5.10 Hydrology and Water Quality

5.10.1 INTRODUCTION

This section describes the environmental and regulatory setting and identifies potential impacts of the Project on hydrology and water quality resources. This section includes data from:

- *City of Perris General Plan 2030*, Adopted 26 April 2005
- *City of Perris General Plan 2030 Environmental Impact Report*, Certified 26 April 2005
- Perris Municipal Code
- *Drainage Study Reports*, prepared by FMCivil Engineers Inc., October 2024, included as EIR Appendix P
- *Project Specific Water Quality Management Plan*, prepared by FMCivil Engineers Inc., October 2024, included as EIR Appendix O
- *Final Water Supply Assessment*, prepared by the Eastern Municipal Water District, included as EIR Appendix U

5.10.2 REGULATORY SETTING

5.10.2.1 Federal Regulations

Clean Water Act

The Clean Water Act established the basic structure for regulating discharges of pollutants into "waters of the U.S." The Act specifies a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. Key components of the Clean Water Act that are relevant to the Project are:

- Sections 303 and 304, which provide water quality standards, criteria, and guidelines. Section 303(d) requires the state to develop lists of water bodies that do not attain water quality objectives (are impaired) after implementation of required levels of treatment by point-source dischargers (municipalities and industries). Section 303(d) also requires that the state develop a Total Maximum Daily Loads for each of the listed pollutants. The Total Maximum Daily Load is the amount of pollutant loading that the water body can receive and still be in compliance with water quality objectives. After implementation of the Total Maximum Daily Load, it is anticipated that the contamination that led to the 303(d) listing would be remediated. Preparation and management of the Section 303(d) list is administered by the Regional Water Quality Control Boards (Regional Water Boards).
- Section 401 requires activities that may result in a discharge to a federal water body to obtain a water quality certification to ensure that the proposed activity would comply with applicable water quality standards.
- Section 402 regulates point- and nonpoint-source discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program. In California, the State Water Resources Control Board (State Water Board) oversees the NPDES program, which is administered by the local Regional Water Boards. The NPDES program provides both general permits (those that cover a number of similar or related activities) and individual permits.

National Pollutant Discharge Elimination System

The NPDES Permit program under the Clean Water Act controls water pollution by regulating point- and nonpoint-sources that discharge pollutants into "waters of the U.S." California has an approved State NPDES program. The United States Environmental Protection Agency (EPA) has delegated authority for NPDES permitting to the State Water Board, which has nine regional boards. The Santa Ana Regional Water Board regulates water quality in the City of Perris. Discharge of stormwater runoff from construction areas of one acre or more requires either an individual permit issued by the Regional Water Board or coverage under the statewide Construction General Stormwater Permit for stormwater discharges (discussed below). Specific industries and public facilities, including wastewater treatment plants that have direct stormwater discharges to navigable waters, are also required to obtain either an individual permit or obtain coverage under the statewide General Industrial Stormwater Permit.

5.10.2.2 State Regulations

Porter-Cologne Act

The Porter-Cologne Water Quality Control Act of 1969, codified as Division 7 of the California Water Code, authorizes the State Water Board to provide comprehensive protection for California's waters through water allocation and water quality protection. The State Water Board implements the requirements of the Clean Water Act and establishes water quality standards that have to be set for certain waters by adopting water quality control plans under the Porter-Cologne Act. The Porter-Cologne Act establishes the responsibilities and authorities of the nine Regional Water Boards, including preparing water quality plans for areas in the region, and identifying water quality objectives and waste discharge requirements. Water quality objectives are defined as limits or levels of water quality constituents and characteristics established for reasonable protection of beneficial uses or prevention of nuisance. Beneficial uses consist of all the various ways that water can be used for the benefit of people and/or wildlife.

The City of Perris is within the Santa Ana River Basin, Region 8, in the San Jacinto sub-watershed. The Water Quality Control Plan for this region was adopted in 1995 and updated in 2019. This Basin Plan gives direction on the beneficial uses of the state waters within Region 8, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the established standards.

California Anti-Degradation Policy

A key policy of California's water quality program is the State's Anti-Degradation Policy. This policy, formally known as the Statement of Policy with Respect to Maintaining High Quality Waters in California (State Water Board Resolution No. 68-16), restricts degradation of surface and ground waters. In particular, this policy protects water bodies where existing quality is higher than necessary for the protection of beneficial uses. Under the Anti-Degradation Policy, any actions that can adversely affect water quality in all surface and ground waters must (1) be consistent with maximum benefit to the people of the state; (2) not unreasonably affect present and anticipated beneficial use of the water; and (3) not result in water quality less than that prescribed in water quality plans and policies (i.e., will not result in exceedances of water quality objectives).

California Construction General Permit

The State of California adopted a Statewide NPDES Permit for General Construction Activity (Construction General Permit) on September 2, 2009 (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ, 2012-0006-DWQ, and 2022-0057-DWQ). The latest Construction General Permit amendment became

effective September 1, 2023. The Construction General Permit regulates construction site stormwater management. Dischargers whose projects disturb one or more acres of soil, or whose projects disturb less than one acre, but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Construction General Permit for discharges of stormwater associated with construction activity. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

To obtain coverage under this permit, project operators must electronically file Permit Registration Documents, which include a Notice of Intent, a Stormwater Pollution Prevention Plan (SWPPP), and other compliance-related documents, including a risk-level assessment for construction sites, an active stormwater effluent monitoring and reporting program during construction, rain event action plans, and numeric action levels for pH and turbidity, as well as requirements for qualified professionals to prepare and implement the plan.

The Construction General Permit requires project applicants to file a Notice of Intent with the State Water Board to discharge stormwater, and to prepare and implement a SWPPP for projects that disturb one or more acres of soil. The SWPPP would include a site map, description of stormwater discharge activities, and best management practices (BMPs) taken from the menu of BMPs set forth in the California Stormwater Quality Association BMP Handbook that will be employed to prevent water pollution. It must describe BMPs that will be used to control soil erosion and discharges of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water bodies. It must demonstrate compliance with local and regional erosion and sediment control standards, identify responsible parties, provide a detailed construction timeline, and implement a BMP monitoring and maintenance schedule. The Construction General Permit requires the SWPPP to identify BMPs that will be implemented to reduce controlling potential chemical contaminants from impacting water quality. Types of BMPs include erosion control (e.g., preservation of vegetation), sediment control (e.g., fiber rolls), non-stormwater management (e.g., water conservation), and waste management. The SWPPP also includes descriptions of BMPs to reduce pollutants in stormwater discharges after all construction phases have been completed at the site (post-construction BMPs).

California Water Resources Control Board Low Impact Development Policy

The State Water Board adopted the Low Impact Development Policy which, at its core, promotes the idea of "sustainability" as a key parameter to be prioritized during the design and planning process for future development. The State Water Board has directed its staff to consider sustainability in all future policies, guidelines, and regulatory actions. The Low Impact Development Policy is a proven approach to manage stormwater. The Regional Water Boards are advancing Low Impact Development in California in various ways, including provisions for Low Impact Development requirements in renewed NPDES Phase I Municipal Separate Storm Sewer System (MS4) permit.

5.10.2.3 Local and Regional Regulations

Santa Ana Regional Water Quality Control Board Water Quality Control Plan (Basin Plan)

The City of Perris is within the jurisdiction of the Santa Ana Regional Water Board. The Regional Water Board sets water quality standards for all ground and surface waters within its region through implementation of a Water Quality Control Plan (Basin Plan). The Basin Plan describes existing water quality conditions and establishes water quality goals and policies. The Basin Plan is also the basis for the Regional Board's regulatory programs. To this end, the Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term "water quality standards," as used in the Federal Clean

Water Act, includes both the beneficial uses of specific water bodies and the levels of quality which must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions that are necessary to achieve and maintain target water quality standards. The Santa Ana Basin Plan has been in place since 1995, (with updates in 2008, 2011, 2016, and 2019) with the goal of protecting public health and welfare and maintaining or enhancing water quality potential beneficial uses of the water.

Municipal Regional Stormwater NPDES Permit

Within the Riverside County area of the Santa Ana River Basin, management and control of the municipal separate storm sewer system (MS4) is shared by a number of agencies, including the Riverside County Flood Control and Water Conservation District, Riverside County, and the cities of Beaumont, Calimesa, Canyon Lake, Corona, Eastvale, Hemet, Jurupa Valley, Lake Elsinore, Menifee, Moreno Valley, Norco, Perris, Riverside and San Jacinto. The City of Perris Public Works Department is the local enforcing agency of the MS4 NPDES Permit.

On January 29, 2010, the Santa Ana Regional Water Board issued an area wide MS4 permit to the County of Riverside and multiple municipalities in Riverside County, including the City of Perris. Waste discharge requirements for stormwater entering municipal storm drainage systems are set forth in the MS4 permit, Order No. R8- 2002-0011, NPDES No. CAS 618033. On June 7, 2013, the Santa Ana Regional Water Board amended the permit (Order No. R8-2013-0024) to include the Cities of Eastvale and Jurupa Valley. On January 29, 2015, the Permittees received an administrative extension of the Riverside County Municipal Stormwater Permit (NPDES No. CAS618033) from the Santa Ana Regional Water Board.

Riverside County Stormwater Compliance Program

The Riverside County Drainage Area Management Plan is the guidance document for the Project's stormwater design compliance with Santa Ana Regional Water Board requirements. The MS4 permit requires that a preliminary project-specific Water Quality Management Plan (WQMP) be prepared for review early in the project development process and that a Final WQMP be submitted prior to the start of construction. A project specific WQMP is required to address the following:

- Develop site design measures using Low Impact Development principles.
- Evaluate feasibility of onsite Low Impact Development BMPs.
- Maximum hydrologic source control, infiltration, and biotreatment BMPs.
- Select applicable source control BMPs.
- Address post-construction BMP maintenance requirements.

City of Perris General Plan 2030

The City of Perris General Plan 2030 contains the following policies related to hydrology and water quality that are applicable to the Project:

Safety Element

Goal S-4 A community where the potential impacts associated with flood-related hazards are minimized.

Policy S-4.1 Restrict future development in areas of high flood hazard potential until it can be shown that risk is or can be mitigated.

Policy S-4.3 Require new development projects and major remodels to control stormwater run-off on site.

Conservation Element

Goal VI Water Quality. Achieve regional water quality objectives and protect the beneficial uses of the region's surface and groundwater.

Policy VI.A Comply with requirements of the National Pollutant Discharge Elimination System (NPDES).

Goal VIII Sustainable Future. Create a vision for energy and resource conservation and the use of green building design for the City, to protect the environment, improve quality of life, and promote sustainable practices.

Policy VIII.A Adopt and maintain development regulations that encourage water and resource conservation.

Perris Municipal Code

Chapter 14.22 (Storm Water/Urban Runoff Management and Discharge Control). Chapter 14.22 of the Perris Municipal Code sets forth the requirements for preparation of project-specific WQMPs. A site specific WQMP shall identify BMPs to ensure that water quality of receiving waters is not degrading following a development project. New projects are required to submit a project-specific WQMP prior to the first discretionary project approval or permit.

Chapter 15.05; Standards for Flood Hazard Reduction. Chapter 15.05 of the Perris Municipal Code sets forth provisions and standards for development within flood hazard zones in the city. In AE flood zones, nonresidential construction is required to be floodproofed or elevated above the base elevation. Chapter 15.05 also includes regulations and prohibitions for development in floodways, which require developments to demonstrate that the development would not increase flood elevation levels.

5.10.3 ENVIRONMENTAL SETTING

5.10.3.1 Regional Hydrology

The City of Perris is in the Santa Ana River Basin, a 2,700-square-mile area in the Coastal Range Province of Southern California located roughly between Los Angeles and San Diego. The San Jacinto watershed in western Riverside County consists mainly of snowmelt and storm runoff from the Santa Rosa and San Jacinto mountains.

5.10.3.2 Watershed

The Specific Plan Area is located in the San Jacinto River watershed. The San Jacinto River is a 42-mile-long river in Riverside County. The watershed covers approximately 780 square miles in western Riverside County. The river's headwaters are in Santa Rosa and San Jacinto Mountains National Monument. Water flows downstream and eventually ends in Lake Elsinore. The natural flow of water through the San Jacinto Watershed carries nutrient-rich sediment into our Canyon Lake and Lake Elsinore (LESJWA, 2023).

The San Jacinto River watershed is regulated by the Santa Ana Regional Water Board. The Santa Ana Regional Water Board manages a large watershed area, which includes most of San Bernardino County to the east and then southwest through northern Orange County to the Pacific Ocean. The Santa Ana Regional Water Board's jurisdiction encompasses 2,800 square miles.

5.10.3.3 Groundwater Basin

The Project site is located within the West San Jacinto Groundwater Basin, a 248-square-mile groundwater basin, and is managed through the West San Jacinto Groundwater Management Plan. Within the West San Jacinto Groundwater Basin, the Project site is located within the Perris North groundwater management zone. The Eastern Municipal Water District (EMWD) oversees groundwater monitoring programs within the plan area (EMWD, 2021).

5.10.3.4 Water Quality

Surface

The nearest surface water is the Perris Valley Storm Channel, located approximately 0.9 mile to the east of the Project site. The Perris Valley Storm Channel is the main receiving water for the Project site and is not classified as an impaired water body, as shown in Table 5.10-1. Other receiving waters include the San Jacinto River (Reach 1 and 3), which is not impaired, Canyon Lake, and Lake Elsinore. Canyon Lake and Lake Elsinore are classified as impaired water bodies and have been placed on the 303(d) list of impaired waters as shown in Table 5.10-1. Since the development site is a tributary to Canyon Lake and Lake Elsinore, the development site is a potential contributor of pollutants to the impairments within Canyon Lake and Lake Elsinore.

Table 5.10-1: Receiving Waters

Receiving Waters	EPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity
Perris Valley Storm Channel	None	REC2, WILD, RARE	0.9 mile downstream
San Jacinto River Reach 3	None	RARE	5.2 miles downstream
Canyon Lake (Railroad Canyon Reservoir)	Nutrients, Pathogens	MUN, AGR, GWR, REC1, REC2, COMM, WARM, WILD	11.2 miles downstream
San Jacinto River Reach 1	None	RARE	14.8 miles downstream
Lake Elsinore	Nutrients, Organic Enrichment/Low Dissolved Oxygen, PCBs (Polychlorinated biphenyls), Sediment Toxicity	REC1, REC2, COMM, WARM, WILD, RARE	19.2 miles downstream

Source: FMCivil, 2024a (EIR Appendix O).
Notes:
REC2 (Non-Contact Water Recreation); WILD (Wildlife Habitat); RARE (Rare, Threatened, or Endangered Species); MUN (Municipal and Domestic Supply); AGR (Agricultural Supply); GWR (Groundwater Recharge); REC1 (Water Contact Recreation); COMM (Commercial and Sport Fishing); WARM (Warm Freshwater Habitat)

The City of Perris has adopted the EPA's NPDES regulations in an effort to reduce pollutants in urban runoff and stormwater flows. The Santa Ana Regional Water Board issued the City a MS4 Permit (Order No. R8-2002-0011), which establishes pollution prevention requirements for planned developments. The City participates in an Area-wide Urban Stormwater Runoff Management Program to comply with the MS4 permit requirements. Runoff is managed and regulated under the NPDES MS4 permit and associated Storm Water Management Program.

Groundwater

As identified by the EMWD 2020 Urban Water Management Plan, potable groundwater is produced from the West San Jacinto Basin and the Hemet/San Jacinto Basin. Groundwater in portions of the West San Jacinto Basin is high in salinity and requires desalination for potable use (EMWD, 2020).

There are currently two active water wells located within the Specific Plan Area. One well is located at the 2364 Indian Avenue property and one well is located southeast of the Perris Boulevard and Orange Avenue intersection. Water level readings from 2023 indicate a groundwater level of approximately 40 feet below the ground surface (Southern California Geotechnical, 2023). Historically, the wells produced up to 419 acre-feet per year in 2004 (Planning Center, 2008).

5.10.3.5 Existing Drainage

Topographically, the site is relatively flat with elevations ranging from 1,435 to 1,480 feet above mean sea level. Existing onsite runoff infiltrates existing pervious areas and sheet-flows eastward until reaching Perris Boulevard where it is collected by City and County storm drain facilities and discharged into the Perris Valley Channel (EIR Appendix P). In addition, two ephemeral drainage features occur onsite. Drainage 1 enters the site from the lower western boundary of the Project site (in the Phase 1 area) through a 60-inch box culvert originating from underneath Frontage Road. The drainage runs from west to east within the Project site, extending from Frontage Road and terminating within the Project site. Additionally, Drainage 2 is a roadside ditch which extends from the western boundary of the site at the northeast corner of Orange Avenue and Frontage Road to the northwest corner of Orange Avenue and Barrett Avenue (EIR Appendix F). Drainage 2 is located within the Phase 1 roadway improvement area for Orange Avenue.

5.10.3.6 Flood Zone

According to the Flood Insurance Rate Map (FIRM), published by the Federal Emergency Management Agency (FEMA) (06065C1430H and 06065C1440H), the Project site is primarily located in Zone X, which is an area of minimal flood hazard (FEMA, 2024). As shown in Figure 5.10-1, *Dam Inundation Map,* from the City of Perris General Plan Safety Element, the eastern portion of the Specific Plan Area is located within a dam inundation hazard zone related to the Perris Dam.

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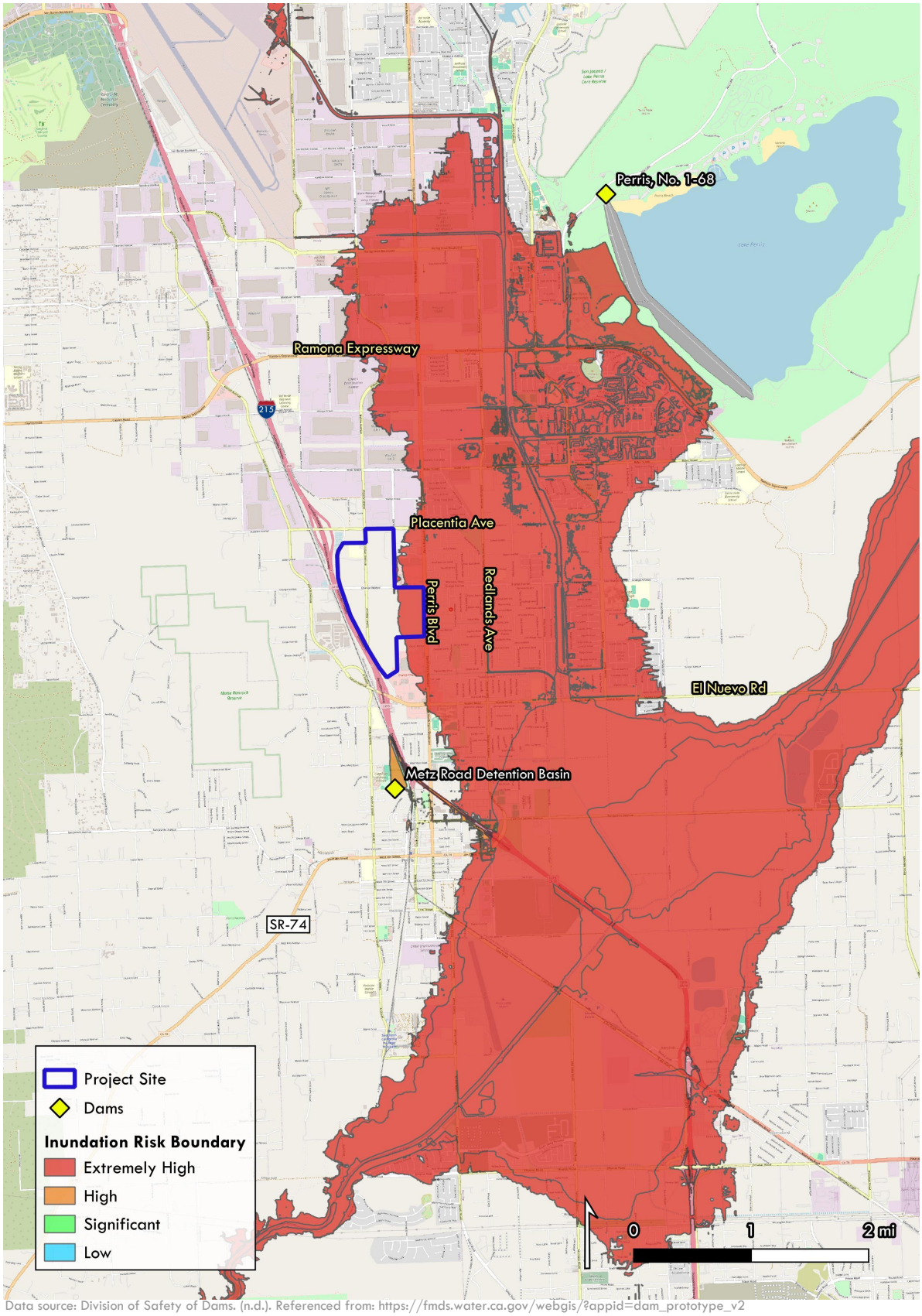
Dam Inundation Area



Data source: Division of Safety of Dams. (n.d.). Referenced from: https://fmds.water.ca.gov/webgis/?appid=dam_prototype_v2

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5.10.4 THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines indicates that a Project could have a significant effect if it were to:

HYD-1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

HYD-2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

HYD-3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in a substantial erosion or siltation on- or off-site;
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
iv) impede or redirect flood flows.

HYD-4 In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

HYD-5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

5.10.5 METHODOLOGY

This evaluation of the significance of potential impacts related to hydrology and water quality is based on a review of published information and reports regarding regional hydrology and surface water quality. The potential impacts on hydrology and water quality were evaluated by considering the general type of pollutants that the Project would generate during construction and operation. In determining the level of significance, the analysis recognizes that development under the Project would be required to comply with relevant federal, State, and regional laws and regulations that are designed to ensure compliance with applicable water quality standards and waste discharge requirements. Because the regional and local regulations related to water quality standards have been developed to reduce the potential of pollutants in the water resources (as described in Section 5.10.2, *Regulatory Setting*, above), and are implemented to specific waterbodies, such as 303(d) requirements, or development projects such as grading and construction permit regulations, implementation of all relevant water quality and hydrology requirements would limit the potential of the Project to a less than significant impact.

5.10.6 ENVIRONMENTAL IMPACTS

As detailed in Section 3.0, *Project Description*, the proposed Project includes a Specific Plan Amendment to modify the existing land uses and development of the Project site pursuant to the proposed new land uses over two phases that are summarized below.

Phase 1 Development

Within Phase 1, the Project would construct and operate a 139.89-acre business park with seven buildings including a parcel hub, high cube warehouses, and light industrial buildings that would total 1,727,579 square feet; construct and operate a 22.16-acre shopping center with buildings totaling 250,457 square

feet; and construct and operate a 167,060 square foot big box store on a 24.33-acre site with a 12-pump gas station and two fast-food restaurant parcels for two restaurants that would each be approximately 5,500 square feet.

In addition, during construction of Phase 1 the Project would implement street improvements on Indian Avenue, Orange Avenue, Frontage Road, Perris Boulevard, Barrett Avenue, Harvest Landing Way, and Private Drive A; install drainage infrastructure improvements in Perris Boulevard, Barrett Avenue, Orange Avenue, Indian Avenue, and Private Drive A; implement sewer line improvements in Perris Boulevard; implement water lines improvements in Barrett Avenue, Orange Avenue, Frontage Road, Walmart Supercenter Drive; and install a new water well for landscaping irrigation in the proposed drainage basin. Construction and operation of the Phase 1 development is analyzed at a project-specific level within this section.

Phase 2 Buildout

The proposed amended Specific Plan buildout of the Phase 2 development area without inclusion of the overlay area would allow up to 3,659,693 square feet of warehouse, light industrial, and/or manufacturing uses under the Multiple Business Use designation, at a maximum floor area ratio of 0.75. Development of the 10.66-acre overlay area would include approximately 348,262 square feet of warehouse, light industrial, and/or manufacturing uses under the Multiple Business Use designation. Total development within the Phase 2 area, including the overlay area, would include up to 4,007,955 square feet of building area.[1] The analysis within this section assumes that construction would begin in 2026 and be completed by 2030, thereby overlapping with operation of Phase 1 developments. Construction and operation of the Phase 2 buildout is analyzed at a programmatic level within this section.

IMPACT HYD-1: THE PROJECT WOULD NOT VIOLATE ANY WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUND WATER QUALITY.

Less than Significant Impact.

Construction

Specific Plan Area

The Santa Jacinto River is the main receiving water for the Project area. As shown on Table 5.10-1, Canyon Lake and Lake Elsinore are classified as impaired water bodies and have been placed on the 303(d) list of impaired waters for the following pollutants: nutrients (Canyon Lake and Lake Elsinore) and DDT, organic enrichment/low dissolved oxygen, PCBs, toxicity (Lake Elsinore). Since the Specific Plan area is a tributary to Canyon Lake and Lake Elsinore, the development site is a potential contributor of pollutants to the impairments within Canyon Lake and Lake Elsinore.

Implementation of the Project would include demolition of the existing structures, site preparation, construction of new buildings, and infrastructure improvements in both Phases of the Specific Plan Area. Demolition of existing structures, grading, stockpiling of materials, excavation and the import/export of soil and building materials, construction of new structures, and landscaping activities would expose and loosen sediment and building materials, which have the potential to mix with stormwater and urban runoff and degrade surface and receiving water quality.

[1] The Phase 2 buildout square footage of 4,007,955 square feet was based on the gross acreage of parcels within the Phase 2 area prior to roadway dedications. After roadway dedications, the maximum allowable development within Phase 2 would actually be 4,001,748 square feet. However, for purposes of providing a conservative analysis, a buildout of 4,007,955 square feet was assumed.

Additionally, construction generally requires the use of heavy equipment and construction-related materials and chemicals, such as concrete, cement, asphalt, fuels, oils, antifreeze, transmission fluid, grease, solvents, and paints. In the absence of proper controls, these potentially harmful materials could be accidentally spilled or improperly disposed of during construction activities and could wash into and pollute surface waters or groundwater, resulting in a significant impact to water quality.

Pollutants of concern during construction activities generally include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction, which would have the potential to be transported via storm runoff into nearby receiving waters and eventually may affect surface or groundwater quality. During construction activities, excavated soil would be exposed, thereby increasing the potential for soil erosion and sedimentation to occur compared to existing conditions. In addition, during construction, vehicles and equipment are prone to tracking soil and/or spoil from work areas to paved roadways, which is another form of erosion that could affect water quality.

However, the use of BMPs during construction implemented as part of a SWPPP as required by the City of Perris and the MS4 permit would serve to ensure that Project impacts related to construction activities resulting in a degradation of water quality would be less than significant. All future development within Phase 2 of the Specific Plan, inclusive of the Overlay area, would require project-specific BMP and SWPPP as well, which are implemented as part of the City's construction permitting process.

Pursuant to Perris Municipal Code Chapter 14.22, the Project Applicant would be required to implement an erosion control plan to minimize potential erosion, which is also required as part of the SWPPP. An erosion control plan would be prepared by a qualified SWPPP developer, and would include the following types of erosion control methods that are designed to minimize potential pollutants entering stormwater during construction:

- Prompt revegetation of proposed landscaped/grassed swale areas;
- Perimeter gravel bags or silt fences to prevent offsite transport of sediment;
- Storm drain inlet protection (filter fabric gravel bags and straw wattles), with gravel bag check dams within paved roadways;
- Regular sprinkling of exposed soils to control dust during construction and soil binders for forecasted wind storms;
- Specifications for construction waste handling and disposal;
- Contained equipment wash-out and vehicle maintenance areas;
- Erosion control measures including soil binders, hydro mulch, geotextiles, and hydro seeding of disturbed areas ahead of forecasted storms;
- Construction of stabilized construction entry/exits to prevent trucks from tracking sediment on City roadways;
- Construction timing to minimize soil exposure to storm events; and
- Training of subcontractors on general site housekeeping.

Mandatory compliance with the SWPPP through City permitting would ensure that the Project's implementation does not violate any water quality standards or waste discharge requirements during construction activities. Plans for grading, drainage, erosion control and water quality would be reviewed by the City's Public Works Department prior to issuance of grading permits to ensure that the required BMPs are implemented during construction of the Project. Therefore, compliance with the Perris Municipal Code, MS4 permit, and other applicable requirements, which would be verified during the City's construction

permitting process, would ensure that Project impacts related to construction activities resulting in a degradation of water quality would be less than significant.

Operations

Phase 1 Developments

Under the existing conditions of the Phase 1 area (location of the proposed Business Park Site, Community Shopping Center, and Commercial Big Box Retail Store) existing land uses, which include residential and vacant land, contribute to surface and groundwater quality degradation. Operation of the proposed commercial and industrial uses would increase onsite uses and impermeable surfaces that would result in an increase in the volume of surface runoff and potential pollutants from vehicles. Operation of the proposed land uses would generate pollutants including trash, debris, oil residue, and other residue that could be deposited on streets, sidewalks, driveways, paved areas, and other surfaces and wash into receiving waters. The pollutants of concern that could be released include bacteria, nutrients, oil and grease, metals, organics, and pesticides. Nutrients in post-construction stormwater include nitrogen and phosphorous from fertilizers from landscaping areas. Excess nutrients can impact water quality by promoting excessive and/or rapid growth of aquatic vegetation and algae growth, which reduces water clarity and results in oxygen depletion. Pesticides can be toxic to aquatic organisms and bioaccumulate in larger species such as birds and fish and result in harmful effects. Oil and grease may end up in stormwater from leaking vehicles, and metals may enter stormwater as surfaces corrode, decay, or leach and from roadway runoff. Table 5.10-2 lists the drainage and water quality improvements required to mitigate the potential hydrology impacts of buildout of the Phase 1 of the Specific Plan.

Pursuant to the requirements of State Water Resources Board Order No. R8-2002-0011, NPDES No. CAS618033, the Project would be required to implement a Water Quality Management Plan (WQMP) which is a site-specific post-construction water quality management program designed to minimize the release of potential waterborne pollutants, including pollutants of concern for downstream receiving waters, under long term conditions via BMPs. Implementation of the WQMP ensures on-going, long-term protection of the watershed basin. As discussed in the Preliminary WQMP (EIR Appendix O) and Table 5.10-2, development of Phase 1 includes onsite structural source control BMPs that consists of bioretention basins, underground stormwater chambers with modular wetland systems, and pervious landscaped areas that would be sized to treat and retain the WQMP volume.

Water would be treated by the modular wetland systems prior to entering the underground storage chambers and runoff would be treated within the proposed bioretention basins before being discharged. Flows in excess of the 2-year, 24-hour storm event would bypass into onsite underground detention systems and would ultimately discharge into the proposed extension of Perris Valley Master Drainage Plan Line K. Furthermore, the Project includes construction of a new 10-foot by 7-foot reinforced concrete box storm drain line in Perris Boulevard to Daniela Way, which would continue north on Barrett Avenue and connect to the proposed storm drain line within Orange Avenue. The Project would construct an 84-inch diameter storm drain line heading west on Orange Avenue, which would transition to a 60-inch diameter storm drain line west of Indian Avenue. South of Daniela Way, the Project would include construction of a new 60-inch diameter storm drain line. The Project would install a 48-inch storm drain line in the proposed 12-foot-wide EMWD maintenance road in the vacated portion of Indian Avenue and a 24-inch storm drain line in Private Drive A. In addition, the Project would include improvements to approximately 1,400 linear feet of offsite flood control channel Perris Valley Master Drainage Plan Line K, as shown on Figure 3-26, *Stormwater Infrastructure Improvements*.

Table 5.10-2: Description of Phase 1 Proposed Structural BMPs

Development Site	Proposed Drainage Improvements
Regional WQMP Basin	Development of the Phase 1 area would include construction of a 12.91-acre water quality management basin, which would include a shared bioretention basin for flows from the Community Shopping Center and Commercial Big Box Retail sites, an underground detention system to store treatment flows, and a lift station. The bioretention basin would have a bottom surface area totaling 76,615 square feet and a design treatment capacity of 137,907 cubic feet. Flows would be conveyed via a low flow water quality line from the Community Shopping Center and Big Box Retail site to the area then stored inside an underground stormwater chamber system where water will be pumped to the surface via a lift station. The lift station would be sized to fully evacuate the chambers within 72 hours in the event of a 2-year, 24-hour storm event.
Community Shopping Center	Three underground stormwater chamber systems within the proposed parking lot
Big Box Retail Site	One underground stormwater chamber system within the parking lot
Business Park Building 1	Two underground stormwater chamber systems east of Building 1
Business Park Building 2	One underground stormwater chamber system west of Building 2, one underground stormwater chamber system east of Building 2
Business Park Building 3	One underground stormwater chamber system north of Building 3, one underground stormwater chamber system east of Building 3
Business Park Building 4	One underground stormwater chamber system northeast of Building 4, one bioretention basin east of Building 4
Business Park Building 5	One underground stormwater chamber system south of Building 5, one bioretention basin east of Building 5
Business Park Building 6	One underground stormwater chamber system north of Building 6, one underground stormwater chamber system south of Building 6
Business Park Building 7	One underground stormwater chamber system north of Building 7, one underground stormwater chamber system south of Building 7

Overall, adherence to the existing regulations as implemented by the Perris Municipal Code would ensure that impacts related to degradation of water quality from operational activities of Phase 1 would be less than significant.

Phase 2 Buildout

Future development proposed within the Phase 2 Specific Plan area would be required to meet the specifications of the City's NPDES Permit and implement a WQMP pursuant to the requirements of State Water Resources Board Order No. R8-2002-0011, NPDES No. CAS618033. Post construction BMPs included in the development specific required WQMP would avoid potential quality degradation of receiving waters resulting from proposed developments. Plans for grading, drainage, erosion control and water quality would be reviewed by the City's Public Works Department prior to issuance of grading permits to ensure that the applicable and required Low Impact Development BMPs are constructed during implementation.

Additionally, the City of Perris Director of Development Services would be responsible for administering the provisions of the Specific Plan and would have authority to review and approve development proposals that have been determined to be consistent with the objectives and provisions of the Specific Plan. For all specific procedures not modified or otherwise specified in the Specific Plan, permitting processes and/or appeals for projects within the Specific Plan would be carried out in accordance with the procedures set forth in the Perris Municipal Code.

Overall, adherence to the existing regulations as implemented by the Specific Plan, Perris Municipal Code, and NPDES permit that would be verified through the City's development permitting process would ensure that impacts from buildout of Phase 2 of the Specific Plan related to degradation of water quality from operational activities would be less than significant.

IMPACT HYD-2: THE PROJECT WOULD NOT SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THE PROJECT MAY IMPEDE SUSTAINABLE GROUNDWATER MANAGEMENT OF THE BASIN.

Specific Plan Area

Less than Significant Impact. The Project would not substantially deplete groundwater supplies. The EMWD, which receives a large portion of water from imported sources (EMWD, 2020), would provide water services to the Project site. The Project area overlies the Perris North Groundwater management zone, which is located within the West San Jacinto Basin, and is managed through the West San Jacinto Groundwater Management Plan. The plan manages groundwater extraction, supply, and quality. Further, the West San Jacinto Groundwater Management Plan limits the allowable withdrawal of water from the basin by water purveyors. There are currently two active water wells located within the Specific Plan Area. One well is located at the 2364 Indian Avenue property and one well is located southeast of the Perris Boulevard and Orange Avenue intersection. The onsite wells have historically been used for agricultural irrigation and one of the wells has historically and is currently utilized for one of the onsite residences. The Project would cap the abandoned and cap the existing wells and drill a new well within the WQMP area. Water from the new well would be pumped and used for irrigation of proposed landscaping. Development of Phase 1 would include installation of approximately 1,520,404 square feet of drought tolerant landscaping. Based on the amount of landscaping, it is estimated that approximately 2.89-acre feet per year would be pumped from the proposed groundwater well, which is less than historic use of water from the groundwater from the site, which was estimated to be as high as 419 acre-feet per year in 2004 (Planning Center, 2008). As such, Project operation would not result in a substantial depletion of groundwater supplies. As detailed in Section 5.18, *Utilities and Service Systems*, the EMWD would be able to provide water services to the Project without effecting groundwater supplies.

The EMWD primarily uses imported water to recharge the groundwater basin. Although development of the Specific Plan would result in large areas of impervious surfaces, the site soils do not function to recharge the basin. The infiltration study conducted for the Project identified that the existing site has infiltration rates ranging from 0.1 to 1.7 inches/hour, which does not allow for substantial groundwater recharge; and thus, development of the site would not substantially impact groundwater recharge (EIR Appendix P). Overall, the Project would not substantially decrease groundwater supplies or groundwater recharge and potential impacts would be less than significant.

IMPACT HYD-3i: THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER WHICH WOULD RESULT IN A SUBSTANTIAL EROSION OR SILTATION ON- OR OFF-SITE.

Less than Significant Impact.

Construction

Specific Plan Area

Construction of the structures proposed in both phases of the Specific Plan would require demolition and removal of existing structures, buildings, and infrastructure. Excavation, grading, and other site preparation activities would loosen soils, which has the potential to result in erosion and the loss of topsoil. As discussed in Section 5.4, *Biological Resources*, two ephemeral drainage features occur onsite. Drainage 1 enters the Phase 1 area from the lower western boundary of the Project site through a 60-inch box culvert originating from underneath Frontage Road. The drainage runs from west to east within the Project site, extending from Frontage Road and terminating within the Project site. Additionally, Drainage 2, a roadside ditch, extends from the western boundary of the site at the northeast corner of Orange Avenue and Frontage Road to the northwest corner of Orange Avenue and Barrett Avenue. Drainage 2 overlaps right-of-way improvements for Orange Avenue, which would occur as part of Phase 1 construction. Project construction would remove these drainages from the Project site. However, as these drainages are ephemeral and flow with runoff during large storm events, and since the Project would construct permanent storm drainage improvements, removal of the drainages would not result in increased erosion or siltation onsite. Also, the Specific Plan Area is generally flat and does not contain substantial slopes that could induce erosion or siltation.

The existing NPDES Construction General Permit, as included in Perris Municipal Code Chapter 14.22, requires preparation and implementation of a SWPPP by a Qualified SWPPP Developer for construction activities that disturb 1 acre or more of soils. The SWPPP is required to address site-specific conditions related to potential sources of sedimentation and erosion and would list the required BMPs that are necessary to reduce or eliminate the potential of erosion or alternation of a drainage pattern during construction activities. Common types of construction BMPs include:

- Silt fencing, fiber rolls, or gravel bags;
- Street sweeping and vacuuming;
- Storm drain inlet protection;
- Stabilized construction entrance/exit;
- Vehicle and equipment maintenance, cleaning, and fueling;
- Hydroseeding;
- Material delivery and storage;
- Stockpile management;
- Spill prevention and control;
- Solid waste management; and/or
- Concrete waste management.

In addition, a Qualified SWPPP Practitioner is required to ensure compliance with the SWPPP through regular monitoring and visual inspection during construction activities. The SWPPP would be amended and BMPs revised, as determined necessary through field inspections, in order to protect against substantial soil erosion, the loss of topsoil, or alteration of the drainage pattern. Compliance with the Construction General

Permit and a SWPPP prepared by a Qualified SWPPP Developer and implemented by a Qualified SWPPP Practitioner would prevent construction-related impacts related to potential alteration of a drainage pattern or erosion from development activities. Overall, with implementation of the existing construction regulations that would be verified by the City during the permitting approval process, impacts related to alteration of an existing drainage pattern during construction that could result in substantial erosion or siltation would be less than significant.

Operation

Phase 1 Developments

As discussed above, the Project would alter and remove the two onsite ephemeral drainages. However, as these drainages are ephemeral and flow with runoff during large storm events, removal of the drainages would not result in increased erosion or siltation onsite. As shown in Table 5.10-3, development of Phase 1 of the Specific Plan would result in a substantial increase in impervious areas. The Phase 1 area of the Specific Plan is partially developed and contains approximately 30,000 square feet of impervious area. Development of the proposed Business Park site, Community Shopping Center, and Big Box Retail site would result in approximately 6,563,185 square feet of impervious surface area, which would result in an increase of impervious surface area within the Phase 1 area of 6,533,185 square feet.

Table 5.10-3: Impervious Surface Area for Phase 1 Developments

Site Condition	Phase 1
Existing Impervious Surface	Approx 30,000 square feet
Proposed Impervious Surface	6,563,185 square feet
Net New Impervious Surface	6,533,185 square feet

Source: FMCivil, 2024a (EIR Appendix O)

The pervious areas would be landscaped with groundcover, which would limit substantial erosion during storm events. There would be no substantial areas of bare or disturbed soil onsite subject to erosion after completion of construction activities. In addition, stormwater runoff from the addition of impervious surfaces onsite from development of the Business Park, Community Shopping Center, and Big Box Retail sites would be conveyed to bioretention basins and underground stormwater chambers listed in Table 5.10-2. The basins and underground chambers have been sized to capture and treat peak flow rates resulting from 100-year storm events (EIR Appendix O). As part of the permitting approval process, the proposed drainage, water quality design, and engineering plans would be reviewed by the City's Public Works Department to ensure it meets the City's NPDES Permit requirements for implementation of a project specific WQMP that includes BMPs to limit the potential for erosion and siltation. Overall, adherence to the existing regulations would ensure that potential Project impacts related to erosion and siltation from operational impacts would be less than significant.

Phase 2 Buildout

Proposed development within Phase 2 would be consistent with impacts described above for Phase 1 Developments. Under the Phase 2 Buildout scenario, proposed development would be required to meet the specifications of the City's NPDES Permit and the Applicant would be required to implement a WQMP pursuant to Section 14.22.090 of the Perris Municipal Code. Further, the BMPs identified in the WQMP would reduce potentially significant impacts related to stormwater runoff. As part of the permitting approval process, the proposed drainage and water quality design and engineering plans would be reviewed by the City's Public Works Department to ensure that it limits the potential for erosion and siltation. Overall, adherence to the existing regulations would ensure that the potential impacts from buildout of Phase 2

related to alteration of a drainage pattern and erosion/siltation from operational activities would be less than significant.

IMPACT HYD-3ii: THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER WHICH WOULD SUBSTANTIALLY INCREASE THE RATE OR AMOUNT OF SURFACE RUNOFF IN A MANNER WHICH WOULD RESULT IN FLOODING ON- OR OFF-SITE.

Less than Significant Impact.

Construction

Specific Plan Area

According to the FEMA Map 06065C1430H, the Project site is within Flood Zone X, an area with minimal flood hazard. As shown in Figure 5.10-1, *Dam Inundation Map,* from the City of Perris General Plan Safety Element, the eastern portion of the Specific Plan Area is located within a dam inundation hazard zone related to the Perris Dam. Under existing conditions, drainage sheet flows eastward until reaching Perris Boulevard where it is collected by City and County storm drain facilities and discharged into the Perris Valley Channel. As discussed in Section 5.4, *Biological Resources*, two ephemeral drainage features occur onsite. Drainage 1 enters the Phase 1 area from the lower western boundary of the Project site through a 60-inch box culvert originating from underneath Frontage Road. The drainage runs from west to east within the Project site, extending from Frontage Road and terminating within the Project site. Additionally, Drainage 2, a roadside ditch, extends from the western boundary of the site at the northeast corner of Orange Avenue and Frontage Road to the northwest corner of Orange Avenue and Barrett Avenue. Drainage 2 overlaps right-of-way improvements for Orange Avenue, which would occur as part of Phase 1 construction.

Construction of the Project would include activities that could temporarily alter the existing drainage pattern of the site and would remove the ephemeral drainages and roadside ditch onsite and could result in flooding on or offsite if drainage is not properly controlled. However, as described previously, implementation of the Project requires a SWPPP that would address site specific drainage issues related to construction of the Project and include BMPs to eliminate the potential for flooding or alteration of the drainage pattern during construction activities. This includes regular monitoring and visual inspections during construction activities by a Qualified SWPPP Practitioner. Compliance with the City's NPDES Permit and a SWPPP, as verified by the City through the construction permitting process, would prevent construction-related impacts related to potential increase in runoff or flooding on or offsite from development activities. Therefore, potential impacts would be less than significant.

Operation

Phase 1 Developments

As described previously, proposed development of Phase 1 would result in an increase in impervious areas. As a result, the Project would increase surface flows compared to existing conditions. However, installation of new storm water drainage facilities, including bioretention basins, underground stormwater chambers, pervious landscaped areas, and new storm drains would be installed during development of Phase 1. The proposed drainage system would collect onsite flows via a series of subsurface storm drains and sheet flows within pre-treatment drainage basins. These drainage basins would then drain into the subsurface basins which would slow and filter the runoff before its discharge through new storm drain connections to the improved roadway drainage infrastructure. Phase 1 development includes construction of a new 10-foot by

7-foot reinforced concrete box storm drain line in Perris Boulevard to Daniela Way, which would continue north on Barrett Avenue and connect to the proposed storm drain line within Orange Avenue. The Project would construct an 84-inch diameter storm drain line heading west on Orange Avenue, which would transition to a 60-inch diameter storm drain line west of Indian Avenue. South of Daniela Way, the Project would include construction of a new 60-inch diameter storm drain line. The Project would install a 48-inch storm drain line in the proposed 12-foot-wide EMWD maintenance road in the vacated portion of Indian Avenue and a 24-inch storm drain line in Private Drive A. In addition, the Project would include improvements to approximately 1,400 linear feet of offsite flood control channel Perris Valley Master Drainage Plan Line K, as shown on Figure 3-26, *Stormwater Infrastructure Improvements*.

As detailed in the Preliminary WQMP (EIR Appendix O), the basins and underground chambers have been sized to capture and treat peak flow rates resulting from 100-year storm events. In addition, landscaped areas would accept runoff water from impervious surfaces. In addition, the use of the infiltration basins and landscaping would regulate the rate and velocity of stormwater flows and would control the amount of discharge into the offsite drainage system. Overall, the drainage facilities proposed for the Phase 1 Developments have been sized to be consistent with the City MS4 permit requirements, the Perris Municipal Code, and the Perris Valley Master Drainage Plan objectives. Thus, implementation of the Phase 1 Developments would not substantially increase the rate or amount of surface runoff, such that flooding would occur and potential impacts would be less than significant.

Phase 2 Buildout

Operation of the Phase 2 Buildout scenario would be mostly consistent with impacts described under Phase 1 Development. In addition to stormwater infrastructure proposed under the Phase 1 Development, developments within the Phase 2 Buildout would be required to prepare project-specific WQMPs. Nevertheless, the Preliminary WQMP, included as EIR Appendix O, analyzed stormwater flows from the Phase 2 area in order to ensure that proposed drainage infrastructure would accommodate flows anticipated to result from future development within the Phase 2 area.

Under the Phase 2 Buildout scenario, proposed development would be required to meet the specifications of the City's NPDES Permit and the Project would be required to implement a WQMP pursuant to Section 14.22.090 of the Perris Municipal Code. The WQMP would require that the drainage facilities proposed within the Phase 2 be sized to be consistent with the MS4 permit requirements, the Perris Municipal Code, and the Riverside County Drainage Area Management Plan, and would be verified during the City's development permitting process to ensure the proposed development would not substantially increase the rate or volume of runoff to result in flooding. Thus, future development of Phase 2 of the Specific Plan would not substantially increase the rate or amount of surface runoff such that flooding would occur, and potential impacts would be less than significant.

IMPACT HYD-3iii: THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER WHICH WOULD CREATE OR CONTRIBUTE RUNOFF WATER WHICH WOULD EXCEED THE CAPACITY OF EXISTING OR PLANNED STORMWATER DRAINAGE SYSTEMS OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF.

Specific Plan Area

Less than Significant Impact. As discussed above, the Project would alter and remove the two onsite ephemeral drainages. However, development of the Specific Plan, including both Phase 1 and Phase 2, would include installation of a subsurface storm drain system that would capture runoff from impervious

areas and drain it into one of onsite bioretention basins or underground stormwater chambers that have been designed to accommodate the anticipated runoff from the Specific Plan area. Bioretention basins and underground stormwater chamber systems would capture, retain, and treat the calculated WQMP volume of site storm water. In addition to the storm drain system, landscaped areas within the Project site would receive runoff water from impervious surfaces and infiltrate it into the site soils.

As discussed previously, Section 14.22.090 of the Perris Municipal Code incorporates the requirements of the City's NPDES Storm Water Permit, which requires new development projects to prepare a WQMP. WQMPs are required to include BMPs for source control, pollution prevention, site design, and structural treatment control BMPs. As part of the permitting approval process, construction plans would be required to demonstrate compliance with these regulations to minimize the potential of the Project to result in a degradation of water quality. Plans for grading, drainage, erosion control and water quality would be reviewed by the City's Public Works Department prior to issuance of grading permits to ensure that the applicable and required Low Impact Development BMPs are constructed during implementation of the Project. Overall, adherence to the existing regulations as implemented by the Perris Municipal Code would ensure that Project impacts related to storm water drainage and polluted runoff would be less than significant.

IMPACT HYD-3iv: THE PROJECT WOULD NOT SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER WHICH WOULD IMPEDE OR REDIRECT FLOOD FLOWS.

Specific Plan Area

Less than Significant Impact. The Phase 1 area of the Specific Plan is partially developed and contains approximately 30,000 square feet of impervious area. Development of the Business Park site, Community Shopping Center, and Big Box Retail site would result in approximately 6,563,185 square feet of impervious surface area, which would result in an increase of impervious surface area within the Phase 1 area of 6,533,185 square feet. Under existing conditions, drainage sheet flows eastward until reaching Perris Boulevard where it is collected by City and County storm drain facilities and discharged into the Perris Valley Channel. As discussed in Section 5.4, *Biological Resources*, two ephemeral drainage features occur onsite. Drainage 1 enters the Phase 1 area from the lower western boundary of the Project site through a 60-inch box culvert originating from underneath Frontage Road. The drainage runs from west to east within the Project site, extending from Frontage Road and terminating within the Project site. Additionally, Drainage 2, a roadside ditch, extends from the western boundary of the site at the northeast corner of Orange Avenue and Frontage Road to the northwest corner of Orange Avenue and Barrett Avenue. Drainage 2 overlaps right-of-way improvements for Orange Avenue, which would occur as part of Phase 1 construction. The two onsite drainages only flow during high storm events and removal of the two drainages would not substantially impact the drainage pattern of the site.

Use of the surface bioretention basins and subsurface stormwater chambers would regulate the rate and velocity of stormwater flows and would control the amount of discharge into the offsite drainage system. In addition, the drainage facilities proposed for the Project have been sized to adequately accommodate the stormwater flows from the proposed development for the 100-year storm event and are consistent with the Riverside County Flood Control drainage plans and MS4 permit requirements. Thus, although the proposed Project would result in a substantial increase in impervious surfaces on the site, the proposed drainage infrastructure would maintain the existing drainage pattern and accommodate flows, such that storm flows would not be impeded or redirected. Therefore, potential impacts would be less than significant.

IMPACT HYD-4: THE PROJECT WOULD NOT, IN FLOOD HAZARD, TSUNAMI, OR SEICHE ZONES, RISK RELEASE OF POLLUTANTS DUE TO PROJECT INUNDATION.

Specific Plan Area

Less than Significant Impact. According to the FEMA Map 06065C1430H, the Project site is within Flood Zone X, an area with minimal flood hazard. Therefore, the Specific Plan would not be at risk of the release of pollutants due to Project inundation from flooding.

The Project site is located approximately 45 miles northeast of the Pacific Ocean and separated by the Santa Ana Mountains. Therefore, the Project is not located within a tsunami zone and no impacts would occur.

A seiche is the sloshing of a closed body of water from earthquake shaking. Seiches are of concern relative to water storage facilities because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water. The Perris Reservoir, approximately 6 miles northeast of the Project site, potentially poses a seiche risk to the Project site. Although inundation from dam failure is a slight possibility, the potential for that event to occur is relatively small. As shown in Figure 5.10-1, *Dam Inundation Map,* from the City of Perris General Plan Safety Element, the eastern portion of the Specific Plan Area is located within a dam inundation hazard zone related to the Perris Dam. The California Department of Water Resources has developed The Perris Dam Modernization Project, which is intended to make the dam more seismically resilient. In April 2018, the Department of Water Resources completed a major retrofit to Perris Dam as part of a statewide effort to reduce seismic risks to dams. Upgrades to the 130-foot tall, earthen dam included strengthening roughly 800,000 cubic yards of foundation material by mixing cement with soil and reinforcing it with a 1.4 million-cubic-yard earthen stability berm placed on the downstream side of the dam. The dam upgrades were designed to withstand a magnitude 7.5 earthquake. The final phase is the construction of an Emergency Release Facility, which will allow for the safe drawdown of lake water surface levels following a seismic event. This final phase of the project is scheduled to be completed in 2026. Therefore, potential impacts related to seiche would be less than significant.

IMPACT HYD-5: THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A WATER QUALITY CONTROL PLAN OR SUSTAINABLE GROUNDWATER MANAGEMENT PLAN.

Specific Plan Area

Less than Significant Impact. Pursuant to the Sustainable Groundwater Management Act, each high and medium priority basin, as identified by the California Department of Water Resources, is required to have a Groundwater Sustainability Agency that is responsible for groundwater management and development of a Groundwater Sustainability Plan. The EMWD Board of Directors is the Groundwater Sustainability Agency for the West San Jacinto Groundwater Basin that underlies the Project site and is responsible for development and implementation of a Groundwater Sustainability Plan. Based on the EMWD 2020 UWMP, it is anticipated that existing and future water entitlements from groundwater, surface water, and purchased or imported water sources, plus recycling and conservation, would be sufficient to meet the forecast demand for the EMWD's entire service area (EMWD, 2020). In addition, as discussed in the Water Supply Assessment prepared for the Project, the Project's water demand is within the projected estimate and accounted for in the EMWD's 2020 UWMP (EIR Appendix U).

While the Project would increase imperviousness within the Specific Plan Area, the proposed storm drain system is sized to adequately accommodate increased stormwater flows from the Specific Plan Area and would maintain the existing drainage pattern of the site. Runoff would discharge into one of onsite basins or subsurface chambers, which would retain, slow, and/or filter the runoff before its discharge through new storm drain connections to the existing storm drain infrastructure. The City of Perris is in the Santa Ana River

Basin, Region 8, in the San Jacinto subbasin. The Water Quality Control Plan for this region was adopted in 1995 and updated in 2019. This Basin Plan gives direction on the beneficial uses of the state waters within Region 8, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the established standards. As described previously, Perris Municipal Code Chapter 15 incorporates the requirements of the County's NPDES Storm Water Permit, which would require proposed projects in the Specific Plan Area to prepare a WQMP. WQMPs are required to include BMPs for source control, pollution prevention, site design, and structural treatment control BMPs. As part of the permitting approval process, construction plans would be required to demonstrate compliance with these regulations to minimize the potential of the Project to result in a degradation of water quality. Plans for grading, drainage, erosion control and water quality would be reviewed by the City's Public Works Department prior to the issuance of grading permits to ensure compliance. Thus, construction of the Project would not conflict or obstruct implementation of a water quality control plan.

The Project would use groundwater from the relocated well for landscape irrigation. While groundwater would be pumped from the relocated well, groundwater has historically been pumped onsite for use in agricultural irrigation and for potable water supply for existing homes. In addition, as described above, the Project site overlays the West San Jacinto Basin's North Perris subbasin, which is not adjudicated. The portions of the San Jacinto Basin that are not adjudicated are subject to additional requirements under SGMA and are managed by EMWD under a Groundwater Management Plan and Groundwater Sustainability Plan (EMWD, 2021). From 1985 to 2012, average annual groundwater outflows averaged approximately 24,000 acre-feet per year and groundwater storage increased by approximately 435,500 acre-feet. From 2013 to 2018, outflows averaged approximately 29,400 acre-feet per year and groundwater in storage increased by approximately 6,100 acre-feet per year, despite drought conditions (EMWD, 2021). The Groundwater Sustainability Plan included implementation of projects and management actions to maintain sustainable groundwater use in the Basin. As described previously, a reduction in groundwater recharge from development of the Specific Plan Area would not occur as onsite soils contain low infiltration rates in the current condition and the site is not within a designated groundwater recharge area. Therefore, the Project would be consistent with the groundwater management plan and would not conflict with or obstruct its implementation. Thus, potential impacts related to water quality control plan or sustainable groundwater management plan would be less than significant.

5.10.7 CUMULATIVE IMPACTS

Water Quality: The cumulative water quality impact assessment considers the development of the Project in conjunction with other development projects, as listed in Section 5.0 of this EIR, in the context of the Santa Ana River watershed. The geographic scope for cumulative impacts related to hydrology and water quality includes the Santa Ana River watershed because cumulative projects and developments could incrementally exacerbate the existing impaired condition and could result in new pollutant related impairments. However, related developments within the watershed would be required to implement water quality control measures pursuant to the same NPDES General Construction Permit that requires implementation of a SWPPP (for construction), a Low Impact Development plan (for operation) and BMPs to eliminate or reduce the discharge of pollutants in stormwater discharges, reduce runoff, reduce erosion and sedimentation, and increase filtration and infiltration, in areas permitted. The NPDES permit requirements have been set by the State Water Board and implemented by the Santa Ana Regional Water Board to reduce incremental effects of individual projects so that they would not become cumulatively considerable. Therefore, overall potential impacts to water quality associated with present and future development in the watershed would not be cumulatively considerable with compliance with all applicable laws, permits, ordinances and plans. As detailed previously, the proposed Project would be implemented in compliance with all regulations, as would be verified by the City during the development permitting process. Therefore, the Project cumulative impacts related to water quality would be less than significant.

Hydrology: The geographic scope for cumulative impacts related to hydrology includes the geographic area served by the existing stormwater infrastructure for the Project area, from capture of runoff through final discharge points. As described above, with implementation of the Project the onsite pervious surfaces would increase, and stormwater runoff would be accommodated by the proposed stormwater drainage infrastructure, including new onsite bioretention basins, onsite underground stormwater chambers, and on- and offsite stormwater lines. Additionally, existing drainage flow patterns would be maintained. As a result, the Project would not generate runoff that could combine with additional runoff from cumulative projects that could cumulatively combine to impact hydrology. Thus, cumulative impacts related to drainage would be less than significant.

Groundwater: The geographic scope for cumulative impacts related to groundwater includes the geographic area above the West San Jacinto Basin's North Perris subbasin. As described above, a reduction in groundwater recharge from development of the Specific Plan Area would not occur as onsite soils contain low infiltration rates in the current condition and the site is not within a designated groundwater recharge area. As a result, the Project would not impact groundwater production in a manner that could combine with other cumulative projects. Thus, cumulative impacts related to groundwater would be less than significant.

5.10.8 EXISTING REGULATIONS

As discussed above, the Project would be required to comply with the following existing regulations and plans, programs, or policies which would reduce the potential impacts of the Project.

- Construction General Permit, Order No. 2009-0009-DWQ, as amended by 2010-0014-DWQ, 2012-0006-DWQ, and 2022-0057-DWQ
- California Water Resources Control Board Low Impact Development Policy
- Regional MS4 permit (Order No. Order No. R8- 2002-0011, NPDES No. CAS 618033)
- Riverside County Drainage Area Management Plan (DAMP)
- Perris Municipal Code Title 15

5.10.9 PROJECT DESIGN FEATURES

None.

5.10.10 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements, Impacts HYD-1 through HYD-5 would be less than significant.

5.10.11 MITIGATION MEASURES

No mitigation measures are required.

5.10.12 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable adverse impacts related to hydrology and water quality have been identified and potential impacts would be less than significant.

5.10.13 REFERENCES

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