3.7 Hydrology and Water Quality

The following section provides a Project-level analysis of potential impacts related to hydrology and water quality that may result from implementation of the Project. The potential impacts of the Project related to hydrology and water quality are evaluated in detail in the Stormwater Quality Management Plan (SWQMP) and Hydrology Study for the Questhaven Project, both prepared by Excel Engineering. Copies of the two reports are provided as *Appendix I* and *Appendix J,* respectively, to this EIR. An NOP for the Project was released for public review on September 1, 2022 and an EIR Scoping Meeting was held on September 20, 2022. One comment regarding hydrology and water quality was received. Camille Perkins (received October 3, 2022) requested that the EIR include mitigation for stormwater and drainage impacts to Copper Creek and downstream developments and resources.

3.7.1 Existing Conditions

3.7.1.1 Hydrological Setting

The Project site is in the Carlsbad Hydrologic Unit and is bisected by the boundary line between the Batiquitos subarea of the San Marcos hydrologic area (904.51), and the San Elijo subarea of the Escondido Creek hydrologic area (904.61). The northern portion of the site is tributary to San Marcos Creek, and the southern portion of the site is tributary to Escondido Creek. A map showing the Project location with respect to the hydrologic basin areas can be found in Attachment 2 of *Appendix J*. (Excel Engineering, 2021)

3.7.1.2 Floodplain Setting

The Project site is not located within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, including County Floodplain Maps.

3.7.1.3 Drainage and Runoff Setting

Under existing conditions, the Project site is composed of undeveloped natural terrain. The site is tributary to two distinct hydrologic subareas of the Carlsbad Hydrologic Unit. The average slope of the pre-development conditions is determined by following the County Standard S-1 and is calculated as 18% for the Project overall.

Drainage from approximately 34 acres of the site discharges from the southern portion of the site, which starts near the southern limits of the drainage basin and flows mainly in a northeasterly direction. As the northeasterly flows meet the eastern limits of the property, the water discharge from the site enters an unnamed tributary of the Escondido Creek flowing in a southerly direction along the eastern property line. The point where the discharge leaves the site is identified as POC-1 in the Project's hydrology study.

Drainage from the remaining 45 acres of the southern tributary area flows in a northerly direction where it meets a natural channel flowing in a north westerly direction to a point where it leaves the site along the western boundary. This point is identified as POC-2 in the Project's hydrology study. After

reaching POC-2, the flows continue along their existing offsite flow path in a natural channel until they meet San Elijo Road and continue to San Marcos Creek.

Drainage from approximately 3.0 acres in the northeastern portion of the site flow into an existing brow ditch that carries the water in an easterly direction along the property line and discharge directly to the public storm drain system along San Elijo Road. This point of discharge is identified as POC-3 in the Project's hydrology study. Drainage from the remaining approximately 1.0 acre of the northwestern frontage of the site along San Elijo Road flows into two brow ditches that flow westerly and enter the public storm drain system along San Elijo Road tributary to San Marcos Creek. This point is identified as POC-4 in the Project's hydrology study.

3.7.1.4 Water Quality Setting

The beneficial uses identified in the Regional Water Quality Control Board (RWQCB) Water Quality Plan for the Batiquitos subarea of the San Marcos hydrologic area, include municipal and domestic supply, agricultural supply, industrial service supply; and the San Elijo subarea of the Escondido Creek hydrologic area include municipal and domestic supply, agricultural supply, industrial service supply, recreational uses, cold and warm freshwater habitat, and wildlife habitat.

The Project site and the associated watershed were compared to the current published federal Clean Water Act (CWA) Section 303(d) List of Water Quality Limited Segment (Section 303[d] List), which lists the surface waters that do not meet applicable water quality standards, required pursuant to Section 303(d) of the CWA. The Escondido Creek has been identified on the Section 303(d) List as sensitive to phosphate, total dissolved solids, sulfates, manganese, DDT (dichlorodiphenyltrichloroethane), indicator bacteria, toxicity, nitrogen, selenium, benthic community effects, bifenthrin, and malathion.

3.7.1.5 Regulatory Setting

Federal Regulations

FEMA Flood Plain Management Standards

The Federal Emergency Management Agency (FEMA) is the primary federal agency with the responsibility of administering programs and coordinating with communities to establish effective flood plain management standards. FEMA is responsible for developing the Flood Insurance Rate Map (FIRM), which delineates Special Flood Hazard Areas and flood risk zones. State and local agencies are responsible for implementing regulations, ordinances, and policies in compliance with FEMA requirements to address floodplain management issues.

Federal Clean Water Act

The Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), was adopted in 1972 and established basic guidelines for regulating discharges of pollutants into waters of the United States. The CWA set up a system of water quality standards, discharge limitations, and permits to protect the designated beneficial uses of water resources. The CWA also requires that states

adopt water quality standards to protect public health or welfare, enhance the quality of water, and serve the purposes of the CWA.

The CWA was amended in 1987, which established the National Pollutant Discharge Elimination System (NPDES) permit program, authorized by Section 402 of the CWA. Other relevant provisions of the CWA include Section 401, which requires that applicants for federal permits relating to the construction or operation of a facility that may result in the discharge of a pollutant obtain certification of those activities from the state in which the discharge originates. Section 404 of the CWA establishes a permitting program to regulate the discharge of dredged or filled material into waters of the United States, which is administered by the USACE and enforced by USEPA. In California, USEPA has authorized the State Water Resources Control Board (SWRCB) to implement the NPDES program.

Federal Antidegradation Policy

The federal antidegradation policy has been in existence since 1968. The policy protects existing uses, water quality, and national water resources. It directs states to adopt a statewide policy that includes the following primary provisions:

- maintain and protect existing instream uses and the water quality necessary to protect those uses;
- where existing water quality is better than necessary to support fishing and swimming conditions, maintain and protect water quality unless the state finds that allowing lower water quality is necessary for important local economic or social development; and
- where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, maintain and protect that water quality.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) was established to create a regulatory program to protect water quality and beneficial uses of the state's waters. Accordingly, the Act established the responsibilities and authorities of the State Water Resources Control Board (SWRCB) and the nine RWQCBs.

State Water Resources Control Board

The SWRCB issues stormwater permits in accordance with the NPDES program, which requires regulated entities to obtain coverage under an NPDES stormwater permit and implement a storm water pollution prevention plan (SWPPP) or a storm water management plan (SWMP), and to utilize Best Management Practices (BMPs) to reduce or prevent the discharge of pollutants into receiving waters, as described further below.

San Diego Regional Water Quality Control Board

The San Diego RWQCB is responsible for implementing and enforcing the laws and regulations regarding water quality in the San Diego region. With regard to storm water runoff, RWQCB requires compliance with RWQCB regulations and the applicable provisions of the federal CWA, including NPDES criteria and permitting. The RWQCB San Diego Basin Plan is the Water Quality Control Plan for the San Diego Basin and establishes the beneficial uses and water quality objectives for surface and groundwater resources. The beneficial uses for Escondido Creek are described above in Section 2.4.1.

The NPDES Storm Water Program addresses non-agricultural sources of storm water runoff that adversely affect the quality of the Country's waters. Under the NPDES Program, regulated entities must obtain coverage under an NPDES storm water permit and implement a SWPPP or a SWMP, and must utilize BMPs to reduce or prevent the discharge of pollutants into receiving waters. NPDES storm water permit regulations generally cover the following classes of storm water dischargers: operators of municipal separate storm sewer systems (MS4), operators of certain industrial facilities, and operators of construction activities that disturb 1 or more acre of land. Implementation of the Project requires conformance with the NPDES Storm Water Program's Construction General Permit and the Municipal Permit, as defined and described below.

Construction General Permit

Dischargers whose projects disturb 1 or more acres of soil, or less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the SWRCB's Order 2012-0006-DWQ (amending Order 2009-0009-DWQ as amended by 2010-0014-DWQ), the Construction General Permit (SWRCB 2012). Construction and demolition activities subject to this permit include clearing, grading, grubbing, and excavation, or any other activity that results in a land disturbance equal to or greater than 1 acre.

Permit applicants are required to submit a Notice of Intent to the SWRCB and to prepare a SWPPP. The SWPPP must identify BMPs that are to be implemented to reduce construction impacts on receiving water quality based on potential pollutants. The SWPPP also must include descriptions of the BMPs to reduce pollutants in storm water discharges after all construction phases are completed at a site (post-construction BMPs).

The Construction General Permit includes several additional requirements (as compared to the previous Construction General Permit, 2009-0009-DWQ), including risk-level assessment for construction sites, a storm water effluent monitoring and reporting program, rain event action plans, and numeric action levels for pH and turbidity.

San Diego County Municipal Storm Water Permit (R9-2013-0001)

Under Phase I of its storm water program, USEPA published NPDES permit application requirements for municipal storm water discharges for municipalities that own and operate separate storm drain systems serving populations of 100,000 or more, or that contribute significant pollutants to waters of

the U.S. The Project is subject to the San Diego Municipal Storm Water NPDES Permit (Municipal Permit) under Order R9-2013-0001. The Project design would be required to comply with requirements and measures outlined in this municipal permit to minimize impacts to water quality and runoff hydrology for the construction and operational phases of the Project life.

The Municipal Permit requires that each co-permittee covered under the permit (i.e., a variety from San Diego, Orange, and Riverside counties) prepare Water Quality Improvement Plans (WQIPs), establish action levels for non-storm water and storm water pollutants, monitor and assess program requirements, and update Jurisdictional Urban Runoff Management Plans (JURMPs). JURMPs address water pollution management for construction activities, development planning, and existing development management.

The local jurisdictions within the San Diego region regulate water quality through a variety of ordinances and guidelines, including but not limited to, jurisdictional urban runoff management programs and storm water standards. In accordance with the provisions of the Municipal Permit, the County of San Diego developed a Standard Urban Storm Water Mitigation Plan (SUSMP) (County of San Diego 2011a). The SUSMP identifies mitigation strategies required to protect storm water quality for new development and significant redevelopment within the San Diego region. Development within each respective County of San Diego municipality is subject to each respective SUSMP, accordingly.

Local Regulations and Standards

San Diego County General Plan

The Safety Element of the San Diego County General Plan includes goals and policies regarding flood hazards to minimize personal injury and property damage losses resulting from flood events; and to maintain adequate capacity in floodways and floodplains to accommodate flood events. Policy LU-6.5, Sustainable Stormwater Management, in the Land Use Element states: "Ensure that development minimizes the use of impervious surfaces and incorporates other Low Impact Development techniques as well as a combination of site design, source control, and stormwater best management practices, where applicable and consistent with the County's Low Impact Development (LID) Handbook."

County of San Diego Flood Damage Prevention Ordinance

The Flood Damage Prevention Ordinance (County Code of Regulatory Ordinances Section 811.101-811.104) identifies Special Flood Hazard Areas throughout the County as having a special flood or flood-related erosion/sedimentation hazard and as being shown on a FIRM or on a County floodplain map. The ordinance also defines methods to reduce flood losses. By complying with the requirements of this ordinance, a project is considered to be in compliance with FEMA regulations.

County of San Diego Grading Ordinance

The Grading Ordinance (County Code of Regulatory Ordinances sections 87.601-87.608) combines regulations affecting grading and land clearing with activities affecting watercourses.

County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance

The San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (WPO) defines the storm water management requirements that are legally enforceable by the County in the unincorporated areas. As referenced in Section 67.810 of the WPO, the County prepared a detailed Storm Water Standards Manual (SSM), which is a guidance document addressing the use of pollution prevention practices and BMPs for specific activities or facilities. The WPO also addresses connections for, and disposal of, storm water, and incorporates the County's LID Handbook, which is a guidance document that provides a comprehensive list of LID planning and storm water management techniques that emphasize storm water infiltration, conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic conditions.

County of San Diego Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects

The County developed the Standard Urban Storm Water Mitigation Plan (SUSMP) for proposed land development and public improvement projects. The SUSMP is mandated for significant new development and redevelopment projects, including "Priority Projects," which are defined in the NPDES Municipal Permit to include residential development of ten or more dwelling units or commercial development greater than one acre. The Project is classified as a Priority Project and, therefore, is subject to the SUSMP requirement to prepare a Stormwater Quality Management Plan which is included as Technical Appendix I of this EIR.

The County's SUSMP is focused on improving the quality of stormwater runoff through BMPs for project design and related post-construction activities. The SUSMP requires a project applicant to develop and submit a SWMP that complies with the requirements of the WPO and the SSM. The SWMP serves as the basis for long-term water quality improvements and the SUSMP requires that Priority Projects be designed to minimize, to the maximum extent practicable, the introduction of pollutants and creation of conditions that may result in significant impacts generated from site runoff to the stormwater conveyance system. Priority Projects also must control post-development peak stormwater runoff discharge rates and velocities to maintain or reduce pre-development downstream erosion and to protect stream habitat. Thus, the Project must implement site design, source control, and treatment control BMPs to address both water quality and hydrologic impacts.

San Diego County Hydrology Manual

The San Diego County Hydrology Manual (County of San Diego 2003) provides uniform procedures for analyzing flood and stormwater conditions in the County. Specific elements of these procedures include methods to estimate storm flow peaks, volumes, and time distributions. These data are used in the design of stormwater management facilities to ensure appropriate dimensions and capacity (typically 100-year storm flow volumes), pursuant to applicable requirements in the San Diego County Drainage Design Manual (County of San Diego 2005).

San Diego County Hydromodification Management Plan

San Diego Regional Water Board Order R9-2007-0001 requires that hydromodification and its influence on water quality be addressed through the implementation of a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations (10% of Q2 to Q10 rainfall events) from priority development projects. The HMP is required to identify increased frequencies and durations of runoff that could cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. The HMP must establish standards to control flows and avoid erosion. Supporting analyses must be based on continuous hydrologic simulation modeling. Consistent with this directive, the County has prepared the San Diego County HMP.

San Diego Integrated Regional Water Management (IRWM) Plan, including Appendix 7-B (Integrated Flood Management Planning Study)

The San Diego IRWM Plan was prepared under the direction of a Regional Water Management Group consisting of the San Diego County Water Authority, the County of San Diego, and the City of San Diego. The IRWM Plan builds on local water and regional management plans within the San Diego Region and is aimed at developing long-term water supply reliability, improving water quality, and protecting natural resources. The Statewide IRWM Program is supported by bond funding provided by the California Department of Water Resources (DWR) to fund competitive grants for projects that improve water resources management.

The goals of the IRWM Plan include the following:

- Improve the reliability and sustainability of regional water supplies;
- Protect and enhance water quality;
- Protect and enhance our watersheds and natural resources, and
- Promote and support sustainable integrated water resource management.

Appendix 7-B of the IRWM Plan, Integrated Flood Management Planning, is a guidance document aimed to facilitate an integrated water resources approach to flood management. The planning document defines general applicable strategies and approaches, as well as provides planning level tools, to guide flood management decision making on a watershed basis. The focus of integrated planning is a balance between community flood management needs with environmental constraints and watershed resources to ensure an acceptable solution with the flexibility to adapt to future changes.

Construction Dewatering Permit

Construction dewatering discharges must be permitted either by the San Diego RWQCB under the general Order 2001-96 (NPDES No. CAG919002) for construction dewatering discharge to surface waters or authorized to discharge to local publicly owned treatment works (i.e., industrial or sanitary

sewer system of municipal wastewater treatment plants). Discharge via either of these mechanisms must meet applicable water quality objectives, constituent limitations, and pretreatment requirements.

3.7.2 Analysis of Project Effects and Determinations as to Significance

Guidelines for the Determination of Significance

Hydrology

A project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on hydrology, absent specific evidence of such effect:

- The project will substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.
- The project will result in increased velocities and peak flow rates exiting the Project site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site.
- The project will result in placing housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a FIRM, a County Flood Plain Map, or County Alluvial Fan Map, which would subsequently endanger health, safety, and property due to flooding.
- The project will place structures within a 100-year flood hazard or alter the floodway in a manner that would redirect or impede flow resulting in any of the following:
    - Alter the Lines of Inundation resulting in the placement of other housing in a 100-year flood hazard

Guidelines Source

The thresholds of significance are based on the County Guidelines for Determining the Significance – Hydrology (County 2007g).

Guidelines for the Determination of Significance

Water Quality

A project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on water quality, absent specific evidence of such effect:

- The project is a development project, as defined in the WPO, County of San Diego Code of Regulatory Ordinances (Regulatory Ordinances) Section 67.803, and does not comply

with the standards set forth in the County SSM or the Additional Requirements for Land Disturbance Activities set forth in the County WPO, Regulatory Ordinances Section 67.811.

- The project would drain to a tributary of an impaired water body listed on the Clean Water Act Section 303(d) List, and will contribute substantial additional pollutant(s) for which the receiving water body is already impaired.
- The project would drain to a tributary of a drinking water reservoir and will contribute substantially more pollutant(s) than would normally run off from the Project site under natural conditions.
- The project will contribute pollution in excess of that allowed by applicable state or local water quality objectives or will cause or contribute to the degradation of beneficial uses.
- The project does not conform to applicable federal, state, or local "Clean Water" statutes or regulations including, but not limited to, the federal Water Pollution Control Act, California Porter-Cologne Water Quality Control Act, and the County WPO.

Guidelines Source

The significance guidelines for water quality identified above are based on the County of San Diego Guidelines for Determining Significance for Surface Water Quality, dated July 30, 2007.

3.7.2.1 Hydrology

Guideline for the Determination of Significance

A significant impact to hydrology would occur if the project would:

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site.

Analysis

Post-Development Topography and Drainage Patterns

The site is graded such that the distribution of discharge from the site to the respective POCs will remain balanced as much as possible. The area of the project to the southwest will remain open space and will be directed to flow separately from the flow from the developed portions of the site until discharging to the respective POC. The developed portions of the site will all be directed to a stormwater treatment facility. Multiple treatment facilities will be located onsite. The parts of the site that serve as access to the building lots, and the lots themselves will be directed to combination of biofiltration and flow detention facilities. The remainder of the project on the westerly access road, will be treated with Green Street methods (tree wells) sized to meet pollutant treatment and hydromodification goals.

Implementation of 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, in a manner which would result in substantial erosion or siltation on- or off-site. No significant alteration of any stream or river will occur on this site due to grading operations. All defined drainage channels are due to erosive effects of high velocity runoff from the uphill slopes. The development of the site will help mitigate further erosion downstream.

Additionally, the Project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. No significant alteration of drainage patterns will occur on this project. All defined drainage channels are due to erosive effects of high velocity runoff from the uphill slopes. The development of the site will help mitigate further erosion downstream and all discharge is back to the existing POCs and discharge points.

Accordingly, impacts from the Project substantially altering the existing drainage pattern of the site, in a manner that would result in substantial erosion or siltation on- or off-site would be less than significant.

3.7.2.2 Runoff Rates/Amounts and Related Drainage System and/or Flood Hazards

Guideline for the Determination of Significance

A significant impact to hydrology would occur if the project would:

- The project will result in increased velocities and peak flow rates exiting the project site that would cause flooding downstream or exceed the stormwater drainage system capacity serving the site.

Analysis

Implementation of the Project would result in the construction of new impervious surfaces, including pavement and structures.

For areas conveying water that has drained through the proposed graded lots, it was found that the total percent impervious is 44%. This value includes roadways and assumes 5,000 s.f. of impervious area to be built on each lot. The offsite, undeveloped, and pervious graded areas are all 0% impervious. This area is also associated with the category of Undisturbed Natural Terrain (Natural) Permanent Open Space, which is also representative of these areas since they will not be developed. The driveway section at the northeastern side of the site was calculated to be 80% pervious. The driveway area near the northwestern includes the biofiltration basin and some contributing graded area. The total impervious percentage is around 28%.

Proposed on-site storm drain facilities include a series of curb/gutter inlets and four detention facilities, all of which would be tied to an underground storm drain system of pipelines and related structures (refer to Figure 1-5, *Preliminary Drainage Plan*). The proposed storm drain facilities would

accommodate peak 100-year storm flows pursuant to County guidelines. The Project Hydrology/Hydraulics Study (Appendix J) includes an assessment of pre- and post-development runoff rates and amounts within and from the site, including analyses of Project-related effects to existing/proposed storm drain systems, off-site flows, and related downstream flooding hazards. Calculated post-development flows from the Project site are summarized below in Table 3.7-1, *Summary of Peak 100 Year Runoff*, for the proposed drainage systems, along with the previously described existing flows.

Based on the results of and with the inclusion of the proposed storm drain facilities in the Project design per the Project Hydrology/Hydraulics Study (Appendix J), assuming that the site is used for a medium density residential use, implementation of the Project will result in a decrease in the 100-year peak flow runoff value for each respective POC. Both POC-3 and POC-4 are both ultimately tributary to San Marcos Creek. POC-4 enters a public drainage pipe and is directed immediately across San Elijo and is discharged to a natural lined channel. POC-3 enters another public storm drain branch which discharges to a point downstream and in the same channel as POC- 4. Potential Project-related impacts associated with increased peak flow rates and amounts, associated flooding hazards, and the capacity of existing or planned storm drain systems would be less than significant.

3.7.2.3 Floodplains, Floodwater Surface Water Elevations and Related Flood Hazards

Guidelines for the Determination of Significance

A significant impact related to floodplains, floodwater surface elevations, and related flood hazards would occur if the Project would:

- Place housing, habitable structures, or unanchored impediments to flow in a 100-year floodplain area or other special flood hazard area, as shown on a Flood Insurance Rate Map (FIRM), a County Floodplain Map or County Alluvial Plain Map, which would subsequently endanger health, safety and property due to flooding; or
- Place structures within a 100-year flood hazard or alter the floodway in a manner that would redirect or impede flow resulting in any of the following:
  - a. Alter the Lines of Inundation resulting in the placement of other housing in a 100-year flood hazard; or
  - Increase the water surface elevation in a watercourse with a watershed equal to or greater than 1 square mile by 1 foot or more in height.

Analysis

The Project does not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, including County Floodplain Maps. No FIRM identified flood hazard areas are located on the parcel.

The Project does not place structures within a 100-year flood hazard area which would impede or redirect flood flows. No FIRM identified flood hazard areas are located on the parcel.

From the above analysis, potential impacts associated with floodplains, floodwater surface elevations, and related flood hazards would be less than significant.

3.7.2.4 Groundwater

Guidelines for the Determination of Significance

A significant impact related to groundwater level drawdown/reduced well yields, or increased groundwater aquifer levels would occur if the Project would:

- Cause or contribute to substantial drawdown of local groundwater aquifers, or cause or contribute to a substantial reduction in local groundwater well yields.
- Cause or contribute to a substantial increase in local groundwater aquifer levels, resulting in adverse effects to conditions such as liquefaction/settlement potential, or the operation of septic systems.

Analysis

The Project would obtain potable water with connections to existing water lines within San Elijo Road and would not utilize any groundwater. Thus, the Project would not cause or contribute to a substantial drawdown of local groundwater aquifers, or cause or contribute to a substantial reduction in local groundwater yields.

As stated in the Geotechnical Report prepared for the Project site, groundwater was not encountered in the exploratory excavations. No natural groundwater condition is known to exist at the site that would impact the proposed site development. Intermittent surface water within the onsite drainages is anticipated during heavy and/or prolonged rain events. It should be noted that localized perched groundwater may develop at a later date, most likely at or near fill/bedrock contacts, due to fluctuations in precipitation, irrigation practices, or factors not evident at the time of field explorations. However, the limited occurrence of perched groundwater would not cause or contribute to a substantial increase in local groundwater aquifer levels resulting in adverse impacts. Impacts would be less than significant.

3.7.2.5 Water Quality

Guideline for the Determination of Significance

A significant impact to water quality would occur if the project would:

- Consist of a development project listed in County of San Diego, Code of Regulatory Ordinances (Regulatory Ordinances), Section 67.804(g), as amended and does not comply with the standards set forth in the County BMP Design Manual, Regulatory Ordinances 67.813, as amended, or the Additional Requirements for Land Disturbance Activities set forth in Regulatory Ordinances, Section 67.

- Drain to a tributary of an impaired water body listed on the Clean Water Act Section 303(d) list, and contribute substantial additional pollutants for which the receiving water body is already impaired.
- Contribute pollution in excess of that allowed by applicable State or local water quality objectives or cause or contribute to the degradation of beneficial uses.
- Fail to conform to applicable Federal, State or local "Clean Water" statutes or regulations including, but not limited to, the Federal Water Pollution Control Act (Clean Water Act)

Analysis

The Project SWQMP (*Appendix J*) identifies pollutants of concern and appropriate control measures related to development of the Project, based on procedures identified in the County Stormwater Ordinance/BMP DM, JURMP and LID Manual, as well as the related NPDES Municipal Permit (as outlined below). The Project is identified as a PDP due to the inclusion of proposed development categories such as residential properties, parking areas, and roadways. Potential pollutants associated with the Project include sediment, nutrients, heavy metals, organic compounds, trash and debris, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides. Urban pollutants accumulate in areas such as streets, parking areas, and drainage facilities, and are picked up in runoff during storm events. Runoff within the Project site would increase as a result of constructing impervious surfaces, with a corresponding increase in pollutant loading potential. Based on these conditions, long-term Project operation could result in the on- and off-site transport of urban pollutants.

County standards require the use of LID/site design and source control BMPs for all development projects, as well as pollutant control BMPs for PDPs. The selection of pollutant control BMPs further requires initial screening to determine the feasibility of using retention (infiltration) BMPs for pollutant control. If infiltration is not feasible, PDPs are required to consider (in order of priority) harvest and reuse BMPs, biofiltration BMPs, and flow-through BMPs. The Project would conform to applicable County and NPDES storm water standards, with such conformance to include the use of appropriate post-construction LID/site design, source control and pollutant control BMPs. Specific proposed BMPs are identified in the Project SWQMP (Appendix I), with these measures summarized below.

The following BMPs would be incorporated into the Project:

- Erosion control for disturbed slopes
    - Hydraulic stabilization hydroseeding (summer)
    - Physical stabilization erosion control blanket (winter)
- Erosion control for disturbed flat areas
    - County standard lot perimeter protection detail
- Energy dissipation
    - Energy dissipater outlet protection
- Sediment control for all disturbed areas
    - Silt fence
    - Gravel and sand bags
    - Storm drain inlet protection

    - Engineered desilting basin (sized for 10-year flow)
- Preventing off-site tracking of sediment
    - Stabilized construction entrance
    - Construction road stabilization
    - Entrance/exit tire wash
    - Entrance/exit inspection and cleaning facility
    - Street sweeping and vacuuming
- Materials management
    - Material delivery and storage
    - Spill prevention and control
- Waste Management
    - Waste management concrete waste management
    - Solid waste management
    - Sanitary waste management
    - Hazardous waste management

The SWQMP has been prepared in accordance with the County of San Diego BMP Design Manual and SDRWQCB Order No. R9-2015-0001 Municipal Separate Storm Sewer System (MS4) permit (2015).

LID/Site Design BMPs. LID/site design BMPs are intended to avoid, minimize and/or control post-development runoff, erosion potential and pollutants generation to the MEP by mimicking the natural hydrologic regime. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain and infiltrate runoff close to its source. Specific LID and site design BMPs identified in the Project SWQMP are summarized below, with additional discussion provided in Appendix I. All of the proposed LID and site design BMPs would help reduce long-term urban pollutant generation by minimizing runoff rates and amounts, retaining permeable areas, increasing on-site filtering and infiltration, and reducing erosion/sedimentation potential. Impacts would be less than significant.

Guideline for the Determination of Significance

A significant impact to water quality would occur if the project would:

- Drain to a tributary of an impaired water body listed on the Clean Water Act Section 303(d) list, and contribute substantial additional pollutants for which the receiving water body is already impaired.
- Contribute pollution in excess of that allowed by applicable State or local water quality objectives or cause or contribute to the degradation of beneficial uses.

Analysis

The beneficial uses identified in the RWQCB San Diego Basin Plan for the Batiquitos subarea of the San Marcos hydrologic area, include municipal and domestic supply, agricultural supply, industrial service supply; and the San Elijo subarea of the Escondido Creek hydrologic area include municipal and domestic supply, agricultural supply, industrial service supply, recreational uses, cold and warm freshwater habitat, and wildlife habitat.

As discussed above under Section 3.7.1, *Existing Conditions*, runoff from the Project would drain to the Escondido Creek, which is identified on California's 2018 List of Water Quality Limited Segments as impaired for phosphate, total dissolved solids, sulfates, manganese, DDT (dichlorodiphenyltrichloroethane), indicator bacteria, toxicity, nitrogen, selenium, benthic community effects, bifenthrin, and malathion. To reduce the potential impacts to water quality, the Project would be required to comply with the SWRCB Construction General Permit and the NPDES Municipal Permit, as described above.

The Project is expected to add pollutants to runoff from urban development. The addition of these pollutants to the Batiquitos subarea of the San Marcos hydrologic area and San Elijo subarea of the Escondido Creek hydrologic area could violate water quality objectives required to sustain the beneficial uses without a properly designed water quality treatment system. Runoff from the developed portion of the Project site would be subject to a comprehensive set of BMPs including Construction-Phase BMPs, Site Design Measures and LID BMPs, Source Control BMPs, and Treatment Control BMPs as discussed in detail above to reduce and remove potential pollutants from the Project's runoff. As described above, with incorporation of these BMPs, the Project would not contribute substantially more pollutants than would normally run off from the Project site to Batiquitos subarea of the San Marcos hydrologic area and San Elijo subarea of the Escondido Creek hydrologic area under natural conditions. Thus, development of the Project site would not degrade potential beneficial uses of downstream water bodies as designated by RWQCB and impacts related would be less than significant.

Guideline for the Determination of Significance

A significant impact to water quality would occur if the project would:

- Fail to conform to applicable Federal, State or local "Clean Water" statutes or regulations including, but not limited to, the Federal Water Pollution Control Act (Clean Water Act)

Analysis

Implementation of the Project would include construction-related activities such as grading and other earth-moving activities. These activities would generate sediment and dust that could affect water quality. In addition, the Project would result in an increase in postconstruction pollutants related to development of the property and the effects of automobile use. Runoff from paved surfaces may contain both sediment in the form of silt and sand, and a variety of pollutants transported by the

sediment. Landscape activities by homeowners would be an additional source of sediment and pollutants. To reduce the potential impacts to water quality, the Project would be required to comply with the SWRCB Construction General Permit and the NPDES Municipal Permit, as described above.

To be covered under the Construction General Permit, a Notice of Intent must be filed with the SWRCB. Compliance with the permit requires that a SWPPP be prepared and implemented for the Project, and that construction BMPs, post-construction BMPs, inspections, sampling, and monitoring for water quality be addressed. A SWPPP must be prepared and submitted to the SWRCB and a Waste Discharge Identification Number (WDID) must be received prior to construction.

To address post-construction water quality impacts during operation of the Project from pollutants related to urban development, automobile use, and landscaping activities, the Project would be required to comply with the requirements of the Municipal Permit, and the County's WPO and SUSMP requirements pursuant to the Municipal Permit. The RWQCB and County of San Diego require treatment of the 85th percentile runoff at the Project site prior to discharge into Escondido Creek. To address this requirement, as discussed above, the Project would divert runoff from the developed portions of the Project site for treatment via bioretention basins. In summary, the proposed Project has been designed to comply with all applicable water quality standards and guidelines for storm water runoff. As discussed above, the Project includes a comprehensive set of Construction-Phase BMPs, Site Design and LID BMPs, Treatment Control BMPs, and Source Control BMPs. These applicable BMPs are in compliance with the standards set forth in the NPDES permit requirements, and the County SUSMP requirements. Thus, implementation of the Project's BMPs conforms to applicable federal, state, and local water quality statutes and regulations and, therefore, impacts related to this issue are considered less than significant.

3.7.3 Cumulative Impact Analysis

As described in the preceding analysis, implementation of the Project would require conformance with a number of regulatory requirements related to hydrology and water quality, including applicable elements of the CWA, NPDES, County storm water standards, California Porter-Cologne Water Quality Control Act, and RWQCB Basin Plan. Based on such conformance (including the design measures described in this EIR), all identified Project-level hydrology and water quality impacts from the Project would be avoided or reduced below a level of significance.

The described regulatory requirements constitute a regional effort to implement hydrology and water quality protections through a watershed-based program designed to meet applicable criteria such as Basin Plan Beneficial Uses and Water Quality Objectives. To this end, these standards require the implementation of efforts to reduce runoff and contaminant discharges to the MEP, with the NPDES Municipal Permit identifying the goal of "…promoting attainment of water quality objectives necessary to support designated beneficial uses." The County has implemented all of these requirements in the form of the Stormwater Ordinance/BMP DM. LID Handbook, JURMP and related Municipal Code standards, as well as applicable education, planning, and enforcement procedures. Based on the described regional/watershed-based approach required for hydrology and water quality issues in existing regulatory standards, as well as the fact that conformance with these requirements

would be required for all identified projects within the cumulative projects area (including the Project), cumulative hydrology/ water quality impacts would be less than significant.

3.7.4 Significance of Impacts Prior to Mitigation

With implementation of the BMPs discussed above, as required by federal, state, and local regulations, the Project is not expected to result in significant Project-related or cumulative impacts.

3.7.5 Mitigation

No mitigation measures are proposed because the Project design (i.e., Construction-Phase BMPs, Site Design and LID BMPs, Treatment Control BMPs, and Source Control BMPs) avoids all potentially significant Project-related impacts associated with hydrology and water quality. BMPs would be implemented by the Project and other related cumulative projects in accordance with applicable laws and regulations to avoid significant hydrology and water quality impacts during construction and operation.

3.7.6 Conclusion

Based on the discussions provided above, potential Project-specific and cumulative hydrology and water quality impacts associated with implementation of the Project would be effectively avoided or reduced below identified significance guidelines through implementation of recommendations provided in the Project Hydrology/Hydraulics Study and SWQMP, as well as conformance with established regulatory requirements.

Table 3.7-1 Summary of Peak 100 Year Runoff

Basin	Pre Area (ac)	Post Area (ac)	Pre T_c (min)	Post T_c (min)	Pre Q (cfs)	Post Q (cfs)	Increase (post-pre) (cfs)
POC-1	36.05	38.56	11.33	10.17	55.43	52.50	-2.93
POC-2	44.68	42.98	12.54	9.84	68.31	66.72	-1.59
POC-3	4.98	4.43	5.44	13.21	11.81	11.60	-0.21
POC-4	1.09	0.72	11.51	6.02	1.76	1.75	-0.01

(Excel Engineering, 2021, Table 3-1)