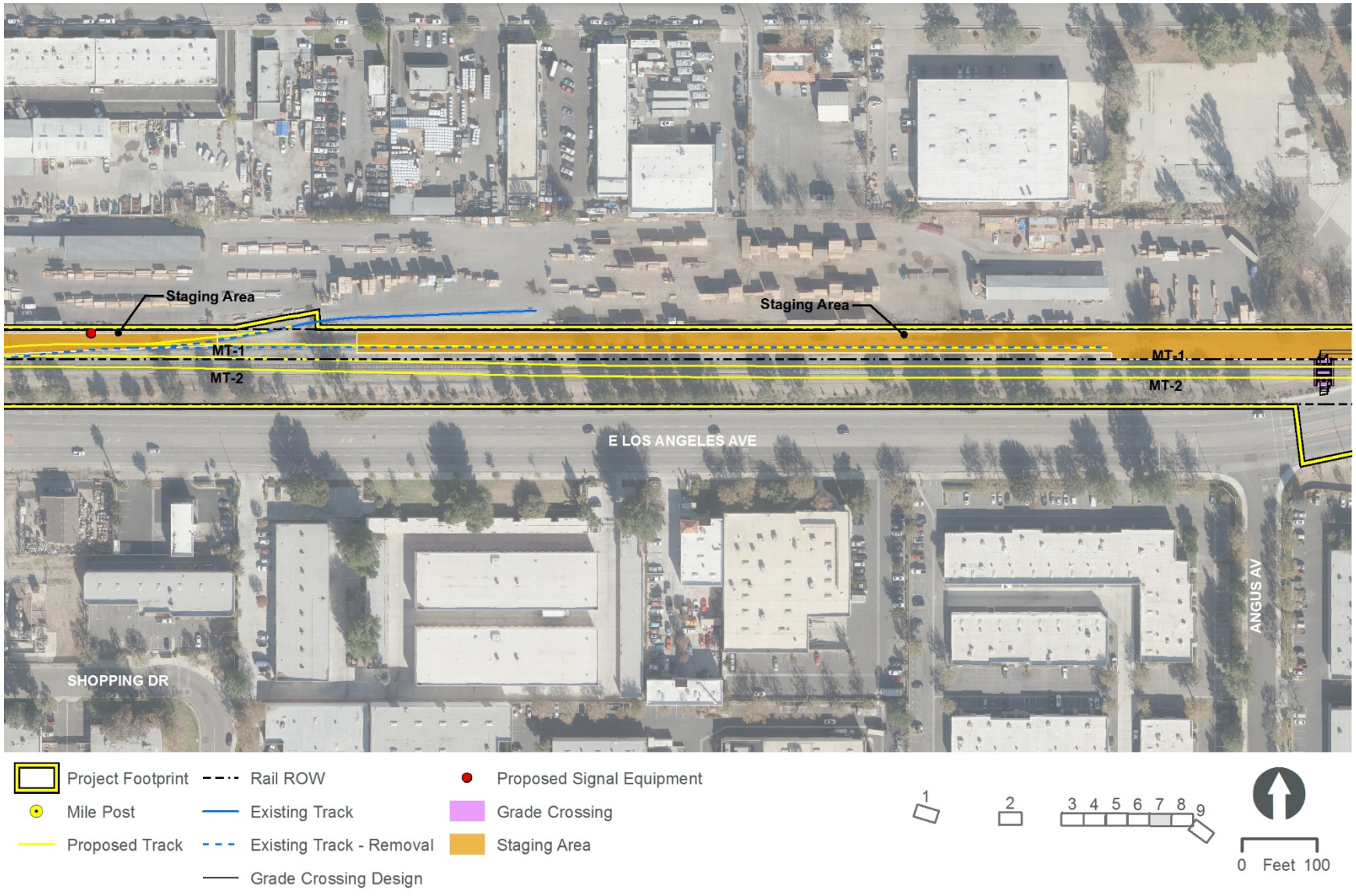

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Figure 2-3. Project Detail Map
(Sheet 8 of 9)

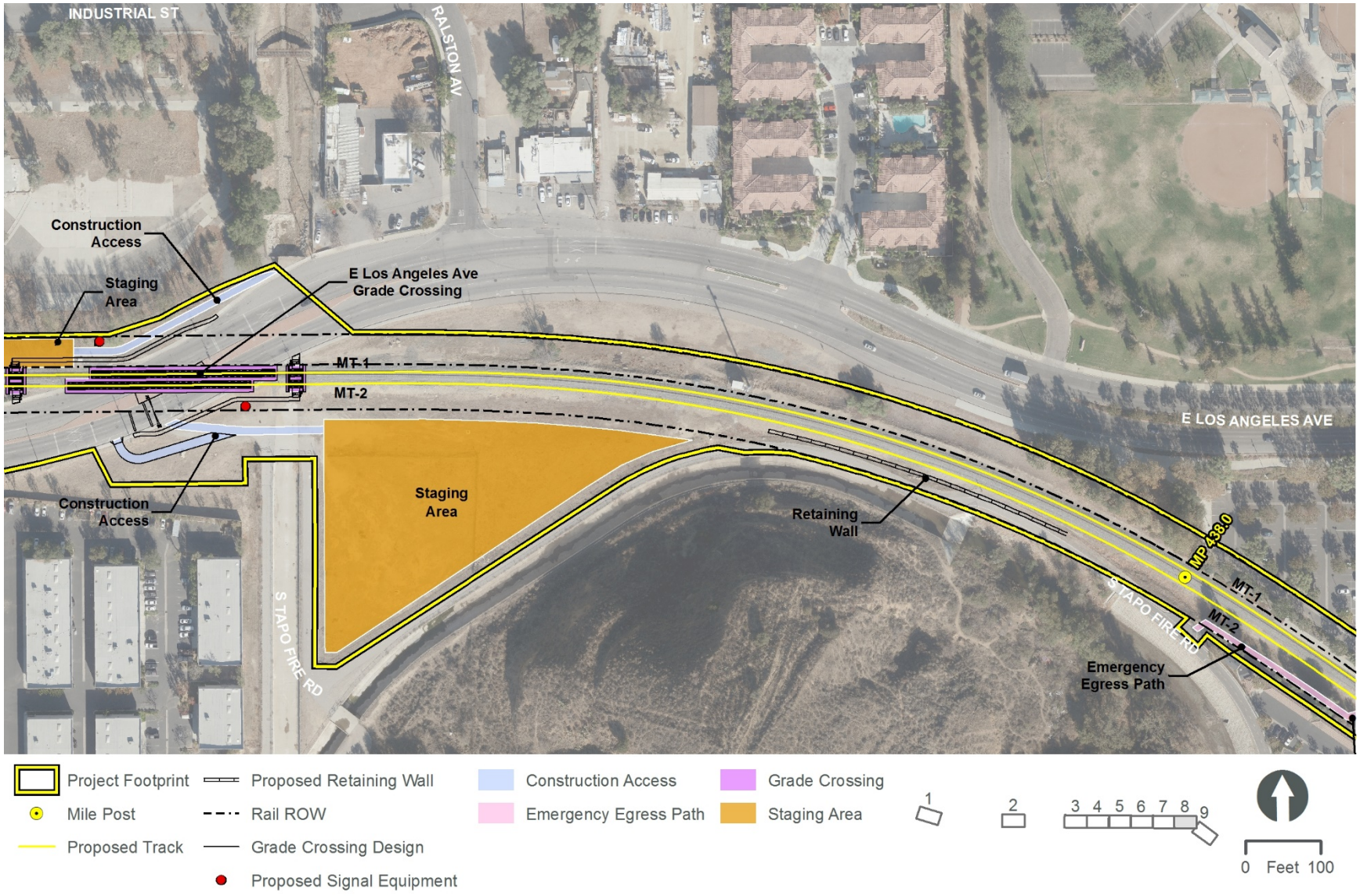

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Figure 2-3. Project Detail Map
(Sheet 9 of 9)

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At-Grade Crossings

The Project would include improvements and related supplemental safety measures at existing at-grade crossings within the Project study area to facilitate future quiet zone implementation. These at-grade crossing improvements would generally include the accommodation of the second mainline track and related ancillary improvements, except for at the Sequoia at-grade crossing, where a second track would not be constructed. These improvements would include sidewalk and pavement reconstruction; installation of pedestrian gates and warning signals; roadway restriping; pedestrian channelization; construction, of or modification to, a raised roadway median; and installation/modification of the roadway gates. Each at-grade crossing is further described below.

- **Sequoia Avenue.** The improvements at Sequoia Avenue include those described above, except a second mainline track crossing would not be constructed. A new railroad signal house would also be installed at this location.
- **Tapo Canyon Street.** In addition to the improvements described above, a new signal house would also be constructed at Tapo Canyon Street.
- **Tapo Street.** In addition to the improvements described above, a new signal house would also be constructed at Tapo Street.
- **East Los Angeles Avenue.** In addition to the improvements described above, a new signal house would also be constructed at East Los Angeles Avenue. Additionally, the existing access roads leading from the Arroyo Simi Bike Path would be modified to accommodate the proposed pedestrian improvements and the existing retaining wall located in the southeast quadrant would be reconstructed.
- **Hidden Ranch Drive.** In addition to the improvements described above, a new signal house would also be constructed at Hidden Ranch Drive.

Railroad Signals and Communications

The track improvements would require new track panels, signals, and warning devices at the existing at-grade crossings. At Sequoia Avenue, Tapo Canyon Road, and Tapo Street, the presignals on the southwest quadrants would be located outside of the exit gates to improve visibility for southbound traffic approaching the tracks. Additional safety improvements would include adding flashers to the warning devices for vehicles turning onto Tapo Canyon Road from East Los Angeles Avenue. Maintenance access to the new signal houses would also be added.

The Project would include two new CPs. At the western limit of the new track, CP Sequoia would be installed approximately 0.20 mile east of Sequoia Avenue. CP Arroyo would be installed directly west of Arroyo Simi. The existing signal at Tapo Street would be modified to accommodate the second track. In order to account for the proximity to the new CP Sequoia, the existing signal at Sycamore Drive would be relocated approximately 700 feet west. To reduce headway times to CP Strathern, an additional signal would be added approximately 2,000 feet west of Erringer Road.

At each new signal site, the following improvements would be installed:

- 6-foot by 8-foot signal house with a security fence
- Wayside signal
- 40-foot positive train control antenna tower

- 200-amp Southern California Edison power meter pedestal
- Underground railroad fiber optic cable with vault

Simi Valley Station Enhancements

The existing Simi Valley Station consists of one side platform on the north side of the main line track with custom passenger canopies, a ticket vending machine, and an at-grade parking lot north of the platform. The existing path of travel to the station extends south from a bus stop at the platform entrance and from the adjacent parking lot. Station access would remain unchanged under the Project.

The Project would change the existing platform configuration by demolishing approximately 250 feet of the curved portion of the platform on the west end of the station. To maintain the 780-foot length of the existing platform, the remaining platform would be extended approximately 95 feet to the west and 155 feet to the east, so that the entire length of the platform is along tangent track (i.e., where the track is not curved). At the east end of the station, a pedestrian underpass would be installed with ramp and stair access. The new underpass would provide access to a new, second platform on the south side of the main line tracks, which would be a minimum of 680 feet long.

The Project would match the existing platform amenities (canopies, seating, signage, and lighting), and would include aesthetic treatments to the ramps, stairs, and underpass walls and ceiling. The Project would implement crime prevention through environmental design principles, which would include natural surveillance, natural access control, territorial reinforcement, and maintenance. The proposed station improvements would also meet National Fire Protection Association standards by providing passengers egress capabilities to vacate the platform within 4 minutes and to reach a point of safety within 6 minutes.

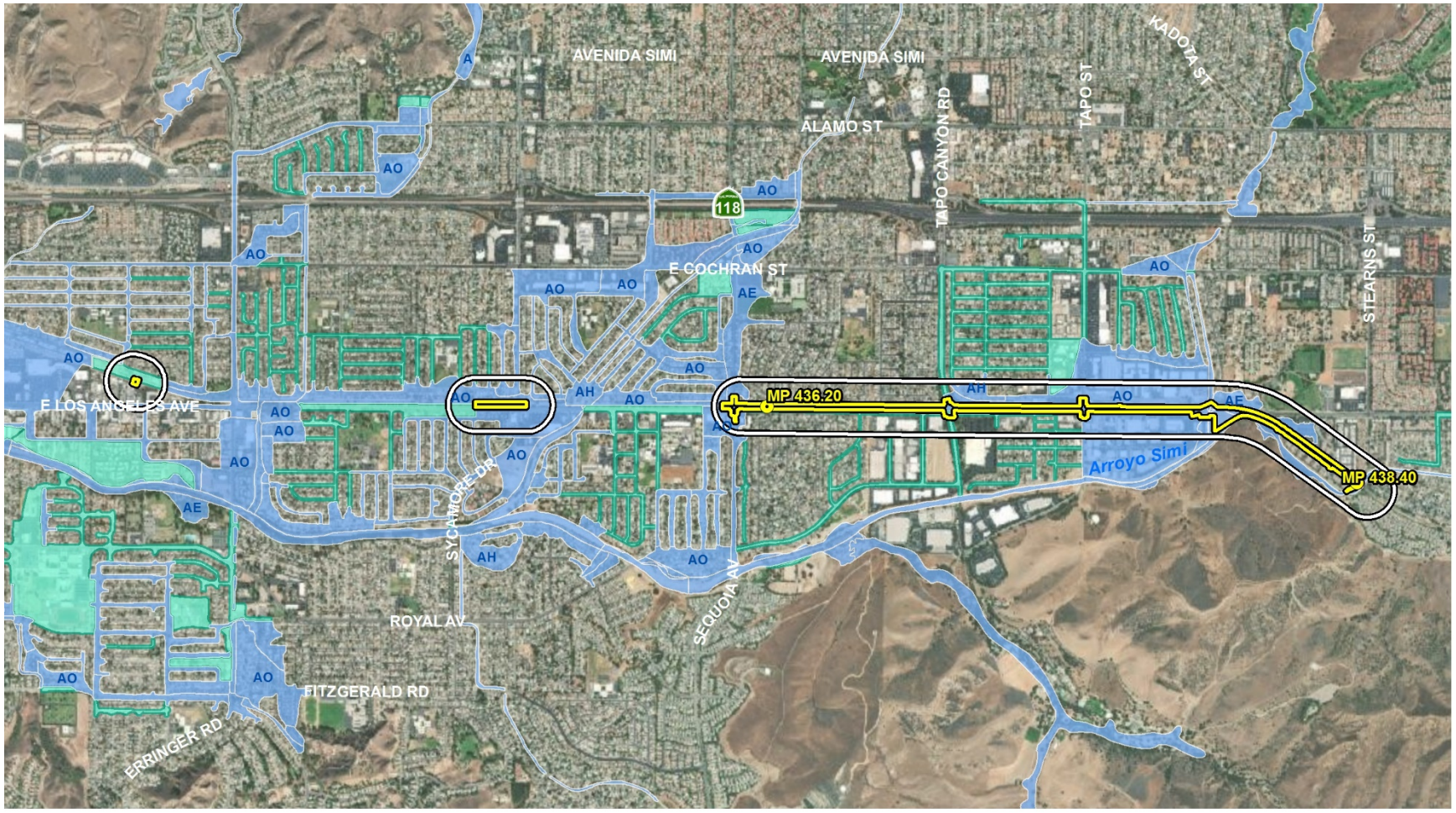
Drainage Improvements

The Project would include the following drainage improvements:

- Underdrains at the at-grade crossings where ditches are infeasible, and between the tracks at the platforms with the subgrade sloping toward the underdrain
- Trackside ditches between at-grade crossings
- Storm drain extensions or encasements where existing drainage systems intersect the proposed track infrastructure
- A new pump station at the low point of the pedestrian underpass at Simi Valley Station

Portions of the Project study area overlap with areas mapped by the Federal Emergency Management Agency (FEMA) as having a 1 percent annual chance of flood hazard with a potential for shallow flooding (Figure 2-4). The proposed drainage improvements would be coordinated with the City of Simi Valley to provide the new track infrastructure with adequate flood protection and to maintain existing drainage patterns to the extent practical throughout the Project study area.

Figure 2-4. Federal Emergency Management Agency Flood Hazard Map



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Structures

The Project would construct a new pedestrian underpass, stairs, and ramps at the Simi Valley Station. The design of the pedestrian underpass would be in accordance with the most recent SCRRA design criteria manual. The proposed structure type is a precast concrete box structure, composed of sections, selected to minimize construction track windows (i.e., minimize impacts on train schedules). The internal dimensions of the proposed structure would be 14 feet wide by 9 feet, 10 inches high. The depth of cover (i.e., amount of fill between the structure and the tracks) would be minimized to facilitate construction and maintenance of the structure, as well as to reduce the length of approach ramps and the number of stairs needed to reach the station platform. The design of the approach ramp retaining wall would be in accordance with the most recent SCRRA design criteria manual.

Utilities

Utilities within the Project study area include gas lines, electrical power lines, communications/fiber optic lines, and municipal water and sewer pipes. The Project would result in multiple utility conflicts, and impacted utilities would either be protected in place, extended, or relocated. Specifically, the Project may require relocation or casing extensions for the following utilities:

- Crimson Pipeline gasoline pipeline (6- to 12-inch pipeline) at East Los Angeles Avenue and Topo Canyon Road
- Southern California Edison electrical transmission and distribution (above and below ground) lines at Sequoia Avenue, East Los Angeles Avenue, Goddard Avenue, and Hidden Ranch Drive
- City of Simi Valley sewer and potable water lines at Sequoia Avenue, East Los Angeles Avenue, Tapo Canyon Road, and Hidden Ranch Drive
- Southern California Gas natural gas lines at Sequoia Avenue, East Los Angeles Avenue, Tapo Street, Arroyo lane, and Hidden Ranch Drive
- Golden State Water Company potable water lines at Sequoia Street, Goddard Avenue, Hietter Avenue, Tapo Street, and East Los Angeles Avenue
- Fiber optic cables parallel to the ROW owned by the following communications companies:
    - Lumen Technologies (formerly CenturyLink)
    - Verizon
    - AT&T
    - Sprint
    - Wilshire Communication
    - Charter Communications

Potholing would be implemented in conjunction with final design to verify the locations of all existing utilities within the Project study area and to determine which utilities would be protected in place and which utilities would require relocation or abandonment.

Right-of-Way

The majority of proposed improvements (including the proposed pedestrian underpass at the Simi Valley Station) would be constructed within the railroad ROW (Figure 2-3, Sheet 1 through 9).The northern 40 feet of ROW are owned by SCRRA, while the southern 60 feet are owned by UPRR. The ramp and stair access from the undercrossing to the new platform would extend south of the existing UPRR ROW and require acquisition of a portion of the adjacent multifamily parcel.

Roadway improvements would generally be located outside of the railroad ROW and within the City of Simi Valley's roadway ROW. Improvements at Hidden Ranch Drive would require acquisition of portions of two adjacent multifamily parcels at the southern and western corners of the crossing. Additionally, potential sidewalk crossing improvements that would extend into unimproved areas of private properties near Hidden Ranch Drive would require temporary construction easements in order to access the proposed CP Arroyo area.

To connect with the Arroyo Simi Bike Path, the egress path from the new platform may also extend south of the ROW onto the Ventura County Flood Control District's property, or it could extend further west to connect to the bike path within UPRR ROW. Final ROW needs would be confirmed during final design.

2.4.2 Construction

Project construction would begin as early as April 2022 and last for approximately 19 months. The work would be accomplished over four phases, beginning with construction of the pedestrian underpass and new platform at the station, and ending with reconstruction of 250 feet of the existing station platform. Construction may involve multiple crews working simultaneously and would include equipment such as track stabilizers, excavators, front-end loaders, rubber-tired dozers, cranes, haul trucks, and water trucks.

Construction would generally proceed in the following four phases over the 19-month construction schedule:

- Phase 1:
    - A number of third-party utility lines would be relocated in order to make way for the improvements of the Project. These utilities include fiber optic lines that run parallel to the Project study area, as well as many crossing utilities, such as water, gas, electric, and others. The relocations are due to the addition of a second main track, added second platform, inadequate depth underneath the rail, or insufficient casing length that spans the entire railroad ROW.
- Phase 2:
    - Construct structures, including the pedestrian underpass and new platform at Simi Valley Station and the retaining wall near the Arroyo Simi Bike Path
    - Construct track work, including the new main track (Main Track 1) outside of grade crossing limits and new turnouts, while maintaining service on the existing track
    - Construct signal houses, signal foundations, grade crossing warning devices and associated conduits

- Phase 3:
  - Construct track and roadway improvements at the at-grade crossings
  - Transfer rail service onto the newly constructed Main Track 1; take the existing track out of service for the second main track (Main Track 2) improvements
  - Finish installing signals at new CP Sequoia and CP Arroyo
- Phase 4:
  - Construct Main Track 2 track and upgrade existing from timber to concrete ties
  - Activate Main Track 2 track into service
  - Remove and reconstruct 250 feet of the existing Simi Valley Station platform and finish upgrading any remaining timber ties to concrete ties

Material and equipment imports and construction personnel would access the Project study area via walking points from the nearest fence access or staging area. Potential construction access points and staging areas have been identified within the ROW and are shown on Figure 2-3 (Sheets 3, 6, 7, 8, and 9). An additional staging area outside the ROW was identified between East Los Angeles Avenue and Arroyo Simi, as shown on Figure 2-3. The final construction staging area locations would be confirmed during design development.

Construction activities would be scheduled during time frames that allow for exclusive track occupancy by construction crews to minimize effects on Metrolink operations. To the greatest extent possible, construction activities would be scheduled during the daytime; however, nighttime work would be required to maximize construction work windows. The Project would also include weekend work when Metrolink service is reduced.

Prior to construction, coordination would be needed with regard to the bike trail and potential temporary construction closures. Dewatering is expected to be necessary during construction of the pedestrian underpass at the station and would be completed in accordance with applicable regulations.

2.4.3 Operation

The Project would improve safety and reliability on the VCL and at the Simi Valley Station and adds capacity to accommodate growth of Metrolink commuter train operations through the Project study area. The Project would install safety improvements at four grade crossings and create a new 2.20-mile double track segment through southern Simi Valley, which would reduce the distance of single-track territory through the Project study area. Passenger trains running along the Ventura Subdivision on the Metrolink VCL would be able to use this double track segment to pass uninterrupted through the Project study area rather than idling at the nearest location with two tracks, waiting for trains in the opposite direction to cross the single-track segment.

Project operation is projected to start in 2025. The Project would also provide faster, more frequent, and more reliable service by increasing on-time performance. As the population of Southern California increases, it is likely that additional passenger rail service would be added to the Metrolink VCL in the future to ease traffic congestion on freeways and local streets.

With Project implementation, as well as completion of the other VCL projects, Metrolink service would increase, providing up to 48 revenue trains per day on the VCL (Table 2-1).

Table 2-1. 2019 Schedules and Proposed Service Schedules: Ventura County Line

Schedule	Existing Service (2019)			Proposed Service (2025)		
	To Los Angeles[a]	From Los Angeles[a]	All	To Los Angeles[a]	From Los Angeles[a]	All
Weekday	16	17	33	24	24	48
Saturday	0	0	0	1[b]	1[b]	2[b]
Sunday	0	0	0	0	0	0

Notes:

[a] VCL trains to or from Los Angeles originate or terminate in Ventura, Moorpark, Chatsworth, or Burbank. Future service includes trains originating and terminating in Van Nuys.

[b] VCL Saturday service would operate between April and October only.

VCL=Ventura County Line

3 Regulatory Framework

This section summarizes key federal, state, and regional and local regulations, laws, and policies relevant to hydrology and water quality in the Project vicinity.

3.1 Federal Regulations

3.1.1 Clean Water Act

The Clean Water Act (CWA) is the primary federal law that protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA was enacted with the purpose of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters. The CWA directs states to establish water quality standards for all waters of the U.S. and to review and update such standards on a triennial basis. It is based on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit.

The U.S. Environmental Protection Agency (EPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) program, to State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCB). SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and State water quality statutes and regulations. RWQCBs develop and implement water quality control plans (basin plans) that identify the beneficial uses of surface and ground waters, water quality characteristics, and water quality problems.

Section 303(d) and Total Maximum Daily Loads (TMDL). The CWA contains two strategies for managing water quality. One is a technology-based approach that includes requirements to maintain a minimum level of pollutant management using the best available technology. The other is a water quality-based approach that relies on evaluating the condition of surface waters and setting limitations on the amount of pollution that the water can be exposed to without adversely affecting the beneficial uses of those waters. Section 303(d) of the CWA bridges these two strategies. Section 303(d) requires that the states make a list of waters that are not attaining standards after the technology-based limits are put into place. For waters on this impairment list (and where the U.S. EPA administrator deems they are appropriate), the states are to develop TMDLs. TMDLs are established at the level necessary to implement the applicable water quality standards. The CWA does not expressly require the implementation of TMDLs. However, federal regulations require that an implementation plan be developed along with the TMDL and Sections 303(d), and 303(e), and their implementing regulations require that approved TMDLs be incorporated into basin plans.

Section 404 Dredge/Fill Permitting. The discharge of dredged or fill material into waters of the U.S. is subject to permitting specified under Section 404 (Discharges of Dredge or Fill Material) of the CWA. Section 404 of the CWA regulates placement of fill materials into the waters of the U.S. Section 404 permits are administered by the U.S. Army Corps of Engineers.

Section 401 Water Quality Certification. Section 401 of the CWA requires that an applicant pursuing a federal permit to conduct an activity that may result in a discharge of a pollutant obtain a Water Quality Certification (or waiver). A Water Quality Certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the U.S. Water Quality Certifications are issued by one of the nine geographically separated RWQCBs in California.

Under the CWA, the RWQCB must issue or waive a Section 401 Water Quality Certification for a Project to be permitted under CWA Section 404.

Section 402 – NPDES. The 1972 amendments to the federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA devoted to stormwater permitting (Section 402[p]). The U.S. EPA has granted the State of California (SWRCB and RWQCBs) primacy in administering and enforcing the provisions of CWA and NPDES. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the U.S.

3.1.2 Safe Drinking Water Act

The 1986 federal Safe Drinking Water Act requires each state to develop a wellhead protection plan to describe how areas around wells would be protected from potential contamination. A major element of a wellhead protection program is the determination of protection zones around public supply wellheads. Within these zones, potential protection measures could include limitations on land uses to preclude industrial or agricultural uses with the potential to result in spills of chemicals or overuse of fertilizers and other chemicals.

3.1.3 National Flood Insurance Program

FEMA is responsible for determining, based on U.S. Army Corps of Engineers studies, flood elevations, and floodplain boundaries. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRM), which are used in the National Flood Insurance Program. These maps identify the locations of special flood hazard areas, including the 100-year floodplain. FEMA allows nonresidential development in the floodplain; however, construction activities are restricted within the flood hazard areas, depending on the potential for flooding within each area.

3.2 State Regulations

3.2.1 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is established and implemented by the SWRCB and nine RWQCBs. Waters of the state are defined more broadly than waters of the U.S.; they are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. This includes waters in both natural and artificial channels. The act requires projects that are discharging, or proposing to discharge, wastes that could affect the quality of the state's water to file a waste discharge report with the appropriate RWQCB. The Porter-Cologne Act also requires that the SWRCB or an RWQCB adopt basin plans for the protection of water quality. The Basin Plan specifies region-wide and water body–specific beneficial uses and sets numeric and narrative water quality objectives for several substances and parameters in numerous surface waters in its region. The Basin Plan also establishes beneficial water uses for groundwater basins within the region. The Project lies within the jurisdiction of the Los Angeles RWQCB. The Basin Plan was last updated in 2019.

3.2.2 National Pollutant Discharge Elimination System Construction General Permit

Most construction activities that disturb 1 acre of land or more are required to obtain coverage under the NPDES General Permit for Construction Activities (Construction General Permit). The SWRCB has issued a statewide Construction General Permit (Order No. 2009-0009-DWQ, NPDES No. CAR000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ), adopted September 2, 2009. Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least 1 acre of total land area. The Construction General Permit requires the applicant to file a notice of intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities, along with a demonstration of compliance with relevant local ordinances and regulations, and an overview of the best management practices (BMP) that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Permittees are further required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

3.2.3 Lake and Streambed Alteration Program

California Department of Fish and Wildlife regulates water resources under Sections 1600 et seq. of the California Fish and Game Code. California Department of Fish and Wildlife has the authority to grant Streambed Alteration Agreements under Section 1602, which states:

> An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

California Department of Fish and Wildlife jurisdiction includes ephemeral, intermittent and perennial watercourses and extends to the top of the bank of a stream or lake if unvegetated, or to the limit of the adjacent riparian habitat located contiguous to the watercourse if the stream or lake is vegetated.

Projects that require a Streambed Alteration Agreements may also require a permit from the U.S. Army Corps of Engineers under Section 404 of the CWA. In these instances, the conditions of the Section 404 permit and the Streambed Alteration Agreements may overlap.

3.2.4 Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA) is a comprehensive three-bill package that Governor Jerry Brown signed into California state law in September 2014. The SGMA provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for state intervention only if necessary to protect the resource. The plan is intended to ensure a reliable groundwater water supply for California for years to come. SGMA requires the formation of local groundwater sustainability agencies, which are required to adopt groundwater sustainability plans to manage the sustainability of groundwater basins. The adoption of a groundwater sustainability plan is required for all high- and medium-priority basins as identified by Department of Water Resources or submit an alternative to a groundwater sustainability plan. SGMA also requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge.

Per the SGMA 2019 Basin Prioritization conducted by the Department of Water Resources, groundwater basin 4-009, Simi Valley Basin is considered to be very low priority. Thus, no groundwater sustainability agency was formed, and no groundwater sustainability plan was adopted for this groundwater basin.

3.3 Local Regulations

3.3.1 Ventura County Municipal Separate Storm Sewer System Permit

The Ventura County Municipal Separate Storm Sewer System (MS4) Permit (Order No. R4-2010-0108, NPDES No. CAS004002) regulates discharge from MS4s into inland surface waters, enclosed bays and estuaries, and coastal ocean within the Ventura County Watershed Protection District (Principal Permittee), County of Ventura and its incorporated cities (Permittees). The permit covers discharge requirements, and requirements for Storm Water Quality Management Program implementation and sub-programs to be developed and implemented by the Principal Permittee (Public Information and Participation Program, Industrial/Commercial Facilities Program, Planning and Land Development Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and Reporting Program requirements. The permit also requires that applicable development projects follow the guidance of a hydromodification control plan (HCP) the Technical Guidance Manual for Stormwater Quality Measures (TGM) developed by the permittees. The Planning and Land Development Program requires new- and redevelopment projects to minimize pollutant loadings and hydromodification resulting from impervious surfaces through the use of properly designed, technically appropriate BMPs. Selection of BMPs to remove stormwater pollutants, reduce stormwater runoff volume, and beneficially reuse stormwater should be prioritized in the following order:

1. Infiltration BMPs
2. BMPs that store and reuse stormwater runoff.
3. BMPs that incorporate vegetation to promote pollutant removal and runoff volume reduction and integrate multiple uses
4. BMPs which percolate runoff through engineered. soil and allow it to
5. Discharge downstream slowly
6. Approved modular/ proprietary treatment control BMPs that are based on low impact development concepts and that meet pollution removal goals

3.3.2 Technical Guidance Manual for Stormwater Quality Measures – New Development and Redevelopment Projects

The Ventura County TGM (Ventura Countywide Stormwater Quality Management Program 2018) provides guidance for the implementation of stormwater management control measures in new development and redevelopment projects in the County of Ventura and the incorporated cities including Simi Valley. The guidelines in the TGM are intended to improve water quality and mitigate potential water quality impacts. The TGM was developed to meet the Planning and Land Development requirements contained in Part 4, Section E of the Ventura County MS4 permit for new development and redevelopment projects, which requires minimization of runoff pollution by limiting effective impervious area to less than 5 percent of the Project site and retaining stormwater on site. The

document was first adopted in 2011 and then updated in 2015 and most recently 2018. The TGM includes requirements for planning and development projects including low-impact development and BMPs.

3.3.3 Ventura County Hydromodification Control Plan

The Ventura County HCP (Ventura Countywide Stormwater Quality Management Program 2013) contains requirements for implementation of hydromodification BMPs where they are applicable, and outlines performance and effectiveness monitoring requirements for implemented BMPs. New- and redevelopment projects that qualify as Hydromodification Control Projects must implement appropriate hydromodification BMPs as specified in the HCP. Criteria for applicability include both Project specifics and receiving water susceptibility. New and redevelopment projects where assessments of downstream channel conditions and proposed discharge hydrology indicate that adverse hydromodification effects to present and future beneficial uses of natural drainage systems are unlikely may exempt from hydromodification controls requirements. This includes projects that disturb less than 1 acre; projects that are replacement, maintenance or repair of a permittee's existing flood control facility, storm drain, or transportation network; development projects in the Urban Core that do not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to the pre-Project conditions; projects that have any increased discharge go directly or via a storm drain to a sump, lake, area under tidal influence, into a waterway that has a 100-year peak flow of 25,000 cubic feet per second or more, or other receiving water that is-not susceptible to hydromodification impacts; projects that discharge directly or via a storm drain into concrete or improved channels (e.g., rip rap, sackcrete, etc.), which, in turn, discharge into receiving water that is not susceptible to hydromodification impacts.

3.3.4 City of Simi Valley General Plan

The City of Simi Valley General Plan, most recently updated in June 2012 (City of Simi Valley 2012), includes policies relevant to water quality within Chapter 6, Natural Resources, goals 1 – Conservation of Natural Resources, 5 – Watershed Protection, and 6 – Water Quality. These policies focus on preservation and enhancement of the City's natural water resources and their associated ecological and aesthetic benefits (NR-1.11, NR-2.5, NR-5.2, and NR-5.5). This is achieved by subjecting development projects to an environmental review process (NR-2.6), controlling urban runoff water quality through stormwater protection measures consistent with the Ventura County MS4 Permit (NR-5.1 through NR-5.4), and implementing severe fines for dumping hazardous materials into the City's MS4s and sewer systems (NR-6.4).

3.3.5 City of Simi Valley Municipal Code

The City of Simi Valley Municipal Code, Title 6 - Sanitation and Health, Chapter 12 Storm Water Quality Management, prescribes regulations, pursuant to the Ventura County MS4 permit, to effectively prohibit nonstormwater discharges into MS4s and flood and sediment control facilities, and to reduce the pollutant discharge to the maximum extent practicable. Activities or operations that may result in pollutants entering MS4s or a watercourse must implement BMPs that prevent nonstormwater discharges and reduce pollutants in stormwater discharges to the maximum extent practicable. Development and redevelopment projects must comply with requirements specified in the Ventura County MS4 Permit and Ventura County TGM. Construction projects that require a grading permit or that are subject to the State Construction General permit must develop a Stormwater Pollution Control Plan. The Stormwater Pollution Control Plan must identify the responsible party, provide site location and contact information, identify pollutant sources, and describe placement and implementation of BMPs. The SWPPP required by the State Construction General Permit (state SWPPP) may be accepted as a Stormwater Pollution Control Plan if it is determined to meet the city's requirements. Projects that disturb 1 or more acre of land require a local SWPPP in addition to the state SWPPP.

4 Methodology for Impact Analysis

The following information sources and associated geographic information systems data were used to describe the affected environment:

- **Climate, precipitation, and topography**: Climate, precipitation, and topography information was obtained from the local reports and U.S. Geological Survey topographic 7.5-minute maps for Simi Valley East, Simi Valley West, Calabasas, and Thousand Oaks.
- **Regional and local hydrology and water resources**: The existing hydrology and water resources features in the Project vicinity are major surface water features that include rivers and creeks; major drainage infrastructure; and major groundwater aquifers. Information regarding these features and their conditions, including major water quality impairments, originates in the following sources: The Los Angeles Region Basin Plan; the CWA Section 303(d) list of water quality-impaired reaches; the National Hydrography Dataset, the SGMA Basin Prioritization Dashboard; the SWRCB groundwater quality database, GeoTracker; and local groundwater reports. The City of Simi Valley's General Plan was referenced as an additional source for local polices related to watershed hydrology and water quality conditions.
- **Existing floodplain conditions**: The existing conditions with respect to floodplains are based on available data, reports, studies, and topographic and floodplain mapping. The FEMA-mapped 100-year floodplain areas (known as special flood-hazard areas under FEMA regulations) were identified and mapped using geographic information systems-based information based on FEMA's FIRMs for Ventura County, panels 06111C0863E and 06111C0864E. Both panels have an effective date of January 20, 2010. The special flood-hazard area designations and base flood elevation information were obtained from the FIRMs.

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5 Environmental Setting

This section provides a discussion of the existing conditions related to hydrology and water quality on the Project site.

5.1 Climate, Precipitation, and Topography

The Project site is located in the City of Simi Valley within the County of Ventura. Simi Valley is situated within the eastern portion of the Calleguas Creek watershed, which extends from the Santa Susana Mountains to the Pacific Ocean. It is a temperate region with temperatures typically ranging between 50 and 70 degrees Fahrenheit is winter and summer, respectively (Todd Groundwater 2015). The regions receive an average of 14.5 inches of annual rainfall, with the majority of rainfall occurring between December and March (Todd Groundwater 2015). The Project study area traverses the southern edge of Simi Valley, a large, east-trending alluvial plain that lies north and parallel to the Arroyo Simi drainage. The Project study area and surrounding area is a low-lying area surrounded by mountainous topography. The existing ground surface elevation in the Project study area ranges from approximately 945 to 988 feet North American Vertical Datum 88 (HDR 2020a). The area is mildly sloped, and surface water appears to generally drain to the west of the Project study area (HDR 2020a).

5.2 Hydrology

5.2.1 Surface Water Hydrology

The Project study area is located within the 33162.87-acre (51.8 square miles) Upper Simi Arroyo sub-watershed (Hydrologic Unit Code 180701030101), which is within the Calleguas Creek watershed, (Hydrologic Unit Code 1807010301), a 198394.52-acre (310 square miles) area that ultimately drains to the Pacific Ocean at Mugu Lagoon. The Project study area primarily drains to Arroyo Simi (Calleguas Creek, Reach 7), with partial drainage to Tapo Canyon Creek (Calleguas Creek, Reach 8). Tapo Canyon Creek confluences with Arroyo Simi upstream of Sycamore Drive and marks the downstream boundary of the Upper Simi Arroyo sub-watershed.

Analysis of the existing drainage (HDR 2020b) indicate that existing grades direct flow away from the tracks and into the surrounding areas. Existing drainage ditches drainage ditches are limited to a trackside ditch on the south side of the track near the existing station, trackside ditches on both sides of the track at Hidden Ranch Drive, and small a concrete ditch at the western limit of the Project that doesn't receive a significant amount of drainage from the tracks. There are no underdrains within the Project study area. Generally, water flows in a westward direction adjacent to the tracks. Drainage north of the existing track is periodically intercepted by culverts that direct flow south of the track and toward the storm drain system. Along most of the Project alignment, the area south of the existing track drains southward to Los Angeles Avenue and the storm drain system at various inlets. Between the Los Angeles Avenue crossing and station 2007+00 (MP 438.01), the track parallels Arroyo Simi and the area south of the track drains to open area and ultimately to Arroyo Simi. The storm drain system within the Project study area is maintained by the city and includes a collection of subterranean pipes and channels and open channels that drain to Arroyo Simi. According to the preliminary drainage analysis and design plans, multiple drainage structures intersect the existing track, including the following:

- Existing 120-inch by 24-inch rectangular concrete channel from Sequoia Avenue of the Project study area (station 1905+25, MP 436.08) to station 1906+25 (MP 436.10). The channel collects drainage from the SCRRA ROW and residential areas north of the track.
- Existing 2-inch by 16-inch corrugated metal pipe storm drain that discharges to the SCRRA ROW at station 1916+00 (MP 436.28).
- Existing 18-inch corrugated metal pipe storm drain that discharges to the SCRRA ROW at station 1923+00 (MP 436.42).
- Existing 25-inch by 16-inch corrugated metal pipe storm drain that discharges to the SCRRA ROW at station 1925+50 (MP 436.46).
- Existing 25-inch by16-inch corrugated metal pipe storm drain that discharges to the SCRRA ROW at station 1927+15 (MP 436.50).
- Existing 2-inch by 36-inch corrugated metal pipe culvert at station 1928+76 (MP 436.53) near Bolivar Court. The culvert collects drainage from the track and residential areas immediately north of the Project site that drain into the SCRRA ROW. Drainage flows through the existing track, north to south, and discharges to Los Angeles Avenue and the storm drain system.
- Existing 30-inch reinforced concrete pipe that intersects the SCRRA ROW at station 1945+85 (MP 436.85) and confluences with an existing reinforced concrete box storm drain storm drain.
- Existing 108-inch by 66-inch reinforced concrete box storm drain intersects the northern and southern boundaries of the SCRRA ROW at stations 1945+85 (MP 436.85) and 1947+25 (MP 436.88), respectively.
- Existing 240-inch by 36-inch concrete channel intersects the northern boundary of the SCRRA ROW at stations 1949+25 (MP 436.91) and drains to an existing culvert in the vicinity of station 1949+50 (MP 436.92).
- Existing 6-foot right culvert at approximately station 1949+50 (MP 436.92). The culvert collects drainage from the track and residential areas immediately north of the Project site that drain into the SCRRA ROW. Drainage flows through the track, north to south, and discharges to an existing v-ditch. This structure is proposed to be replaced by others with a 36-inch corrugated metal pipe.

- Existing 23-inch concrete v-ditch at conveys drainage from the existing culvert at station 1949+50 (MP 436.92) to the existing storm drain system south of the SCRRA ROW at station 1949+25 (MP 436.91).
- Existing 54-inch reinforced concrete pipe storm drain intersects the northern and southern boundaries of the SCRRA ROW at stations 1951+50 (MP 436.96) and 1951+00 (MP 436.95), east of Tapo Canyon Road and south of Valley Fair Street.
- Existing 66-inch reinforced concrete box storm drain that intersects the SCRRA ROW at station 1952+70 (MP 436.98).
- Existing 48-inch reinforced concrete pipe that intersects the SCRRA ROW at station 1970+25 (MP 437.31; Tapo Street)
- Existing 60-inch reinforced concrete pipe storm drain intersects the SCRRA ROW approximately station 1971+25 (MP 437.33), immediately west of Tapo Street. The storm drain collects drainage from the SCRRA ROW south of the existing track.
- Existing 6-foot by 13-foot reinforced concrete box culvert at that intersects the SCRRA ROW at station 1994+00 (MP 437.76), the eastern side of Los Angeles Avenue. The existing culvert outlets to an open channel south of the SCRRA ROW.
- Existing 10-foot by 7-foot reinforced concrete box storm drain intersects the SCRRA ROW at station 1998+50 (MP 437.85) and discharges to Arroyo Simi just south of the SCRRA ROW at station 1997+00 (MP 437.82).
- Existing 24-inch reinforced concrete pipe storm drain that intersects the SCRRA ROW at station 2002+40 (MP 437.92). The storm drain collects drainage from the SCRRA ROW north of the existing track and discharge to Arroyo Simi, just south of the ROW.
- Existing 36-inch reinforced concrete pipe storm drain that intersects SCRRA ROW at station 2004+60 (MP 437.96) and discharges to Arroyo Simi, just south of the ROW.
- Existing 24-inch reinforced concrete pipe storm drain that intersects SCRRA ROW at station 2005+55 (MP 437.98) and ultimately discharges to Arroyo Simi, just south of the ROW.

5.2.2 Groundwater Hydrology

The Project study area is located within the boundaries of groundwater basin 4-009, Simi Valley Basin. The Simi Valley Basin is approximately 12,155 acres (19 square miles), and its extents are confined primarily to the City of Simi Valley, with peripheral regions extending into the City of Moorpark and unincorporated areas of Ventura County (California Department of Water Resources 2020a). The Basin is composed of unconsolidated alluvial deposits reaching thicknesses up to 800 feet in the central portion of the basin, with water elevations ranging between 820 and 840 feet above mean sea level according data form the most recent Ventura County 2015 Annual Report of Groundwater Conditions (Ventura County Watershed Protection District, Water Resources Division 2016). Historical groundwater levels within the Project study area range from 15 feet below ground surface (bgs) near the existing Simi Valley Station and proposed underpass, to greater than 50 feet bgs along the Project alignment west of the existing station (HDR 2020a). Recent soil borings revealed groundwater levels of 20 to 22 feet bgs near Simi Valley Station; groundwater was not encountered at borings throughout the western portion of the Project study area (the maximum depth explored is 20 feet bgs; HDR 2020a).

There are 42 known active production wells within Simi Valley Basin (Hazen and Sawyer 2018):

- Six dewatering facilities that are owned by County of Ventura Waterworks Districts Number 8 are located in the western end of basin where water levels are above ground level. The average annual volume pumped from these wells between 2007 and 2015 was approximately 1,700 acre-feet. Dewatering water is discharged into storm drain and ultimately to Arroyo Simi, downstream of the study area. Four of these wells are more than 1 mile away from the Project study area, and one well is approximately 0.5 mile away from of the Project study area; all wells are downstream of the Project Study area.
- Two municipal wells owned by Golden State Water Company are used for water supply. The average annual volume pumped from these wells between 2006 and 2014 was 750 acre-feet. These wells are approximately 0.5 mile away the Project study area, upstream of the confluence of Tapo Canyon and Arroyo Simi.
- Thirty-four unmetered wells, comprised of 26 agricultural wells, 7 domestic wells, and 1 well with unknown purpose. The average annual pumping volume is unknown but assumed to be small comparative to the pumping volumes of the dewatering and municipal supply wells. Five of these wells (one domestic, four agricultural) are within 1 mile of the Project study area; all five wells are upstream of the Project study area.

Groundwater recharge within the basin occurs via irrigation return flow, water and septic system losses, stream recharge, and subsurface groundwater inflow (Todd Groundwater 2015).

5.3 Water Quality

5.3.1 Surface Water

Pollutants that are found in municipal stormwater runoff can degrade water quality of receiving waters and harm human health and aquatic ecosystems. Findings listed in the Ventura County MS4 Permit state that, based on the Ventura Countywide Storm Water Monitoring Program's Water Quality Monitoring Reports, which were required under Order No. 00-108, the pollutants of concern in urban stormwater include chloride, fecal indicator bacteria, conventional pollutants, metals, nitrogen, organic compounds, and pesticides. Many of the pollutants of concern listed are responsible for impairments identified on the CWA 303(d) list of impaired waterbodies.

Water quality in the vicinity of the Project study area is directly affected by stormwater runoff that contains nitrogen compounds, pesticides and various toxic compounds, metals, sediment with associated pollutants from soil erosion, indicator bacteria, and trash. Pollutant laden stormwater discharges, particularly during first flush storm events, may cause an exceedance of the water quality standards and infringe upon beneficial uses, as specified in the Basin Plan.

Water bodies with potential to be affected by the Project and their respective designated beneficial uses are shown in Table 5-1. The 303(d)-listed impairments for the Project are shown in Table 5-2 and are based on the 2014/2016 California Integrated Report.

Table 5-1. Beneficial Uses of Water Bodies with Potential to be Affected by the Project

Waterbody	Designated Beneficial Uses
Calleguas Creek, Reach 7	REC-1, REC-2, MUN*, IND, GWR, FRSH,WARM, WILD
Calleguas Creek, Reach 8	REC-1, REC-2,MUN*,PROC,AGR,GWR,WARM,WILD
Simi Valley Basin, Confined Aquifers	MUN, IND, PROC, AGR
Simi Valley Basin, Unconfined Aquifers	MUN, IND, PROC, AGR

Source: Los Angeles RWQCB 2014
Notes:
* Designated under SB 88-63 and RB 89-03. Some designations may be considered for exemption at a later date

AGR: Agricultural Supply
FRSH: Freshwater Replenishment
GWR: Groundwater Recharge
IND: Industrial Service Supply
MUN: Municipal and Domestic Supply
PROC: Industrial Process Supply
REC-1: Water Contact Recreation
REC-2: Noncontact Water Recreation
WARM: Warm Freshwater Habitat
WILD: Wildlife Habitat

Table 5-2. Water Quality Impairments within the Project Alignment

Waterbody	303(d) Listed Impairments	Source	U.S. EPA TMDL Report Completion
Calleguas Creek, Reach 7	Ammonia (5B)	Nonpoint source, point source	2003
Calleguas Creek, Reach 7; Calleguas Creek, Reach 8	Boron (5B)	Atmospheric deposition, domestic use of ground water, groundwater loadings, irrigated crop production, major municipal point source - dry weather discharge, surface runoff	2008
Calleguas Creek, Reach 8	Chlordane (5B)	Source unknown	2006
Calleguas Creek, Reach 7; Calleguas Creek, Reach 8	Chloride (5B)	Atmospheric deposition, domestic use of ground water, groundwater loadings, irrigated crop production, major municipal point source - dry weather discharge, surface runoff	2008
Calleguas Creek, Reach 7; Calleguas Creek, Reach 8	Chlorpyrifos (5B)	Source unknown	2006
Calleguas Creek, Reach 7; Calleguas Creek, Reach 8	Diazinon (5B)	Source unknown	2006
Calleguas Creek, Reach 8	Dichlorodiphenyltrichloroethane (5B)	Source unknown	2006

Table 5-2. Water Quality Impairments within the Project Alignment

Waterbody	303(d) Listed Impairments	Source	U.S. EPA TMDL Report Completion
Calleguas Creek, Reach 8	Dieldrin (5B)	Source unknown	2006
Calleguas Creek, Reach 7	Indicator Bacteria (5A)	Source unknown	2019
Calleguas Creek, Reach 7	Organophosphorus Pesticides (5B)	Agriculture, municipal point sources	2006
Calleguas Creek, Reach 8	Polychlorinated biphenyls (5B)	Source unknown	2006
Calleguas Creek, Reach 7	Sedimentation/Siltation (5A)	Source unknown	2006
Calleguas Creek, Reach 8	Sedimentation/Siltation (5A)	Source unknown	2015
Calleguas Creek, Reach 7; Calleguas Creek, Reach 8	Sulfates (5B)	Atmospheric deposition, domestic use of ground water, groundwater loadings, irrigated crop production, major municipal point source - dry weather discharge, surface runoff	2008
Calleguas Creek, Reach 7; Calleguas Creek, Reach 8	Total Dissolved Solids (5B)	Atmospheric deposition, domestic use of ground water, groundwater loadings, irrigated crop production, major municipal point source - dry weather discharge, surface runoff	2008
Calleguas Creek, Reach 8	Toxaphene (5B)	Source unknown	2006
Calleguas Creek, Reach 7	Toxicity (5B)	Source unknown	2006
Calleguas Creek, Reach 7	Trash (5A)	Source unknown	2021

Source: SWRCB 2018
Notes:
EPA=Environmental Protection Agency; TMDL=total maximum daily load; U.S.=United States

Five separate TMDLs have been adopted by the Los Angeles RWQCB and approved by the U.S. EPA to address water quality impairments within the Calleguas Creek watershed:

Calleguas Creek Watershed Nitrogen Compounds and Related Effects TMDL was adopted by the Los Angeles RWQCB on October 24, 2002, and approved by the U.S. EPA on June 20, 2003. It was then revised by the Los Angeles RWQCB in September 2008 and reapproved by the U.S. EPA October 15, 2009. The effective date is October 15, 2009. This TMDL includes numeric targets, waste load allocations (WLA), and load allocations (LA) for concentrations of total ammonia as nitrogen and nitrate and nitrite as nitrogen within the Callguas Creek Watershed.

Calleguas Creek Watershed Toxicity TMDL was adopted by Los Angeles RWQCB on July 7, 2005, and approved by the U.S. EPA on March 14, 2006. The effective date is March 24, 2006. This TMDL

includes numeric targets for concentrations of chlorpyrifos, diazinon, and toxicity in the water column and sediment. It also includes WLAs and LAs for concentrations of chlorpyrifos, diazinon, and toxicity in discharges from point and nonpoint sources.

Calleguas Creek Watershed Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation TMDL was adopted by the Los Angeles RWQCB on July 7, 2005, and approved by the U.S. EPA on March 14, 2006. The effective date is March 24, 2006. This TMDL includes numeric targets for concentrations of numerous organochlorine pesticides (including chlordane, dichlorodiphenyltrichloroethane, dieldrin, and toxaphene) and polychlorinated biphenyls in surface water, fish tissue, and sediment. It also includes WLAs and LAs for concentrations of these pollutants in sediment and siltation limits for discharges from point and nonpoint sources.

Calleguas Creek Watershed Metals and Selenium TMDL was adopted by the Los Angeles RWQCB on October 25, 2006, and approved by the U.S. EPA on March 26, 2007. It was then revised by the Los Angeles RWQCB on October 13, 2016, and reapproved by the U.S. EPA on June 9, 2017. The effective date is March 26, 2007. This TMDL includes numeric dry and wet weather numeric targets for surface water concentrations of mercury, nickel, selenium, and zinc. In addition to surface water concentrations, sediment concentration targets for 303d listed segments, bird egg concentrations for mercury and selenium, and fish tissue concentrations for mercury are applicable. The TMDL also includes WLAs and LAs for dry and wet weather concentrations of copper, nickel, and selenium, and mercury in suspended sediment from point and nonpoint source discharges.

Calleguas Creek Watershed Salts TMDL was adopted by the Los Angeles RWQCB on October 4, 2007, and approved by the U.S. EPA on December 2, 2008. The effective date is December 2, 2008. This TMDL includes numeric targets for concentrations of boron, chloride, sulfate, and total dissolved solids in surface waters upstream of Potrero Road and applicable groundwater basins, including the Simi Valley basin. It also includes dry weather WLAs and LAs for concentrations of boron, chloride, sulfate, and total dissolved solids in discharges from point and nonpoint sources.

5.3.2 Groundwater

Beneficial uses of Simi Valley basin include municipal supply, industrial service and process supply, and agricultural supply (Los Angeles RWQCB 2014). Generally, water quality in Simi Valley Basin varies across the basin and with aquifer depth. The basin exhibits a gradual positive salinity gradient in the west direction, and quality of groundwater tends to be poorer in shallow regions (Todd Groundwater 2015). Measurements from wells in the region surrounding Project study area produced total dissolved solids concentrations between 793 and 2,090 milligram per liter (Todd Groundwater 2015); the state secondary drinking water standard for total dissolved solids is 1,000 milligram per liter. Golden State Water Company currently pumps groundwater from Simi Valley Basin for water supply but combines pumped water with imported water prior to delivery to customers due to its high salinity (Hazen and Sawyer 2018).

According to GeoTracker, three active cleanup sites (Cleanup Program Site Identification T0611100120, T0611100221, and SL0603707010) exist within 1 mile of the Project study area. Sites T0611100120 and T0611100221 are leaking underground storage tank cleanup sites located approximately 4,700 feet west of the intersection of Erringer Road at Los Angeles Avenue and 2,500 feet north of the intersection of Erringer Road and Los Angeles Avenue, respectively. Potential contaminants of concern at the leaking underground storage tank cleanup sites consist of motor vehicle-related contaminants, including gasoline, waste oil, and lubricants. Site SL0603707010 is approximately 0.66 mile northwest of the Project alignment at Sequoia Avenue. Potential contaminants of concern associated with this site include tetrachloroethylene and perchloroethylene (California Department of Water Resources 2020b).

5.4 Flooding

The Project study area intersects the 100-year floodplain at several locations. As shown on Figure 5-1 (Sheet 1), the proposed signal locations near Sycamore Drive and approximately 2000 feet west of Erringer Road are also within the 100-year floodplain limits (i.e., Zone AE). As shown in Figure 5-1 (Sheet 2), the portion of the Project study area near Sequoia Avenue and the majority of the Project study area east of Tapo Canyon Road is within the floodplain (Zone AO, Zone AE), as shown on Figure 5-1. The area west of the Los Angeles Avenue crossing, where the track crosses an open channel and briefly parallels Arroyo Simi, is within the designated floodway. West of Tapo Canyon Road is primarily classified as an area of minimal flood hazard (Zone X), with most roadways subject to 0.2 percent annual chance of flooding (FEMA 2008).

Table 5-3 includes descriptions of the various flood hazards zones established by FEMA and their associated flood hazards. Floodplains delineated by FEMA on FIRMs located in the Project vicinity are shown on Figure 5-1.

Table 5-3. Federal Emergency Management Agency Flood Hazard Zones

Zone	Flood Zone
High Risk Areas	
A	Areas with a 1 percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
AH	Areas with a 1 percent annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26 percent chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas and areas with a 1 percent or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26 percent chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
VE	Areas along the coast with a 1 percent annual chance of flooding event with additional hazards due to storm-induced velocity wave action. Base Flood Elevations derived from detailed hydraulic analyses are shown.

Table 5-3. Federal Emergency Management Agency Flood Hazard Zones

Zone	Flood Zone
Moderate- to Low-Risk Areas	
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100- year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from the 100-year flood, or shallow flooding areas with average depths of less than 1 foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.
Undetermined Risk Areas	
D	Areas with possible but undetermined flood risks. No analysis of flood hazards was performed in these zones.

Notes:
FIRM=Flood Insurance Rate Map

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Figure 5-1. Federal Emergency Management Agency Flood Zones within the Project Study Area (Sheet 1 of 2)

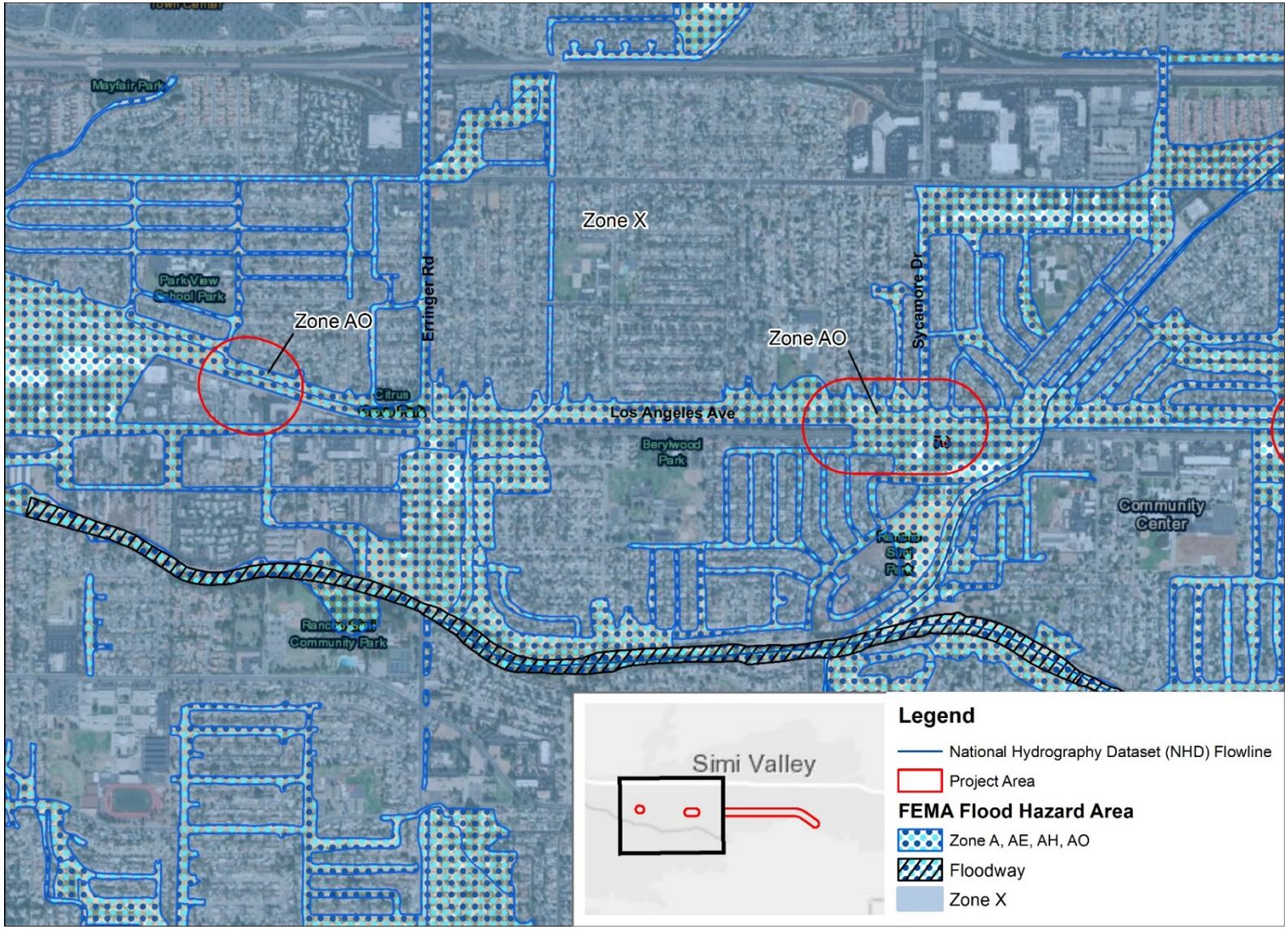

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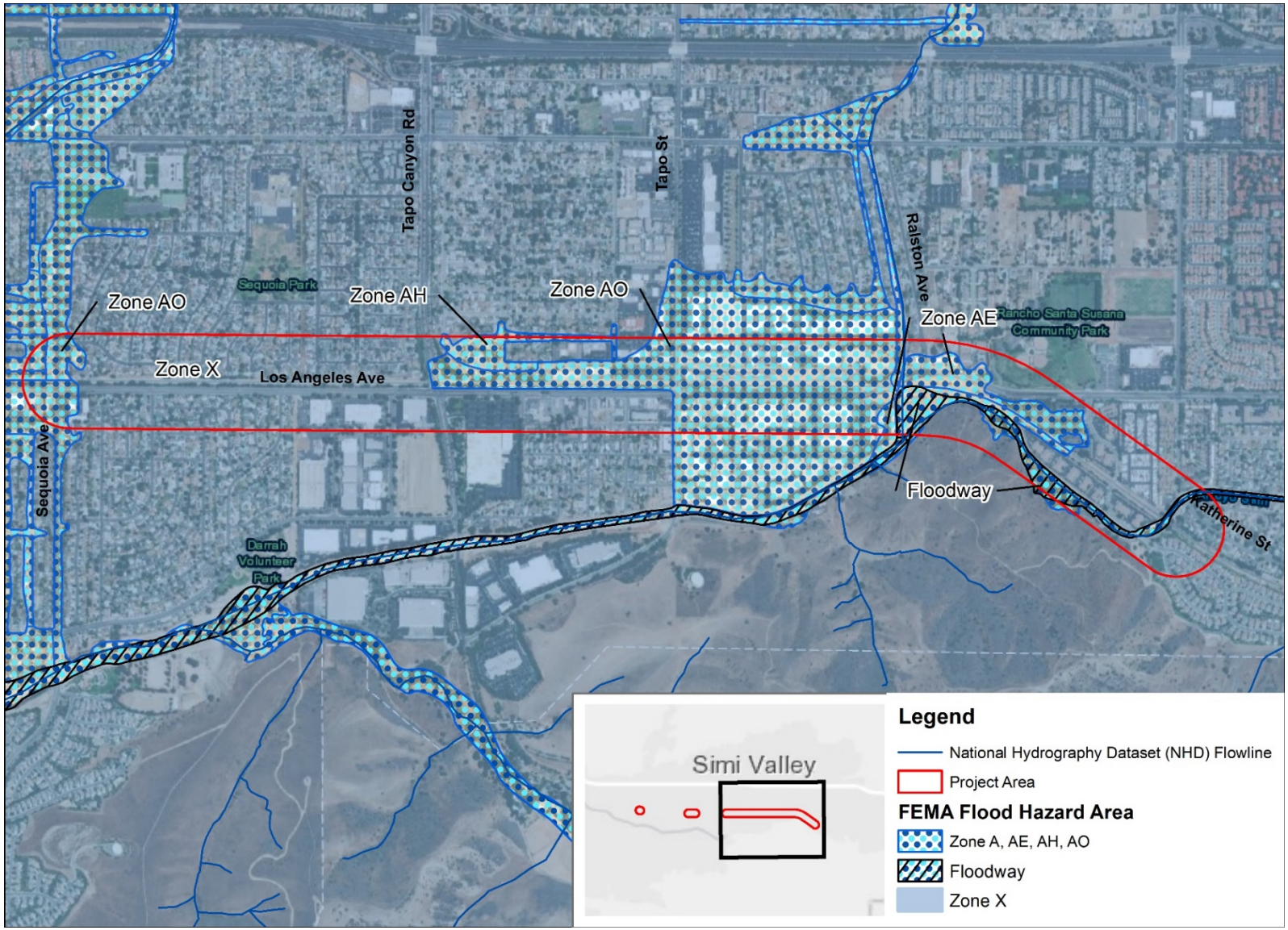
Figure 5-1. Federal Emergency Management Agency Flood Zones within the Project Study Area (Sheet 2 of 2)



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6 Impact Analysis

This section assesses the potential impacts of the Project relevant to existing hydrology and water quality conditions in the Project study area based on criteria provided in Appendix G of the California Environmental Quality Act Guidelines, as amended.

6.1 Surface Water Hydrology

Construction of the proposed Project would occur primarily within SCRRA's existing railroad ROW north or south of Los Angeles Avenue. These areas are already graded to generally conform to existing drainage infrastructure constructed by the City of Simi Valley and consist mostly of pervious surfaces, except at roadway crossings and parking areas. However, during construction, temporary alternations to existing drainage patterns may result. The increased volume, velocity, and discharge duration of stormwater runoff from developed areas could accelerate downstream erosion and impair stream habitat in susceptible (or unlined) channels; a direct relationship exists between the degree of imperviousness of an area and waterbody degradation (Ventura County MS4 Permit 2010). Once constructed, the addition of a second platform at the Simi Valley station, in conjunction with the construction of new track and drainage infrastructure, has the potential to add 1.23 acre (53,579 square feet) of impervious area (HDR 2020b), which could result in localized increases in peak runoff. Depending on the timing and quantity of flow, these increases could impact the city's storm system, and downstream receiving waters and may require mitigation.

Based on the preliminary engineering design and drainage analysis (HDR 2020b), the Project would require the construction of new trackside earthen and concrete drainage ditches along the majority of the Project to capture and control flow coming from the east side of the Project; underdrains at grade crossings and along graded tracks where a graded ditch is not feasible; storm drain pipes at grade crossings to provide a joined outlet for underdrains that run along both sides of track; and a pump station at the low point of the proposed pedestrian underpass. In addition, the Project would construct new drainage facilities that connect to existing city-owned drainage infrastructure including:

- Proposed 9-inch by 2-foot earthen drainage ditch at the north side of track, from station 1914+00 (MP 436.25) to station 1928 + 35 (MP 436.52). The proposed ditch collects drainage from the north side of the track and city-owned storm drains that discharge to the SCRRA ROW and discharges to the SCRRA ROW at station 1914+00 (MP 436.25). Flow discharged from the ditch would ultimately drain to an open channel that joins with storm drain system at Sequoia Avenue.
- Proposed 9-inch by 2-foot earthen drainage ditch at the north side of track, from station 1928+70 (MP 436.53) to station 1943+65 (MP 436.81). The proposed ditch would collect drainage from the north side of the track and proposed underdrains and drain to existing an existing 2-inch by 36-inch corrugated metal pipe culvert at station 1928+75 (MP 436.53). The existing culvert flows through track, north to south, and discharges to Los Angeles Avenue and the storm drain system.
- Proposed 9-inch by 2-foot earthen drainage ditch at the north side of the track, from station 1949+75 (MP 436.92), to station 1969+10 (MP 437.29). The proposed drainage ditch would collect drainage from the north side of the track and proposed underdrains and discharges to a proposed replacement 36-inch corrugated metal pipe culvert at station 1949+75 (MP

436.92). The culvert flows through track, north to south, and discharges to Los Angeles Avenue and the storm drain system.

- Proposed 18-inch reinforced concrete pipe storm drain at the north side of the track from station 1972+60 (MP 437.36) to station 1973+75 (MP 437.38). The proposed storm drain receives flow from proposed underdrains at station 1973+75 (MP 437.38) and discharges to and existing 48-inch reinforced concrete pipe at station 1972+60 (MP 437.36).
- Proposed 18-inch reinforced concrete pipe storm drain from station 1994+00 (MP 437.76) at the south side of track to station 1994+75 (MP 437.78) at the north side of track. The proposed storm drain would receive flow from proposed underdrains and drainage ditches at station 1994+75 (MP 437.78) and discharges to an existing 6-foot by 13-foot reinforced concrete box culvert at station 1994+00 (MP 437.76).
- Proposed 9-inch by 2-foot earthen drainage ditches at both the north and south sides of the track from station 1994+75 (MP 437.78) to stations 2005+60 (MP 437.98) and 2000+00 (MP 437.88) on the north and south sides, respectively. Both the northern and southern proposed ditches would drain into the proposed storm drain at station 1994+75 (MP 437.78) that discharges to the existing reinforced concrete box culvert at station 1994+00 (MP 437.76).
- Proposed 24-inch reinforced concrete pipe storm drain at the south side of the track from station 2005+60 (MP 437.98) to station 2018+55 (MP 438.23), where it connects to an existing 24-inch reinforced concrete pipe storm drain. The proposed storm drain would collect drainage from the south side of the track, proposed trench drains, and drainage pumped from the proposed underpass, and it would discharge to an existing 24-inch reinforced concrete pipe at station 2005+60 (MP 437.98).
- Proposed 8-inch underdrain from station 2005+60 (MP 437.98) to station 2017+30 (MP 438.20). The proposed underdrain would collect drainage from the track drain to the existing storm drains at station 2005+60 (MP 437.98) and 2017+30 (MP 438.20).
- Proposed 8-inch underdrain from station 2017+30 (MP 438.20) to station 2019+80 (MP 438.25). The proposed underdrain would collect drainage from the track and discharge to an existing ditch that ultimately drains to an existing slope drain at station 2025+50 (MP 438.36) and discharges to Arroyo Simi.
- Proposed 9-inch by 2-foot earthen drainage ditch at the south side of the track from station 2019+50 (MP 438.25) to station 2025+50 (MP 438.36). The proposed drainage ditch would drain to an existing slope drain at station 2025+50 (MP 438.36) that discharges to Arroyo Simi.

The implementation of these drainage improvements in coordination with interim BMPs required by the NPDES Construction General Permit would limit site runoff during construction and would not alter stormwater drainage patterns. Construction BMPs would be implemented to properly control, capture, infiltrate, and treat construction site runoff as needed, such that runoff discharging from the site would not increase and drainage patterns would not be significantly altered during construction. Therefore, construction would not substantially alter the existing drainage pattern of the area in a manner that would result in substantial erosion or siltation or increase the rate or amount of surface runoff in a manner that would result in flooding on or off site.

While drainage from the Project study area does not discharge directly to susceptible reaches of the Arroyo Simi and Calleguas Creek, as defined by the Ventura County HCP, the storm drain system and modified channel reaches traversed by the Project ultimately drain to susceptible reaches. Thus, the

Project is subject to hydromodification control requirements of the Ventura County MS4 Permit and Ventura County HCP. Pending additional engineering design, post-construction hydromodification controls would be required to maintain the Project's pre-construction stormwater runoff flow rates and durations in the post-Project condition. Hydromodification controls include on-site BMPs, low impact development strategies, or stream restoration measures, with preference given to low impact development strategies and hydromodification control BMPs. If final design does not increase effective impervious area (i.e., stormwater runoff from those surfaces is fully retained on site for the design storm event) or decrease the infiltration capacity of pervious areas compared to the pre-Project conditions, it may be considered exempt from hydromodification control requirements.

6.2 Surface Water Quality

Construction activities and grading may results in increased sediment and erosion in or near disturbed areas. Soil erosion and subsequent sediment transport to local drainage facilities could result in reduced stormflow capacity and increase the risk of flooding during storm events. Additionally, construction related pollutants, such as grease and oil from vehicles and equipment, paint, lubricants, and construction debris and dust have potential to enter the storm drain system and waterways via stormwater runoff and wind.

Pursuant to Construction General Permit and local construction requirements, an SWPPP would be developed and implemented to minimize impacts of construction on water quality. Standard erosion control measures and BMPs would be identified in the SWPPP and implemented during construction to minimize and avoid the discharge of water quality pollutants. SWPPP requirements depend on the Project Risk Level, which ranges from Level 1 to Level 3 and is based on the receiving water and Project sediment risk. As outlined in the Section 5.3.1, Reaches 7 and 8 of Calleguas Creek, where the Project discharges, are listed as 303(d)-listed impaired water bodies for sediment/sedimentation; thus, the receiving water risk is considered high. Based on the anticipated construction schedule and 19-month construction period, the Project sediment risk would be medium. Therefore, according to the Construction General Permit, the Project would be classified as Risk Level 2 at a minimum. Risk Level 2 projects are required to implement good housekeeping, perform quarterly nonstormwater discharge observations, and conduct weekly, pre-storm, interim storm, and post-storm inspections. Refer to Construction General Permit, Section J and Attachment D for Risk Level Determination guidance and Risk Level 2 Requirements.

Compliance with local MS4 and grading permits combined with the Construction General Permit would require BMPs to restrict soil erosion and sedimentation. In addition to compliance with the Construction General Permit, the Project would also be required to comply with local stormwater quality ordinances and grading, erosion, and sediment control requirements. These requirements involve development and implementation of an erosion control plan specific to the construction site to minimize water quality impacts and drainage facilities.

As a performance standard, the BMPs to be selected would represent the best available technology that is economically achievable and the best conventional pollutant control technology to reduce pollutants. BMPs can include watering active construction areas to control dust generation during earthmoving activities, using water sweepers to sweep streets and haul routes, and installing erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, and sandbag dikes) to prevent silt runoff to public roadways, storm drains, or waterways. Disturbed surfaces would not be left without erosion control measures in place during the rainy season, which generally occurs within the months of October through March.

Compliance with these requirements would ensure that temporary or permanent Project impacts on surface water during construction would not result in a violation of water quality standards or waste discharges requirements or otherwise result in water quality degradation.

No surface water features are within the Project vicinity, and construction would not involve dredge or fill activities. Thus, any risk of degraded surface water quality or hydromodification associated with dredge and fill activities would not be an issue for the Project.

Chemical spills into storm drains or groundwater aquifers also have potential to impact water quality if proper minimization measures are not implemented. Compliance with the Construction General Permit would require appropriate measures be taken to limit nonstormwater discharges from the construction site and the release of hazardous materials. Required BMPs would be implemented to reduce pollutants in stormwater and other nonpoint source runoff. Measures would range from source control to treatment of polluted runoff, including containment of hazardous materials through use of plastic tarp lining and sand bags, refueling vehicles in upland areas to prevent fuel entering waterways, daily inspection of equipment and containers for leaks, and following cleanup procedures outlined in the SWPPP in the event that a spill or leak occurs.

Impervious surface areas would be similar to what they are under existing conditions. Therefore, runoff rates and volumes, as well as associated pollutants from automobile and pesticide use, would be similar to what they are under existing conditions. Project operation would provide more frequent, more reliable, and faster passenger rail service. As a result, the potential exists for increased pollutant loading to surface waters as well as degraded groundwater quality. However, the types of pollutants would be similar to the types under existing conditions. Permeable surfaces adjacent to the Project site would allow for infiltration, thereby filtering pollutants contained in runoff as opposed to downstream surface waters. Additionally, increased ridership combined with reductions in projected vehicle miles travels by automobile would have corresponding reductions in the discharge nonpoint source pollutants (e.g., heavy metals from tires, etc.).

Where runoff is not able to be contained on site, post-construction BMPs would treat the runoff prior to discharge to the local storm drain system through site design principles and techniques, retention BMPs, biofiltration BMPs, and treatment control measures.

The Project would be designed and maintained in accordance with the water quality requirements of the City of Simi Valley and Los Angeles RWQCB (e.g., Basin Plan, Ventura County MS4 Permit, and General Plan policies, and Municipal Code). Therefore, the Project would not violate any water quality standards or degrade water quality. Through compliance with these policies and requirements, impacts on surface water quality from Project implementation would be minimized.

6.3 Groundwater Volume, Quality, and Recharge

While the proposed Project creates an additional 1.23 acre of impervious surface (HDR 2020b), current recharge occurs primarily occurs via irrigation return flow, water and septic system losses, stream recharge, and subsurface groundwater inflow (Todd Groundwater 2015); thus, the Project is not anticipated to significantly impact recharge.

Groundwater encountered in the vicinity of the proposed underpass was between 20 and 22 feet bgs; this depth may vary seasonally. If significant groundwater is encountered during construction, a dewatering system would need to be implemented. Dewatering has potential to impact groundwater levels in the area, and discharge of pumped water has potential to adversely impact receiving waters if contaminants are present. The Project would need to obtain coverage under the General Permit for

Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties prior to implementing any construction dewatering activities. Prior to dewatering activities, the contractor must submit a Notice of Intent to the Los Angeles RWQCB in accordance with the terms of the general permit for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4 2018 0125, NPDES No. CAG994004), or any subsequent permit/order at the time of construction. Following submittal of the Notice of Intent, it must be demonstrated that the discharges are not prohibited and do not have reasonable potential to contribute to a violation of water quality objective/criteria for the receiving waters. If reasonable potential exists, the Project must include the design and implementation of a treatment system for the groundwater discharge to reduce the concentration of contaminants to meet the effluent limitations.

6.4 Flooding

The Project would not result in substantial increases in the impervious surface; the rate and amount of surface runoff and increased potential for flooding is low. Additionally, the proposed drainage structures are sized conservatively to provide for flood control protection within the Project study area

The Project study area intersects multiple the flood zones, and, in the event that the site is inundated, construction-related pollutants have potential to get washed off the Project site and into waterways. During construction, stormwater BMPs would be implemented, pursuant to the NPDES Construction General Permit, Ventura County MS4 permit, and local policies to minimize contamination of potential flood waters and degradation of downstream receiving waters. Additionally, materials and equipment within the floodplain must be stored in compliance with the city's Municipal Code 7-5.608.

As a result of the Project's location within multiple designated flood zones, the construction of the proposed improvements carry a potential to alter base flood elevations. This circumstance would require the Project to comply with FEMA and local requirements for development within the floodplain. Based on the city's Municipal Code, the Project would be required to comply with terms of City of Simi Valley Floodplain Development Permit (Municipal Code 7-5.501) and demonstrate through hydrologic and hydraulic (H&H) analysis that the Project does not increase base flood elevations (44 Code of Federal Regulations section 60.3; Municipal Code 7-5.609). In the event the H&H analysis indicates an increase in base flood elevations, the Project would be required to undergo a conditional FIRM map revision process, which may require additional mitigation, to obtain approval from the local floodplain administrator. Final engineering design should account for these existing floodplain conditions to avoid any substantial alterations to existing base flood elevations.

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7 Mitigation Measures

Implementation of water quality measures would be required to address Project-related water quality and hydromodification impacts during construction, operation, and maintenance of the Project. The proposed Project would implement management and mitigation measures to comply with the CWA and NPDES, FEMA, and local standards during and following construction. Applied measures would be guided by several resources, including the Construction General Permit and Metrolink's Design Criteria Manual (SCRRA 2014). The selection, design, and application of temporary and permanent BMPs would adhere to requirements of the Ventura County TGM, Ventura County HCP, Los Angeles RWQCB, and the City of Simi Valley. A site-specific drainage study is recommended as part of the final engineering design.

7.1 Stormwater Pollution Prevention Plan Requirements

SCRRA shall prepare a SWPPP that satisfies, at a minimum, Risk Level 2 requirements in accordance with the requirements of the Construction General Permit (Order No. 2012-0006-DWQ). The SWPPP would be prepared by a Qualified SWPPP Developer in accordance with the requirements of the Construction General Permit. The SWPPP would include construction-phase BMPs for erosion and sediment control; site management, housekeeping, and waste management for control of contaminants; management of nonstormwater discharges; run-on and runoff controls; and BMP inspection, maintenance, and repair activities. Erosion control BMPs would include source control measures, such as wetting of dry and dusty surfaces to prevent fugitive dust emissions, preservation of existing vegetation, and effective soil cover (e.g., geotextiles, straw mulch, and hydroseeding) for inactive areas and finished slopes to prevent sediments from being dislodged by wind or rain. Sediment control BMPs include measures such as installation of fiber rolls and sediment basins to capture and remove particles that have already been dislodged. The SWPPP would establish good housekeeping measures, such as construction vehicle storage and maintenance, handling procedures for hazardous materials, and waste management BMPs, which include measures to prevent the release of wastes and materials used at the site. The SWPPP must also detail spill prevention and control measures to identify the proper storage and handling techniques of fuels and lubricants, and the procedures to follow in the event of a spill.

BMP implementation would be consistent with the BMP requirements in the most recent version of the California Stormwater Quality Association Stormwater Best Management Handbook. The SWPPP would include a construction site monitoring program that identifies requirements for dry weather visual observations of pollutants at all discharge locations, and as appropriate (depending on the risk level), sampling of the site effluent and receiving waters. A Qualified SWPPP Practitioner would be responsible for implementing the BMPs at the site and performing all required monitoring and inspection/maintenance/ repair activities

The SWPPP would include the following elements.

- **Project Description –** The Project description includes maps and other information related to construction activities and potential sources of pollutants.
- **Minimum Construction Control Measures –** These measures may include limiting construction access routes, stabilizing areas denuded by construction, and using sediment controls and filtration.

- **Erosion and Sediment Control –** The SWPPP is required to contain a description of soil stabilization practices, control measures to prevent a net increase in sediment load in stormwater, controls to reduce tracking sediment onto roads, and controls to reduce wind erosion.
- **Nonstormwater Management –** The SWPPP includes provisions to reduce and control discharges other than stormwater.
- **Post-Construction Stormwater Management –** The SWPPP includes a list of stormwater control measures that provide ongoing (permanent) protection for water resources.
- **Waste Management and Disposal –** The SWPPP includes a waste management section, including, for example, equipment maintenance waste, used oil, and batteries. All waste must be disposed of as required by state and federal law.
- **Maintenance, Inspection, and Repair –** The SWPPP requires an ongoing program to ensure that all controls are in place and operating as designed.
- **Monitoring –** This provision requires documented inspections of the control measures.
- **Reports –** The contractor would prepare an annual report on the construction project and submit this report on July 15 each year. This report would be submitted to the State Water Board on the Storm Water Multiple Application and Report Tracking System website.
- **Training –** The SWPPP provides documentation on the training and qualifications of the designated Qualified SWPPP Developer and Qualified SWPPP Practitioner. Trained personnel must perform inspections, maintenance, and repair of construction site BMPs.
- **Construction Site Monitoring Program –** The SWPPP includes a Construction Site Monitoring Program detailing the procedures and methods related to the visual monitoring and sampling and analysis plans for nonvisible pollutants, sediment and turbidity, and pH and bioassessment.

7.2 Site-Specific Drainage

Increases in runoff could create or contribute water that could exceed the capacity of existing stormwater drainage systems. The Project corridor is upstream of gravity mains that drain towards Los Angeles Avenue and Arroyo Simi. A site-specific drain study would determine the capacity of these drainage mains and ability to accommodate any increase in runoff. The drainage study would be reviewed by the city, with their approval prior to issuance of a grading, site development, or any construction permits. All development within the Project site is required to address stormwater management and implement stormwater control measures designed to maintain or reduce current, pre-development, surface runoff and stormwater discharge to the public storm drain system. The drainage study would verify the existing pipe network including pipe size, elevation, material, capacity and condition, including the existing stormwater drainage facility north and south of the ROW. The drainage study would also determine the need and recommended type of low impact development required to manage stormwater, and the applicability of the hydromodification requirements of the Ventura County MS4 Permit.

7.3 Floodplain Encroachment

In conjunction with the Project's final engineering design, an H&H analysis is recommended to assess the Project's proposed improvements that intersect with FEMA-designated areas of 100-year flooding along the Project corridor. The H&H analysis should adhere to FEMA and local city requirements to confirm the Project improvements do not redirect flood flows and/or increased base flooding depths. If modeling results indicate a rise in base flood levels or a redirection of flood flows, SCRRA would be responsible for modifying the Project design through the final design process or filing a letter of map revision through the local floodplain administer in coordination with FEMA.

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8 Conclusions

Construction and implementation of the Project may result in temporary and permanent alterations to runoff and pollutant generation. During the construction period, the Project may temporarily alter stormwater drainage patterns and result in erosion with the potential to degrade surface water quality; however, such impacts would be controlled with the implementation of the SWPPP and compliance with requirements of applicable local construction and development permits. Although the completed Project would create a negligible amount of new impervious surfaces, it may be subject to the hydromodification requirements of the Ventura County MS4 Permit, pending final engineering design. Subject to confirmation through the preparation of a formal drainage and H&H study, stormwater runoff volumes and groundwater volumes and recharge would be similar to existing conditions, and hydromodification would be negligible. Appropriate BMPs would be incorporated into the final Project design to minimize and mitigate water quality and hydromodification impacts of increased runoff generation, if applicable. Ultimately, Project implementation is not anticipated to significantly impact local hydrology and water quality.

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