# 4.9 HYDROLOGY AND WATER QUALITY

## 4.9.1 Setting

### a. Hydrology.

Regional Hydrology. The Project Site overlies the San Juan Subbasin (Subbasin), which is a subbasin of the larger Gilroy-Hollister Groundwater Basin (Tully & Young, May 2015). The boundaries of the Subbasin have been delineated by the California Department of Water Resources (DWR) and the San Benito County Water District (SBCWD). Although DWR's and SBCWD's boundaries differ slightly [See Appendix J (Water Supply Assessment (WSA), Fig. 3-1], the Project Site lies within both the DWR and the SBCWD boundaries for the Subbasin. For the reasons described in the WSA (Appendix J), this SEIR relies on the SBCWD's delineation because the SBCWD has consistently used this boundary for planning, data compilation, and water resources management since 1996. In addition, the SBCWD collects groundwater and surface water use, groundwater level, and water quality data and uses this Subbasin boundary as the basis for annual groundwater reporting.

The Gilroy-Hollister Valley Groundwater Basin is located within the Coast Ranges Geomorphic Province of California. The Coast Ranges Geomorphic Province is comprised of a series of northwest-southeast trending ranges and valleys sub-parallel to the San Andreas Fault Zone. The origin and shape of the Gilroy-Hollister Valley Groundwater Basin is controlled by the folding and faulting of basement rocks in the region, which have resulted in low-lying areas filled with unconsolidated to poorly consolidated alluvium of Tertiary and Quaternary age. The Quaternary alluvial deposits compose the valley floor and generally define the Gilroy-Hollister Valley Groundwater Basin (California Geological Survey 2002; Todd Groundwater 2014).

The Gilroy-Hollister Valley Groundwater Basin lies between the Diablo Range on the east and the Gabilan Range and Santa Cruz Mountains to the west. It is bounded on the southwest by the San Andreas Rift Zone. The northern portion drains toward Monterey Bay by the Pajaro River and its tributaries. The southern portion drains toward the San Benito River and its tributaries (DWR 2003).

The San Juan Valley Subbasin of the Gilroy-Hollister Valley Groundwater Basin is bounded on the north by the Lomerias Muertas and Flint Hills, and on the south, west, and east by the Gabilan Range. The San Benito River flows from east to west through the entire length of the San Juan Valley Subbasin south of the Lomerias Muertas and Flint Hills. The San Juan Valley (also known as the San Benito Valley) is a relatively flat and broad plain, narrowing towards the northwest where the San Benito River flows into the Pajaro River near Chittenden Gap (Todd Groundwater 2014).The San Benito River is dry most of the year, flowing mainly during wet winter conditions. The drainage for the San Benito River is over 600 square miles. Local surface water from the San Benito River is captured and stored in two reservoirs. These reservoirs are operated by San Benito County Water District (SBCWD) for flood control and to recharge downstream areas.

Regional groundwater movement in the San Juan Subbasin is generally to the northwest (Geoconsultants Inc. 2002; Todd Groundwater 2014). Sources of natural groundwater recharge in

the Hollister and San Juan Valleys are infiltration from streams, direct infiltration of rain, and subsurface flows from surrounding areas such as Flint Hills. Although recharge from rain varies from year to year, the United States Geological Survey estimated that rainwater recharge generally accounts for 20% to 40% of the total available recharge from all sources. Substantial recharge to the San Juan Valley Subbasin can occur from infiltration losses along the San Benito River (DWR 2003). Other sources of inflow to the San Juan Subbasin include percolation of reservoir releases and percolation of reclaimed water (Todd Groundwater, 2014). The San Justo Reservoir, which is managed by the SBCWD, is immediately east of the Project Site. SBCWD has noted some leakage through the bottom of this reservoir that may contribute to local groundwater recharge (Todd Groundwater 2014). If average groundwater production in the Subbasin increased to meet the demands of the proposed Project, additional recharge historically "rejected" by the San Juan Subbasin would likely be accepted, resulting in continued cyclical recovery of groundwater conditions (Tully & Young 2015). Rejected recharge means that in areas where the potential recharge rate exceeds the rate at which water can flow laterally through the aquifer, the aquifer becomes too full and available recharge is rejected. In this situation, groundwater pumping in recharge areas can increase the rate of underground flow from the area and more water can be drawn into the aquifer as induced recharge.

The Project Site is near the southern boundary of the San Juan Valley Subbasin, where unconsolidated material begins to thin and the Purisima Formation is present at shallower depths. Because of the thin and relatively low permeable alluvium in the San Juan Valley Subbasin, the underlying Tertiary-age sedimentary rock of the Purisima Formation is tapped by water supply wells which generally have lower yields than those completed in the unconsolidated material (Todd Groundwater 2014).

Total water use in the San Juan Valley Subbasin varies each year depending on hydrologic conditions and agricultural demand. The amount of supply served by groundwater ranges from 47% to 88% depending on precipitation patterns, crop fluctuations, and imported water availability. On average, groundwater is approximately 66% of total water supply (Todd Groundwater 2014; Tully & Young 2015). Refer to Section 4.14, *Utilities and Service Systems,* for additional discussion of water supply and groundwater levels.

Hydrologic Setting. The Project Site lies at the edge of the San Juan Valley at the northern edge of the Gabilan Range in San Benito County. The topography of the site varies from relatively flat lowlands in the northwest corner of the site to upland hills in the southern half of the site. Steep terrain descends from the eastern slopes of the Gabilan range and transitions along a series of alluvial fans extending northwest toward the San Juan Valley. The topography along the southern portion of the site is influenced by the San Andreas Rift Zone that intersects the southern property boundary. The maximum elevation lies along the ridge northeast of the Rift Zone at an elevation of approximately 1,120 feet, while the minimum elevation of approximately 215 feet is found at the northwest corner of the site. Areas in the southern portion of the site are generally undeveloped open space while the flatter northern half of the site has been developed for agriculture and the San Juan Oaks Golf Course and related facilities.

Upstream from the Project Site are a number of hillside drainages that flow through the site. With the exception of the on-site golf course and associated facilities, the upstream watersheds are

largely undeveloped with a total area of approximately 6.5 square miles (4,200 acres) (Balance Hydrologics, Inc. 2013).

Runoff from the Project Site and upstream watersheds are conveyed through a series of downstream agricultural ditches that generally flow north and west past San Juan Bautista, ultimately discharging approximately seven miles downstream to the San Benito River near the confluence with the Pajaro River. The conveyance capacity of the drainage network downstream from the Project Site is generally limited in relation to the flow rates anticipated to be produced by the existing upstream watershed (Balance Hydrologics, Inc. 2013).

The hydrology of the Project Site and vicinity is characterized by small streams that drain from south to north through the site, flowing from the open space foothill areas to the existing golf course and agricultural lands in the flatter northern portion of the site. At the northwestern portion of the site, at the edge of off-site agricultural pasture land, these streams are channeled into man-made drainage ditches which exit the site and drain to San Juan Creek, east of San Juan Bautista. Most of the drainage channels on the site are natural; however, some channels have been relocated and realigned to facilitate agricultural production and for storm water management on the existing San Juan Oaks Golf Course and related facilities.

Most of the Project Site lies within the unconsolidated alluvial deposits of the San Benito River. The bedrock underlying the remainder of the site includes predominately brown sandstone with some interbedded siltstone and shale belonging to the Purisima Formation of Tertiary age (Kilburn 1972). The San Andreas Fault Zone is located to the south of the Project Site, and the Sargent and Calaveras Fault Zones are located to the north.

The San Juan Valley has a climate typical of Central Coast California inland valleys, receiving most of its rainfall in the winter season, from October to April. The mean annual rainfall at the Project Site and the surrounding watersheds is estimated to be approximately 15 inches based on rainfall mapping adopted by San Benito County as Figure 23.31.041(1) set forth in Section 23.31.041(G) of Title 23 (Subdivision Ordinance) in San Benito County Code of Ordinances.

**b. Drainage.** The Project Site lies within the approximately 1,300-square mile Pajaro River Watershed. The watershed includes portions of Santa Cruz, Santa Clara, San Benito, and Monterey Counties. Tributaries to the Pajaro River, the largest of which is the San Benito River, serve as the major routes for surface flow and drainage throughout the watershed (Pajaro River Watershed Flood Prevention Authority 2014).

Upstream from the Project Site are a number of hillside drainages that flow through the site and ultimately discharge downstream from the northwest corner of the Project Site. With the exception of the golf course and associated facilities, the upstream watersheds are largely undeveloped with a total area of approximately 6.5 square miles (4,200 acres) (Balance Hydrologics, Inc. 2013). As described in the *Preliminary Stormwater Control Plan* for the proposed Project (Balance Hydrologics, Inc. 2013), runoff from the Project Site and upstream watersheds are conveyed through a series of downstream agricultural ditches that generally flow north and west past San Juan Bautista, ultimately discharging approximately seven miles downstream to the San Benito River near the confluence with the Pajaro River. Along the eastern portion of the Project Site, the upland watersheds are characterized by clearly defined flow paths that generally run from

south to north and discharge towards the on-site golf course. Prior to discharging to the golf course, most of these drainages flow through stormwater basins that were constructed to reduce flood flows and minimize sediment and debris delivered to the golf course.

Runoff is conveyed across the golf course through a series of open channels, underground storm drains, and golf course ponds. Most of the golf course ponds hold water year round and are used for irrigation purposes and provide an aesthetic benefit to the golf course. Given their minimal storage capacity above the normal operating water level, these ponds are not anticipated to provide any significant level of flow control during flood events. Two possible exceptions to this assumption include the large existing stormwater basin that was constructed to the northwest of the clubhouse and designed specifically to detain peak flood flows from the parking lots, and a relatively deep depression located southeast of the golf course maintenance building that is anticipated to retain runoff during moderately sized flood events (Balance Hydrologics, Inc. 2013).

Most of the channels that flow onto and through the golf course discharge to a drainage ditch that flows along the northwest boundary of the Project Site. The southwest portion of the golf course and upslope drainages discharge into a well-defined channel that flows onto the series of shallow alluvial fans that cover the northwest portion of the Project Site. As this channel flows west across alluvial fans, it loses form and disperses flow across the shallow grass plain. During large storm events, these flows collect in an area of shallow ponding at the northwest corner of the site that overtops into the same drainage ditch that conveys flows from the majority of the golf course (Balance Hydrologics, Inc. 2013).

**c. Flood Hazards.** There are three general origins for flood hazards in the County. The first includes flooding along river and stream floodplains from excess storm runoff. The second includes flooding that might follow landslide blockage of stream canyons. The third is potential flooding of low-lying lands downstream of dams in the event of a dam failure. Possible dam failure mechanisms in this region include earthquakes and landslides.

Floodplains. Flooding along river and stream corridors is a natural occurrence in the major river valleys and tributary basins within San Benito County. The largest low-lying area of the County is at its north end. In this area the topography between the Gabilan Range to the west and the Diablo Range to the east is dominated by two structural basins, the San Juan Valley and the Hollister Valley. The generally level topography on these valley floors contributes to flooding from water rising above (or flowing around) streambanks or levees and spreading out over large areas. However, the valley margins have low foothills and sloping alluvial fans. The southern portion of the County has relatively confined valleys and narrow tributary canyons, with local basins and floodplains at moderate elevations within the watersheds.

The Federal Emergency Management Agency (FEMA) establishes base flood heights for the 100-year flood zone (not including flooding from dam failure). The 100-year flood zone is defined as the area that could be inundated by the flood which has a one percent probability of occurring in any given year. The Project Site is not located within a flood hazard zone, as defined by FEMA. The Project Site is located several miles south of the 100-year flood zone for the San Benito River, which is the nearest 100-year flood zone to the Project Site.

Landslide Blockage. In the headwater areas, steep terrain, narrow canyons, and unstable geologic materials can result in landslides that temporarily block drainage. These temporary blockages can then fail, thereby releasing sediment-laden floodwaters.

Dam Failure Inundation. Several dams in or adjacent to San Benito County provide beneficial water supply storage and serve irrigation and recreation needs. However, the reservoirs could inundate portions of the County in the event of a dam failure. Dam failure can occur as a result of various natural or human causes. Dams are evaluated regularly to verify their structural integrity, including additional stresses that may result from local or regional earthquakes.

Flooding associated with dam failure on one of the local or upstream dams has a low probability for occurrence. The dams and reservoirs affecting San Benito County include several that are isolated in remote valleys and two (San Justo and Leroy Anderson Dams) that are larger and close to populated areas. Little damage would be expected from a complete failure of the Hernandez Reservoir or other remotely located reservoirs in San Benito County in terms of existing developed areas and/or existing infrastructure.

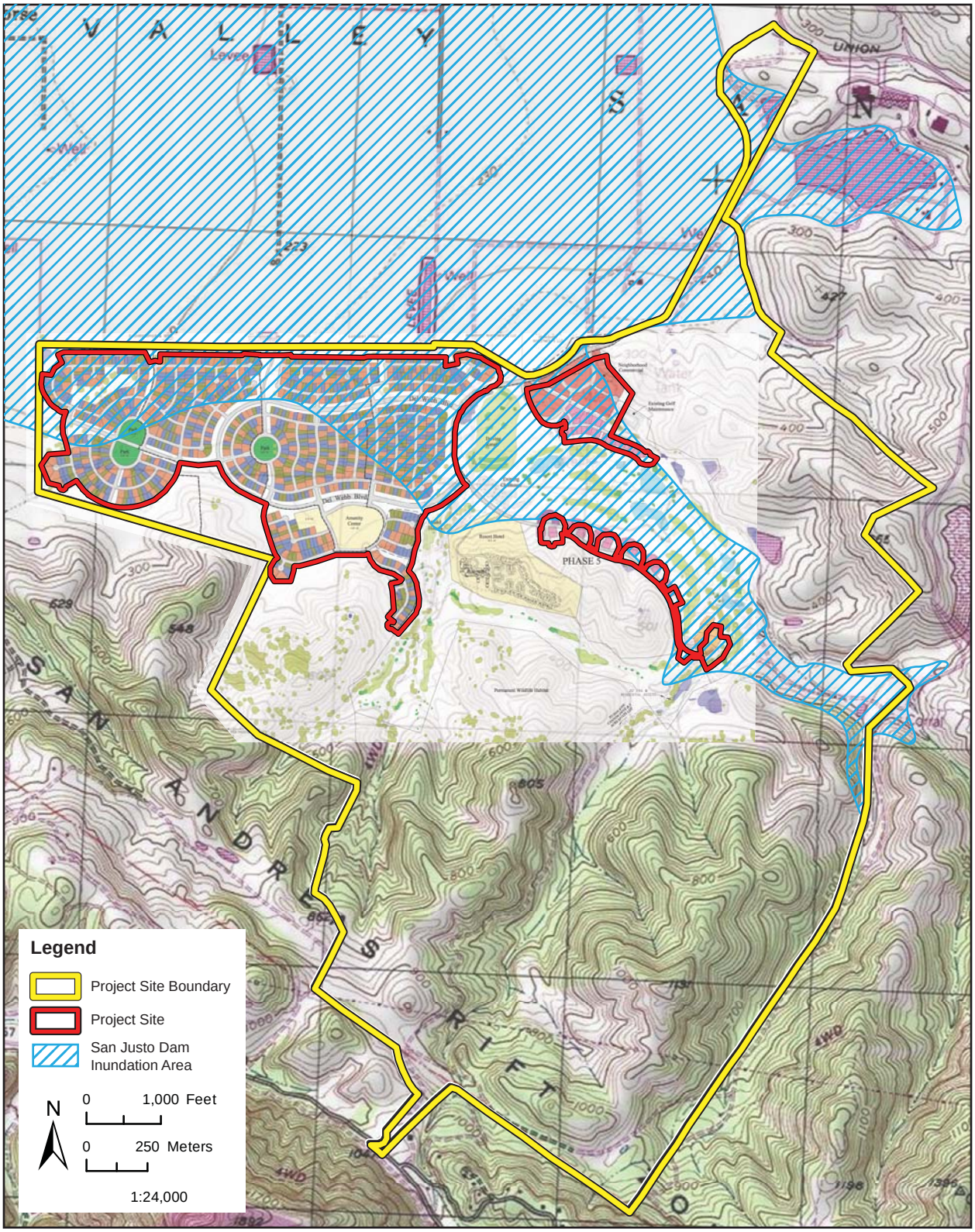
The San Justo Reservoir is located immediately upstream of the boundary of the Project Site to the east. The San Justo Dam is an earthfill structure approximately 151 feet high with a crest length of approximately 1,116 feet, and the reservoir has a capacity of approximately 9,785 acre-feet (Bureau of Reclamation 2011). The U.S. Department of Interior, Bureau of Reclamation, publishes dam failure inundation maps for all facilities. The map detailing potential dam failure inundation for the San Justo Reservoir is included as Figure 4.9-1. Approximately 422 acres (or 22.2%), mostly in the northern and eastern areas of the Project Site are located within the mapped inundation area of the dam.[1] The San Justo Dam has been constructed to withstand a maximum credible earthquake (MCE) of 7.5 from the San Andreas Fault, based upon extensive geological and geotechnical studies (Bureau of Reclamation 1995). The dam is inspected regularly and is certified as safe by the United States Department of Interior, Bureau of Reclamation. In the unlikely event of a catastrophic failure of the dam, the maximum water velocity through the affected portion of the Project Site could be as great as 40 feet per second, with depth of inundation ranging from seven to 14 feet.

The Leroy Anderson Dam is located approximately 25 miles north of the Project Site in Morgan Hill. The Project Site is not located within the dam inundation area of the Leroy Anderson Dam (Santa Clara Valley Water District, 2009).

Emergency planning and preparedness by the San Benito County Office of Emergency Services (OES) includes consideration of possible dam failure inundation areas.

**d. Water Quality**. The protection of water quality within the Gilroy-Hollister Groundwater Basin is under the jurisdiction of the Central Coast Regional Water Quality Control Board (RWQCB). The RWQCB establishes requirements that prescribe the discharge limits and establish water quality objectives through the Water Quality Control Plan for the Central Coast. Water quality characteristics typically measured include pH, total dissolved solids, levels of

[1] *The inundation acreage and commensurate percentages were estimated based on measurements and GIS files from US Bureau of Reclamation maps.*




*Imagery provided by ESRI and its licensors, 2013. USGS Topo, Copyright:© 2013 National Geographic Society, i-cubed, Hollister Quadrangle. The topographic representation depicted in this map may not portray all of the features currently found in the vicinity today and/or features depicted in this map may have changed since the original topographic map was assembled.*

*Source: US Bureau of Reclamation*

Potential Dam Failure Inundation

Figure 4.9-1

herbicides and pesticides, sediment levels, vehicle-related oils, and chemicals such as chloride, sulfate, and nitrate. Water quality objectives are established based on the designated beneficial uses for a particular surface water or groundwater basin. Beneficial uses of water resources include habitat, municipal and domestic water supply, agricultural supply, groundwater recharge, fishing and water contact recreation.

*Surface Water Quality.* The existing land uses at the Project Site are a source of nutrients, sediment, and other chemicals that can be carried by storm and irrigation flows off the Project Site. The Project Site contains an existing golf course and related facilities, grazed lands, agricultural areas, and open space areas. The existing on-site golf course may contribute non-point source runoff including sediment, nutrients, and trace amounts of pesticides and herbicides. These potential sources are monitored and managed by the Rancho San Justo Company in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit. This includes structural and non-structural control measures and best management practices (BMPs) to control pollutants entering the stormwater system during operation of the golf course. The areas currently utilized for grazing and agricultural production may contribute suspended sediment, fertilizers, herbicides, fecal coliform, and other agricultural residues to the local drainage channels and eventually flow into San Juan Creek or percolate to the groundwater in recharge areas.

**e. Regulatory Setting.**

Federal.

*Clean Water Act (CWA)*. The CWA, enacted in 1972, regulates the discharge of pollutants to waters of the United States from any point source. Section 401 of the CWA requires water quality certification for any activity, including the construction or operation of a facility, which may result in any discharge into navigable waters (Title 33 CFR §1341). Section 404 of the CWA requires a permit for the discharge of dredged fill material into navigable waters at specified disposal sites (Title 33 CFR §1344). In 1987, amendments to the CWA added Section 402(p), which establishes a framework for regulating non-point source stormwater discharges under the NPDES. The NPDES stormwater program is further described below under the "State Regulations" subsection.

*Federal Emergency Management Agency*. FEMA is a former independent agency that became part of the Department of Homeland Security in March 2003 and is tasked with responding to, planning for, recovering from, and mitigating against disasters. Formed in 1979, FEMA is responsible for determining flood elevations and floodplain boundaries based on U.S. Army Corps of Engineers studies and approved agencies' studies and for coordinating the federal response to floods, earthquakes, hurricanes, and other natural or man-made disasters. FEMA also provides disaster assistance to states, communities and individuals. FEMA distributes the Flood Insurance Rate Maps (FIRMS), which identify the locations of special flood hazard areas (SFHAs), including the 100-year flood zone. Executive Order 11988 (Flood Plain Management) links the need to protect lives and property with the need to restore and preserve natural and beneficial flood plain values. Specifically, federal agencies are directed to avoid conducting, allowing, or supporting actions on the base floodplain unless the agency finds that the base floodplain is the only practicable alternative location. Similarly, Department of Transportation (DOT) Order 5650.2, which implements Executive Order 11988 and was issued pursuant to the National Environmental Policy Act of 1969, the National Flood Insurance Act of

1968, and the Flood Disaster Protection Act of 1973, prescribes policies and procedures for ensuring that proper consideration is given to avoidance and mitigation of adverse floodplain impacts in agency actions, planning programs, and budget requests.

State.

*Water Board*. The California State Water Resources Control Board (SWRCB) and the nine RWQCBs have the responsibility in California to protect and enhance water quality, both through their designation as the lead agencies in implementing the Section 319 non-point source program of the federal Clean Water Act, and through the state's primary water pollution control legislation, the Porter-Cologne Water Quality Control Act. The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The RWQCBs develop and implement Water Quality Control Plans (Basin Plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. All projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code and are required to obtain approval of Waste Discharge Requirements (WDRs) by the RWQCBs. Land and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of privately or publicly treated domestic wastewater and process and wash-down wastewater. WDRs for discharges to surface waters also serve as NPDES permits, which are further described below.

The Central Coast (Region 3) office of the RWQCB guides and regulates water quality in streams and aquifers throughout the central coast of California and the Monterey Bay region, including San Benito County, through designation of beneficial uses, establishment of water quality objectives, and administration of the NPDES permit program for stormwater and construction site runoff. The RWQCB is also responsible for providing permits and water quality certifications (Section 401) pursuant to the CWA.

All dischargers of waste to waters of the State are subject to regulation under the Porter-Cologne Act and the requirement for WDRs is incorporated into the California Water Code. This includes both point and non-point source (NPS) dischargers. All current and proposed NPS discharges to land must be regulated under WDRs, waivers of WDRs, a basin plan prohibition, or some combination of these administrative tools. Dischargers of waste directly to state waters would be subject to an individual or general NPDES permit, which also serve as WDRs. The RWCQBs may issue individual WDRs to cover individual discharges or general WDRs to cover a category of discharges. WDRs may include effluent limitations or other requirements that are designed to implement applicable water quality control plans, including designated beneficial uses and the water quality objectives established to protect those uses and prevent the creation of nuisance conditions. Violations of WDRs may be addressed by issuing Cleanup and Abatement Orders or Cease and Desist Orders, assessing administrative civil liability, or seeking imposition of judicial civil liability or judicial injunctive relief.

Construction activity on projects that disturb one or more acres of soil, or less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, must comply with the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). 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 a facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Program (SWPPP). The SWPPP should identify stormwater collection and discharge points, drainage patterns across the Project, and best management practices (BMPs) that the discharger will use to protect stormwater runoff and the placement of those BMPs.

As mandated by Section 303(d) of the federal Clean Water Act, the SWRCB maintains and updates a list of "impaired water bodies" (i.e., water bodies that do not meet State and Federal water quality standards). This list is known as the Section 303(d) list of impaired waters. The State is then required to prioritize waters/watersheds for development of Total Maximum Daily Load (TMDL) regulations. This information is compiled in a list and submitted to the U.S. Environmental Protection Agency for review and approval. The SWRCB and RWQCBs monitor and assess water quality on an ongoing basis. According to the 2010 Integrated Report [CWA Section 303(d) List/305(b) Report], the water quality of sections of the San Benito River and Tres Pinos Creek is impaired.

Local.

*San Benito County*. The portion of the Gilroy-Hollister Groundwater Basin within the County is managed by the SBCWD. The District Act, passed by the State Legislature in 1953, established SBCWD and provided for SBCWD to have formal responsibility for the management of surface and groundwater resources and flood control in the County. SBCWD is active in regional water management planning, including the Pajaro Watershed Integrated Regional Water Management Plan with Santa Clara Valley Water District and Pajaro Valley Water Management Agency. It also collaborated with the City of Hollister and Sunnyslope County Water District to prepare the Hollister Area Urban Water Management Plan. SBCWD also has active programs, often in cooperation with other agencies, to conduct various investigations and promote water conservation, irrigation efficiency, salt management, and water recycling. SBCWD is the designated Enforcing Agency for the inspection and enforcement of water related ordinances, as defined in County Code Section 15.05.002, of Title 15 (Public Works), Chapter 15.05 (Water Ordinance). SBCWD produces annual groundwater reports summarizing their activities.

*Current Adopted San Benito County General Plan.* The existing, adopted San Benito County General Plan (1985), Open Space and Conservation Element provides the following goals, policies and objectives to protect surface water quality and groundwater:

*Policy 7* *Grading, erosion, and native tree removal. It is the policy of the County to minimize erosion resulting from grading and cutting and native tree removal for all development proposals.*

*Policy 8* *Development in drainage basins. It is the County's policy to minimize development/uses within drainage basins that could alter the path of watercourses and impede groundwater recharge.*

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| *Policy 9* | *Water quality improvement. It is the policy of the County to cooperate with the Regional Water Quality Control Board to improve water quality problems identified for the County, to maintain water quality on all drainage, and to develop policies and programs for the protection and enhancement of habitat for fish on major tributaries to the Pajaro River (San Benito River, Pacheco Creek) and water quality in the Silver Creek watershed.* |
| *Policy 30* | *Water quality from development. It is the policy of the County to require development projects that could contribute to the contamination and/or degradation of groundwater quality to be redesigned to avoid significant impacts.* |
| *Policy 31* | *Wastewater treatment. Wastewater treatment systems shall be designed to ensure the long-term protection of groundwater resources in San Benito County. Septic systems shall be limited to areas where sewer services are not available and where it can be demonstrated that septic systems will not contaminate groundwater. Every effort should be made in developing and existing developed areas to reduce the use of septic systems in favor of domestic wastewater treatment. Domestic wastewater treatment systems shall be required to use tertiary wastewater treatment as defined by Title 22.* |
| *Policy 32* | *Groundwater studies for new development. To prevent overdrafting in San Benito County, a groundwater development plan shall be required for appropriate new development proposals.* |
| *Policy 33* | *Water conservation. To ensure more efficient use of groundwater resources it will be the policy of the County to require conservation of water resources in San Benito County and encourage inter-agency conservation to develop policies and programs for the protection and enhancement of habitat for fish on major tributaries to the Pajaro River (San Benito River, Pacheco Creek).* |
| *Policy 34* | *Evidence water quality and quantity for development: Approval of new developments shall not be allowed without evidence of adequate water quality and quantity.* |
| *Goal 7* | *Environmental Hazards. To discourage development in areas that are environmentally hazardous.* |
| *Objective 4* | *Environmental Hazards. To utilize flood prone areas for open space purposes in order to protect the health and safety of residents and property of the County, to maximize groundwater recharge, and to protect wetland resources.* |
| *Objective 6* | *Develop standards to reduce erosion resulting from grading or cutting* |
| *Policy 37* | *Development policy for hazardous areas. It will be the policy of the County to limit densities in areas that are environmentally hazardous (fault, landslides/erosion, hillsides over 30% slope, flood plains) to levels that are acceptable for public health and safety for citizens and property. It is the County's policy to apply zoning categories, and scenic easements for the protection of environmentally hazardous or aesthetically valuable resources.* |

*Policy 42* *Flood hazard. One of the County's prime responsibilities is for the health, safety, and welfare of its citizens and property. Because the County recognizes the inherent dangers of construction or development within a flood prone area, it shall be the County's policy to discourage development within areas identified as potential flood hazard areas. Furthermore, it is the County's policy to protect and preserve the 100-year flood plain on the most recent adopted FEMA maps or other maps as wetland resources, watersheds, and tributaries as natural resources for water supply, groundwater recharge, riparian habitat, and fishes.*

*Policy 43* *Reduce effects of flooding from development. It is the County's policy to take measures to reduce potential effects of flooding from new development and encourage flood control improvements.*

*Draft 2035 General Plan Update.* The proposed (but not yet adopted) Draft 2035 General Plan Update Land Use Element, Circulation Element, Public Facilities and Services Element, Natural and Cultural Resources, and Health and Safety Element provide the following goals, policies and objectives pertaining to hydrology and water quality. Because the Draft 2035 General Plan Update has not yet been adopted by the Board of Supervisors, these policies are included for informational purposes only.

*Land Use Element:*

*LU-1.8* *Site Plan Environmental Content Requirements. The County shall require all submitted site plans, tentative maps, and parcel maps to depict all environmentally sensitive and hazardous areas, including: 100-year floodplains, fault zones, 30 percent or greater slopes, severe erosion hazards, fire hazards, wetlands, and riparian habitats.*

*LU-1.10* *Development Site Suitability. The County shall encourage specific development sites to avoid natural and manmade hazards, including, but not limited to, active seismic faults, landslides, slopes greater than 30 percent, and floodplains. Development sites shall also be on soil suitable for building and maintaining well and septic systems (i.e., avoid impervious soils, high percolation or high groundwater areas, and provide setbacks from creeks). The County shall require adequate mitigation for any development located on environmentally sensitive lands (e.g., wetlands, erodible soil, archaeological resources, important plant and animal communities).*

*LU-4.3* *Residential Density Reductions. The County shall consider reducing the base density of a proposed residential development project if a combination of environmental hazards (e.g., fire, seismic, flooding, greater than 30 percent slope) and/or natural resources (e.g., sensitive habitat, wetlands) existing on the site, after consideration of the mitigations to be implemented to address those hazards, make higher densities less appropriate.*

*LU-4.7* *Clustered Residential Site Layout. The County shall encourage clustered residential development be designed to respect existing natural features (e.g., rivers and streams, hills and ridge lines, and substantial tree stands) as appropriate to the density and character of the development, and if applicable to use such features to separate clustered parcels from farming areas.*

*Circulation Element:*

*C-1.19* *Avoid Hazardous Areas. The County shall ensure that road development is minimized in hazardous areas (e.g. faults, flood plains, landslide areas, fire hazard areas) and that, if a hazard is present within a planned road alignment, the planned alignment is modified to the extent feasible to avoid the hazard.*

*Public Facilities and Services Element:*

*Goal PFS-1* *To provide residents and businesses quality, cost-effective, and sustainable public facilities and services.*

*PFS-1.9* *Development Review. The County shall evaluate facility capacity, levels of service, and/or funding needs during the development review process to ensure adequate levels of service and facilities are provided and maintained.*

*PFS-1.10* *Maximize Use of Existing Facilities. The County shall require new development projects to be designed and sited to use existing facilities and services to the extent practical and to the extent that such a design and site choice would be consistent with good design principles.*

*PFS-1.11* *Pay Fair Share. The County shall require new development to pay in fair share of public facility and service costs.*

*PFS-1.12* *New Development Requirements. The County shall require new development, in compliance with local, State, and Federal law, to mitigate project impacts associated with public facilities and services, including, but not limited to, fire, law enforcement, water, wastewater, schools, infrastructure, roads, and pedestrian and bicycle facilities through the use of annexation fees, connection fees, facility construction/expansion requirements, or other appropriate methods.*

*Goal PFS-3* *To ensure reliable supplies of water for unincorporated areas to meet the needs of existing and future agriculture and development, while promoting water conservation and the use of sustainable water supply sources.*

*PFS-3.1* *Water District Support. The County shall support efforts of the San Benito County Water District to ensure that adequate high-quality water supplies are available to support current residents and businesses and future development projects.*

*PFS-3.3* *Water Rights Protection. The County shall support public and private water agencies in their efforts to protect their water rights and water supply contracts, including working with Federal and State water projects to protect local water rights.*

*PFS-3.5* *Water Supply Development. The County shall support plans to develop new reliable future sources of supply, including, but not limited to, the expansion of surface water storage and conjunctive use of surface water and groundwater, while promoting water conservation and water recycling/reuse.*

*PFS-3.7* *Groundwater Management. The County shall support cooperative, regional groundwater management planning by water resource agencies, water users, and other affected parties to ensure a sustainable, adequate, safe, and economically viable groundwater supply for existing and future uses within the county.*

*Goal PFS-4* *To maintain an adequate level of service in the water systems serving unincorporated areas to meet the needs of existing and future agriculture and development, while improving water system efficiency.*

*PFS-4.1* *Adequate Water Treatment and Delivery Facilities. The County shall ensure, through the development review process, that adequate water supply, treatment and delivery facilities are sufficient to serve new development, and are able to be expanded to meet capacity when needed. Such needs shall include capacities necessary to comply with water quality and public safety requirements.*

*PFS-4.2* *Water Facility Infrastructure Fees. As a condition of approval for discretionary developments, the County shall not issue approval for a final map until verification of adequate water and wastewater service has been provided, which may include verification of payment of fees imposed for water and wastewater infrastructure capacity per the fee payment schedule from the water and wastewater provider.*

*Goal PFS-5* *To ensure wastewater treatment facilities and septic systems are available and adequate to collect, treat, store, and safely dispose of wastewater.*

*PFS-5.1* *Water and Sewer Expansion. The County shall encourage public wastewater system operators to maintain and expand their systems to meet the development needs of the county.*

*PFS-5.3* *Adequate Water Treatment and Disposal. The County shall ensure through the development review process that wastewater collection, treatment, and disposal facilities are sufficient to serve existing and new development, and are able to be expanded to meet capacity demands when needed.*

*PFS-5.4* *Developer Requirements. The County shall require that new development meet all County requirements for adequate wastewater collection, treatment, and disposal prior to project approval.*

*Goal PFS-6* *To manage stormwater from existing and future development using methods that reduce potential flooding, maintain natural water quality, enhance percolation for groundwater recharge, and provide opportunities for reuse.*

*PFS-6.1* *Adequate Stormwater Facilities. The County shall require that stormwater drainage facilities are properly designed, sited, constructed, and maintained to efficiently capture and dispose of runoff and minimize impacts to water quality.*

*PFS-6.2* *Best Management Practices. The County shall require best management practices in the development, upgrading, and maintenance of stormwater facilities and services to reduce pollutants from entering natural water bodies while allowing stormwater reuse and groundwater recharge.*

*PFS-6.3* *Natural Drainage Systems. The County shall encourage the use of natural storwmater drainage systems (e.g., swales, streams) to preserve and enhance the environment and facilitate groundwater recharge.*

*PFS-6.4* *Development Requirements. The County shall require project designs that minimize stormwater drainage concentration and impervious surfaces, complement groundwater recharge, avoid floodplain areas, and use natural watercourses in ways that maintain natural watershed functions and provide wildlife habitat.*

*PFS-6.5* *Stormwater Detention Facilities. Where necessary, the County shall require o-site detention/retention facilities and/or velocity reduces to maintain pre-development runoff flows and velocities in natural drainage systems.*

*PFS-6.6* *Stormwater Detention Basin Design. The County shall require stormwater detention basins to be designed to ensure public safety, be visually unobtrusive, provide temporary or permanent wildlife habitat, and where feasible, provide recreation opportunities.*

*PFS-6.7* *Runoff Water Quality. The County shall require all drainage systems in new development and redevelopment to comply with applicable State and Federal non-point source pollutant discharge requirements.*

*PFS-6.8* *Reduce Erosion and Sedimentation. The County shall ensure that drainage systems are designed and maintained to minimize soil erosion and sedimentation and maintain natural watershed functions.*

*Natural and Cultural Resource Element:*

*NCR-4.5* *Groundwater Recharge. The County shall encourage new development to preserve, where feasible, areas that provide important groundwater recharge and stormwater management benefits such as undeveloped open spaces, natural habitat, riparian corridors, wetlands, and natural drainage areas.*

*NCR-4.6* *Groundwater Studies for New Development. To ensure an adequate water supply, large-scale development projects that meet the criteria in California Water Code section 10912 shall prepare an analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the proposed projected water demand associated with the proposed project in accordance with SB 610.*

*NCR-4.7* *Best Management Practices. The County shall encourage new development to avoid significant water quality impacts and protect the quality of water resources and natural drainage systems through site design, source controls, runoff reduction measures, and best management practices (BMPs).*

*NCR-4.10* *Water Efficient Landscape Ordinance. The County shall develop, maintain, and implement a Water Efficient Landscape Ordinance, consistent with the Model Water Efficient Landscape Ordinance prepared by the California Department of Water Resources, to require greater use of regionally native drought-tolerant vegetation, limitations on the amount of turf in residential development, and other measures as appropriate.*

*NCR-4.11* *Reclaimed Water. The County shall require, where feasible, the use of reclaimed water irrigation systems in new development wherever possible.*

*NCR-4.12* *Rainwater Catchment. The County shall encourage homeowners to install roof catchment systems and use rainwater for non-potable uses in order to reduce the need for groundwater.*

*Health and Safety Element:*

*HS-1.7* *Multi-Hazard Mitigation Plan. The County shall develop, maintain, and implement a Multi-Hazard Mitigation Plan to address disasters such as earthquakes, flooding, dam or levee failure, hazardous material spills, epidemics, fires, extreme weather, major transportation accidents, and terrorism.*

*HS-1.14* *Development Restrictions in High Risk Areas. The County shall discourage development in areas that may be more severely impacted by climate change, including areas at high risk of wildfire or flooding, unless proper design mitigation is included in the project.*

*Goal HS-2* *To minimize the loss of life, injury, or damage to property as a result of floods in the county.*

*HS-2.1* *Minimum Flood Protection. The County shall require a minimum 100-year flood protection for all new development in accordance with local, State, and Federal requirements to avoid or minimize the risk of flood damage.*

*HS-2.2* *Development in Dam Inundation Areas. The County shall encourage, to the extent feasible, new development located in dam inundation areas to consider and mitigate the risks from dam failure.*

*HS-2.3* *Floodwater Diversion. The County shall require new flood control projects or developments within areas subject to 100- year floods to be constructed in a manner that will not cause floodwaters to be diverted onto adjacent property or increase flood hazards to property downstream.*

The consistency of the Project with applicable County General Plan and Draft 2035 General Plan Update hydrology goals, policies and objectives, including key policies listed above is evaluated in Section 4.10, *Land Use*. However, with respect to the Draft 2035 General Plan Update, because it has not been adopted by the Board of Supervisors as of the writing of this SEIR, this consistency analysis is provided for informational purposes only.

*San Benito County Code of Ordinance.* Chapter 19.17 (Grading, Drainage and Erosion Control Ordinance) of Title 19 (Land Use and Environmental Regulations) of the San Benito County Code of Ordinances sets forth rules and regulations to control excavation, grading, drainage, and erosion, establishes the administrative procedure for issuance of permits, and provides for approval of plans and inspection of grading construction, drainage measures, and erosion control methods. Pursuant to Section 19.17.011(c), in granting a grading permit, the County may attach such conditions as necessary to prevent creation of a public nuisance or hazard to public or private property. The conditions may include, but are not limited to:

- The use of check dams, cribbing, rip rap or other devices to prevent erosion;
- Application of mulching, fertilizing, watering or other methods to establish new vegetation, and stockpiling and reapplication of top soil;
- Restricting the locations of where earth or organic material may be deposited;
- Requiring the preparation of erosion control plans indicating proposed methods for the control of runoff, erosion and sediment control;
- Requiring the preparation of revegetation plans detailing the revegetation of all exposed surfaces during development; and
- Requiring the preparation of drainage plans that include on-site retention of water to pre-development levels.

Increases in peak stormwater flows are addressed in the San Benito County Code of Ordinances, Title 23 (Subdivision Ordinance), Chapter 23.31 (Improvement Designs), Article III (Storm Drainage Design Standards). These standards focus on the 100-year design storm standard for the sizing of detention basins used to provide peak flow attenuation.

### 4.9.2 Previous Environmental Review

The 2003 *San Juan Oaks Golf Club General Plan Amendment/Zone Change/Vesting Tentative Subdivision Map EIR* (2003 EIR) examined the hydrological setting of the Project Site and vicinity and the potential significant impacts resulting from development under the San Juan Oaks Golf Club General Plan Amendment/Zone Change/Vesting Tentative Subdivision Map Project. The 2003 EIR concluded that impacts related to erosion; stormwater transport of pollutants, bacteria, salts and sediments into downstream facilities; and impacts related to inundation due to dam failure were potentially significant. Mitigation measures for each impact were noted as applying to future development on the Project Site, reducing all identified impacts to less than significant levels. The 2003 San Juan Oaks Golf Club project included a General Plan Amendment/Zone Change/Vesting Tentative Tract Map. This previously approved project allowed for the development of 156 market rate residential units, 30 affordable units, a resort hotel, a village commercial site, a park, a permanent wildlife habitat/open space, an additional 18-hole golf course, and an additional nine-hole golf course. None of the previously approved uses have been constructed.

Although the 2003 EIR addressed hydrology and water quality impacts from the proposed Project, substantial changes to the previously approved 2003 San Juan Oaks Golf Club project are proposed as part of the Del Webb at San Juan Oaks Specific Plan Project.

The development footprint of the 2003 San Juan Oaks Golf Club Project and the current proposed Project are substantially similar, as shown in Figure 1-1 in Section 1.0, *Introduction*. However, substantial changes to the previously approved 2003 San Juan Oaks Golf Club project are proposed as part of Del Webb at San Juan Oaks Specific Plan Project. Specifically, the Del Webb at San Juan Oaks Specific Plan Project proposes to increase the previously approved overall impervious building area from approximately 193 acres to approximately 323 acres, increase the total number of residential dwellings from 186 single-family residential dwellings to 1,084 single-family residential dwellings, increase the neighborhood commercial area from approximately seven acres to approximately 14 acres, increase roadway areas from approximately 44 acres to approximately 88 acres, increase the permanent wildlife habitat/open space from approximately 1,163 acres to approximately 1,243 acres, and develop an approximately ten-acre amenity center. In addition, the Project provides for the permanent preservation of approximately 153 acres of off-site prime agricultural land.

These proposed changes have the potential to substantially increase the severity of the previously identified impacts on hydrology and water quality. Therefore, the following impact analysis has been prepared pursuant to Public Resources Code Section 21166 and CEQA Guidelines Section 15162 (a).

## 4.9.3 Impact Analysis

**a. Methodology and Significance Thresholds.** Assessment of hydrologic and water quality impacts is based on a review of site topography, Todd Groundwater's evaluations of the groundwater regime (2013; 2014), a preliminary hydrogeologic evaluation of the site previously conducted by Geoconsultants, Inc. (2002), the *Preliminary Stormwater Control Plan* for the proposed Project prepared by Balance Hydrologics, Inc. (2013), a Water Supply Assessment (WSA) prepared for the Project (Tully & Young 2015). The *Preliminary Stormwater Control* Plan was peer reviewed by Rincon Consultants, Inc. Flooding risk was determined using a combination of a Federal Insurance Rate Maps for the area, information posted on the FEMA web site, and information from the U.S. Bureau of Reclamation.

According to Appendix G of the *State CEQA Guidelines*, hydrology and water quality impacts related to the proposed Project would be considered significant if the Project would:

1) *Violate any water quality standards or waste discharge requirements;*
2) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;*[2]
3) *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;*
4) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*

[2] *This threshold is addressed in Section 4.14, Utilities and Service Systems.*

5) *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;*
6) *Otherwise substantially degrade water quality;*
7) *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;*
8) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows;*
9) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam;*
10) *Be subject to inundation by seiche, tsunami, or mudflow; and/or*
11) *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*[3]

It should be noted that the Project Site is not located within a 100-year flood hazard area and would not be subject to inundation by seiche, tsunami, or mudflow. Therefore, threshold numbers 7, 8, and 10 are not discussed further in this section, but details are provided in Section 4.15, *Effects Found Not to Be Significant.* Threshold number 2 is discussed in Section 4.14, *Utilities and Service Systems.* Threshold numbers 1, 3 through 6, 9, and 11 are discussed below.

**b. Project Impacts and Mitigation Measures.**

**Impact HWQ-1 During Project construction, the soil surface would be subject to erosion and the downstream watershed would be subject to pollution. This is a Class II, *significant but mitigable* impact. [Threshold numbers 1 and 5]**

Grading associated with construction of each phase of the Project would temporarily expose bare soil, which could be removed from the site and transported through the drainages on and downstream of the site. Construction wastes, paving materials, heavy equipment fuels, lubricants and solvents, or products of incomplete combustion, could also contribute to water pollution. Uncontrolled discharges of sediment and other pollutants could create temporary adverse effects to water quality in downstream surface waters, including San Juan Creek.

As discussed in Section 4.9.1(e) (Regulatory Setting), construction activity on projects that disturb one or more acres of soil (such as the proposed Project) are required to comply with the NPDES program through preparation of a Storm Water Pollution Prevention Program (SWPPP), which outlines BMPs that would address construction-related runoff. BMPs that are typically specified within the SWPPP may include, but would not be limited to, the following:

- *The use of sandbags, straw bales, and temporary de-silting basins during project grading and construction during the rainy season to prevent discharge of sediment-laden runoff into storm water facilities.*

[3] *This threshold is taken from the Utilities and Service Systems section of State CEQA Guidelines Appendix G.*

- *Revegetation as soon as practicable after completion of grading to reduce sediment transport during storms.*
- *Installation of straw bales, wattles, or silt fencing at the base of bare slopes before the onset of the rainy season (October 15th through April 15th).*
- *Installation of straw bales, wattles, or silt fencing at the project perimeter and in front of storm drains before the onset of the rainy season (October 15th through April 15th).*

In addition, Chapter 19.17 (Grading, Drainage and Erosion Control Ordinance) of Title 19 (Land Use and Environmental Regulations) of the San Benito County Code of Ordinances regulates grading, drainage, and erosion. This chapter contains requirements regarding discharge and construction site stormwater runoff control.

Implementation of a SWPPP and compliance with San Benito County Code Chapter 19.17 would partially reduce temporary impacts from construction activities. Despite these existing regulations, and given the size of the Project Site and extent of proposed development, it is anticipated that excavation and grading could result in erosion of soils and sedimentation, which could cause temporary impacts to surface water quality and therefore violate water quality standards or contribute additional sources of polluted runoff.

Mitigation Measures. The following mitigation measures are also required to further reduce construction related impacts to water quality.

**HWQ-1(a)** **Berms and Basins.** As a condition of approval of the amended vesting tentative tract map for the Project, the applicant shall be required to construct temporary berms and sediment basins in order to avoid unnecessary siltation into local streams during construction activities where grading and construction shall occur in the vicinity of such streams.

Photos showing berm and basin installation shall be provided to the Planning Department prior to issuance of building permits. Berms and basins shall be constructed when grading commences. The Project applicant shall sufficiently document, to the County's satisfaction, the proper installation of such berms and basins during grading.

**HWQ-1(b)** **Grading and Drainage Plans.** As a condition of approval of the amended vesting tentative tract map for the Project, the applicant shall be required to submit grading and drainage plans to the Planning and Public Works Departments, for approval. The grading and drainage plans shall be designed to minimize erosion and water quality impacts, to the extent feasible, and shall be consistent with the Project's SWPPP and Chapter 19.17 (Grading, Drainage and Erosion Control Ordinance) of the San Benito County Code. The plans shall include the following:

a. Graded areas shall be revegetated with deep-rooted, native, non-invasive drought-tolerant species to minimize slope failure and erosion potential. Geotextile binding fabrics shall be used if necessary to hold slope soils until vegetation is established;
b. Temporary storage of construction equipment shall be limited to a minimum of 100 feet away from drainages on the Project Site; and
c. Erosion control structures shall be installed.

As a condition of approval of the amended vesting tentative tract map, the grading and drainage plans shall be submitted for review and approval by the Planning and Public Works Departments. The applicant shall notify the Planning Department prior to commencement of grading. The notification shall be provided in writing, and indicate the date of planned grading commencement. Components of the grading plan shall be implemented prior to issuance of certificates of occupancy. The applicant shall photo document revegetation and provide sufficient documentation to the Planning Department to ensure compliance with the plan. The applicant shall provide sufficient documentation, to the County's satisfaction, that the technical aspects of the grading activities are being properly monitored. The applicant shall ensure installation of erosion control structures prior to beginning of construction of any structures, subject to review and approval by the County.

**HWQ-1(c)** **Grading Limitations.** As a condition of approval of the amended vesting tentative tract map for the Project, the applicant shall be required to limit excavation and grading to the dry season of the year (i.e., May to September) unless a County-approved erosion control plan is in place and all measures therein are in effect.

This requirement shall be noted on all grading and building plans. The Planning and/or Public Works Departments shall site inspect during grading, at the applicant's cost.

Significance After Mitigation. Implementation of the above mitigation measures and compliance with existing regulations would ensure that impacts from construction are less than significant level.

**Impact HWQ-2** **The proposed Project would increase stormwater runoff due to the increase in impervious surfaces in the Project Site. However, impacts would be Class III, *less than significant*. [Threshold numbers 3, 4, 5, and 11]**

The Project Site is comprised primarily of agricultural land, which is permeable (porous). The proposed Project would increase the area covered by impervious surfaces (i.e. roads, paving, rooftops), resulting in potential increases in surface runoff. Impervious surfaces added to the Project Site would include single family residences, the amenity center, the resort hotel, neighborhood commercial uses, and roadways. These areas total approximately 323 acres. These new impervious surfaces could increase runoff from the site, which could impact water quality down-gradient of the Project Site by increasing erosion or sedimentation and the quantity of flood water.

Portions of the Project Site that are proposed for development would also receive run-on from the already-developed portions of the site (namely the golf course clubhouse and support structures), as well as from adjacent drainages. The total watershed area that would need to be routed through the northwest portion of the Project Site is approximately 6.5 square miles (Balance Hydrologics, Inc. 2013).

As shown in Figure 4.6-2 in Section 4.6, *Geology/Soils*, the portion of the site proposed for development is comprised primarily of seven soil types: Antioch loam (2-5% slopes), Clear Lake clay, Cropley Clay (2-9% slopes), Diablo clay (9-15% slopes), Diablo clay (15-30% slopes, eroded), Salinas clay loam (0-2% slopes), and Willows sandy loam. As shown in Table 4.9-1, these soil types have moderately slow to very slow permeability.

**Table 4.9-1**
**Soil Permeability: Proposed Development Areas**

| Soil Name | Permeability |
|---|---|
| Antioch loam (2-5% slopes) | Very Slow |
| Clear Lake clay | Slow |
| Cropley Clay (2-9% slopes) | Slow |
| Diablo clay (9-15% slopes) | Slow |
| Diablo clay (15-30% slopes, eroded) | Slow |
| Salinas clay loam (0-2% slopes) | Moderately Slow |
| Willows sandy loam | Very Slow |

*Source: Natural Resource Conservation Service (NRCS) Soil Survey of San Benito County, 1969.*

The existing low permeability soils within the Development Areas would help to limit the impacts of newly added impervious areas on peak runoff rates from the Project Site (Balance Hydrologics, Inc. 2013). In addition, soils in the watershed areas upslope of the proposed Development Areas are generally characterized by soils that have moderate to high permeability (Balance Hydrologics, Inc. 2013). The relative permeability of upslope soils would reduce the magnitude and volume of the flows that need to be routed through the proposed Project's stormwater infrastructure.

The Project proposes to manage runoff through new on-site storm drains to new on-site detention basins. Existing on-site drainage channels would also be used to convey runoff to the proposed

detention basins. These existing on-site drainage features include natural channels located in the western portions of the site, and an existing man-made channel along the northern property boundary. In addition, 24 separate stormwater basins have been proposed, including 21 within the area to be developed with residential uses west of the golf course, and three basins within the golf course area.

The proposed drainage system was designed to match post-Project peak flow rates to pre-Project levels from the 2-, 10- and 100-year storm events at a point of compliance set in the drainage ditch near the northwest corner of the Project Site. To determine if the proposed on-site storm drains and detention basins would meet these standards, Balance Hydrologics (2013) prepared a hydrologic model consistent with the requirements set forth in the County Code of Ordinances (Chapter 23.31, Article III) and utilizing the Army Corps of Engineers' HEC-HMS software package. Modeled scenarios were developed for pre- and post-Project conditions and were run for the 2-, 10-, and 100-year design storms. Modeled peak flow rates in the drainage ditch at the northwest corner of the Project Site for pre-Project conditions were estimated as 79, 279, and 842 cubic feet per second (cfs) for the 2-, 10-, and 100-year design storm events respectively. These values can be compared to the post-Project conditions at that same location with estimated peak flow rates of 79, 268, and 789 cfs for the 2-, 10-, and 100-year design storm events respectively. The preliminary basin sizing analysis indicates that a combined additional detention volume of 63 acre-feet would satisfy the objective to match post-Project peak flow rates to pre-Project levels across a range of design storms at the terminal discharge location from the Project Site (Balance Hydrologics, Inc. 2013). The Project currently proposes 63 acre-feet of storage, and thus meets this requirement.[4] Further detail regarding the hydrologic modeling can be found in Appendix C.

In addition to the proposed basins, the following design features would be included to the maximum extent practicable and would further reduce runoff impacts:

- *Reduced street widths.* The Project proposes to use the minimum street widths compatible with safety of the residents and in conformance with the modified requirements of San Benito County, as proposed for adoption in the Project application.

- *Residential lot design.* All residential lots would be graded to drain towards the street so that runoff from individual homes is routed through treatment controls. Additional lot design measures will include holding driveway widths to the minimum necessary for achieving vehicle access and parking goals.

Other design features such as bioretention basins, in-ground planters, vegetated swales, and wet ponds would also serve to capture and treat runoff (refer to Impact HWQ-3 below for additional discussion of these design features and associated water quality impacts).

Based on the low permeability soils, sizing and design of the proposed detention basins, and other design features, impacts related to flooding and peak stormwater discharges would be less than significant.

*[4] The requirement for 63 AF of storage is based on modelled scenarios described in Appendix C. The exact volume required to meet the stated objectives and requirements would be refined during the construction document phase when each individual basin is designed. In the event that more volume is needed, the Project may elect to expand and modify additional existing basins located throughout the existing golf course.*

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

**Impact HWQ-3 Due to the intensification of uses proposed on the Project Site, there is the potential for storm water transport of pollutants, bacteria, salts, and sediment into downstream facilities. However, impacts would be Class II, *significant but mitigable*. [Threshold number 6]**

Construction of the Project would be expected to increase the quantities of pollutants potentially entering stream courses with runoff from parking lots and other impervious surfaces, golf course and other recreational areas, and landscaping. Receiving waters can be expected to assimilate a limited quantity of each constituent, but beyond certain thresholds the measured amount of the constituent is considered a pollutant. Major non-point source pollutants include: sediment, nutrients, trace metals, oxygen-demanding substances, bacteria, oil and grease. The most abundant heavy metals in urban stormwater are lead, zinc, and copper, which together account for 90% of the dissolved heavy metals. Heavy metals are generally vehicle related and influenced by traffic volumes.

Subsequent to Project construction, discharge from non-point sources on the Project Site would be conveyed to stormwater facilities. Stormwater quality is affected by several factors, including: the length of time that has elapsed since the previous precipitation, the volume of precipitation, the types and amounts of urban land uses in the area, and the quantity of transported sediment. The first flush of the storm occurring after the dry-season period generally contains the highest quantities of urban pollutant loads.

Development of the Project with residential, resort, recreational and commercial uses would be expected to increase the quantities of pollutants with runoff from streets, lawns, and gardens as well as other aspects of the Project. In addition, other activities that may increase pollutants due to site development include, without limitation: motor vehicle operations in the area, pesticide/herbicide/fertilizer uses, human littering, careless material storage and handling, and pavement disintegration, and domestic animal waste.

The Project proposes 24 separate detention basins. Runoff would be conveyed to the detention basins via new on-site storm drains and existing on-site drainage features (including a man-made channel along the northern property boundary and natural channels in the western portion of the site). The detention basins would serve to filter the runoff by routing flows across grassy areas to remove silts and oils from paved streets and other urbanized portions of the site. Water discharged from the detention basins could contain substantial quantities of contaminants, which would be considered a potentially significant impact related to post-construction water quality.

Local groundwater contains high concentrations of total dissolved solids (TDS); average concentrations are 1,210 mg/L (Todd Groundwater 2014). Local groundwater also is “hard,” meaning that it contains high relative concentrations of calcium and magnesium. This is not a health issue, but a nuisance that limits soap suds and results in scaling on plumbing and fixtures. Residents typically offset hard water through the use of water softeners. Water

softeners utilize sodium or potassium salt brines, which are eventually discharged into the wastewater disposal system. The discharge of salt brines into the wastewater collection system has an adverse impact on the quality of water in the groundwater basin, recycled water, and wastewater effluent. Higher salinity increases the treatment costs and reduces the potential for reuse of wastewater for non-potable irrigation and industrial purposes. It can also impair a wastewater treatment agency's ability to comply with discharge standards for TDS. If water softeners are installed in new structures on the Project Site, the proposed Project may result in salinity-related water quality impacts.

As noted in Section 2.0, *Project Description,* in addition to meeting the criteria contained within the State's Water Quality Control Board Construction General Permit (Order 2009-0009-DWQ), the Project proposes to meet the more stringent standards related to water quality treatment control measures outlined in the California Stormwater Quality Association Stormwater BMP Handbook. According to the *Preliminary Stormwater Control Plan* prepared for the proposed Project (Balance Hydrologics, Inc. 2013), this may include the following design features:

- *Bioretention basins.* The primary treatment control for the Project would likely be provided in the form of bioretention basins located along the bottom of the stormwater basins planned throughout the site. Bioretention basins function as a soil and plant-based filtration device consisting of a shallow ponding layer, mulch and planting layer, permeable soil layer, and an underdrained gravel layer.

- *In-ground planters.* In-ground planters are nearly identical to bioretention basins with the exception that the edge treatment typically consists of concrete curbs in place of earthen slopes. These features would be considered for placement along landscape areas and within rights-of-way or parking lots, in locations where pedestrian safety would not be compromised.

- *Vegetated swales.* Vegetated swales are channels of shallow depth and at a shallow slope that provide treatment by filtering runoff through grasses or other vegetation and by infiltrating runoff through a permeable soil layer. Vegetated swales may be utilized within the rights-of-way along stretches of roadways that are uninterrupted by driveways and where pedestrian safety would not be compromised.

- *Wet ponds.* Wet ponds would be considered for use in areas that cannot meet the water quality treatment objectives adopted by the Project using the previously described treatment controls. Wet ponds are constructed basins that have a permanent pool of water throughout the year and provide treatment by settling out pollutants through the water profile and uptake of pollutants through aquatic vegetation. Due to their typical depths, wet basins typically require a small footprint compared to other treatment controls.

- *Sediment and debris control.* The proposed Project would be designed to include a depressed sediment retention area within a number of the stormwater detention basins located at the base of the larger upslope drainages. Although the scale of these facilities has not been determined, it is understood that smaller facilities would require more frequent maintenance and larger facilities would require less frequent maintenance.

- *Trash collection areas.* All dumpsters serving the non-residential areas of the Project would be anticipated to be covered to prevent rainfall from mobilizing pollutants.

- *Education and outreach.* One proven tactic in terms of educating the community is the marking of storm drain inlets and collection points to indicate that runoff can directly impact receiving waters. At these sites, such markings may be along the lines of "Drains to the San Benito River" or "Drains to Monterey Bay."

- *Regular street sweeping.* Regular street sweeping can have a substantial impact on the control of such constituents of concern as trash and debris, particulates, and heavy metals.

Although the Project indicates that these above features may be implemented, mitigation is required to ensure the inclusion of these design features in the final design, and to ensure that water softeners do not impair local water quality.

Mitigation Measures. The following mitigation measures are required.

**HWQ-3(a)** **Final Drainage Plan.** As a condition of approval of the amended vesting tentative tract map for the Project, the applicant shall be required to submit a drainage plan that graphically illustrates the location and design of pollutant-removal systems for the County's approval. These pollutant-removal systems shall include the following, as described in the *Preliminary Stormwater Control Plan* prepared for the proposed Project (Balance Hydrologics, Inc. 2013):

- Bioretention basins
- In-ground planters
- Vegetated swales
- Wet ponds
- Sediment and debris control
- Covered trash collection areas
- Education and outreach
- Regular street sweeping

The drainage plans shall be submitted to the San Benito County Public Works Department for review and approval prior to recordation of the first final map for the Project. The applicant shall provide sufficient documentation, to the County's satisfaction, that the approved drainage plans have been properly installed. The County Public Works Department may conduct a site inspection to confirm installation prior to occupancy clearance.

**HWQ-3(b)** **Water Softeners.** Self-regenerating water softener appliances (SRWS) shall not be installed in any structure on-site. A SRWS is defined as a water softening device that removes calcium and

magnesium salts from water by using an ion-exchange resin utilizing sodium chloride during the ion-exchange process. The ion-exchange resin used in SRWS's is recharged by using a sodium chloride brine solution which is subsequently discharged into the sewer system. Water softeners recharged by portable cartridges supplied by service providers where the brine solution resulting is not discharged into the sewer system shall be allowed.

As a condition of approval of the amended vesting tentative tract map, water softeners shall be shown on plans submitted to the San Benito County Planning Department for review and approval. The prohibition of SRWSs shall be included in Covenants, Conditions and Restrictions (CC&Rs), and monitored by the two Home Owners Associations (AHOA and MHOA) with oversight by the County Planning Department. The Planning Department shall review site plans for compliance prior to issuance of building permits. County inspectors may inspect site for installation of permitted water softeners prior to occupancy of the structures.

Significance After Mitigation. Implementation of the identified mitigation measures would reduce the potential for storm water transport of pollutants, bacteria, and sediment into downstream facilities, and salt discharges to the underlying groundwater basin. As a result, water quality impacts would be reduced to less than significant levels.

**Impact HWQ-4 As an alternative to the use of groundwater to serve the proposed Project's non-potable demands, the Project may include an increase in the use of CVP water on the Project Site. Impacts related to water quality from use of this water are considered Class III, *less than significant*. [Threshold number 6]**

As discussed in Section 4.14, *Utilities and Service Systems*, the WSA prepared for the Project (Appendix J) assumes that the proposed Project would be wholly reliant on groundwater. However, two potential alternative supplies may be available to serve non-potable uses within the proposed Project in the future, which would serve to further reduce reliance on local groundwater resources. These include CVP water and recycled water. For further information regarding the availability and reliability of these sources, see Appendix J. The use of these alternative sources to serve the proposed Project could have the potential to impact water quality and therefore are analyzed here.

CVP water is an existing source of water supply for the Project Site (see Section 2.0, *Project Description*. and Appendix J). The Project Site is located within SBCWD's Zone 6 (San Felipe Project). Accordingly, the property owner is entitled to purchase and take delivery of a maximum allocation of water each year for all land entitled to be served. Each of the two existing parcels within the Project Site is entitled to approximately 450 acre feet per year of CVP water, when available, for municipal purposes (Tully & Young, 2015). Therefore, CVP water would be available to serve the non-potable irrigation demands of the proposed Project, as an alternative to groundwater, and no new entitlements would be required to use CVP water to

serve the proposed Project. The potential environmental impacts associated with the SBCWD's delivery of the full quantity of CVP water allocated to the Project Site, including any potential water quality impacts, has already been evaluated as part of the SBCWD's purchase of CVP water from the Bureau of Reclamation and delivery to lands within Zone 6, which includes the Project Site (SBCWD, July 2009). Given that the Project would not cause an expansion of the quantity of CVP water available to the Project Site and the delivery of CVP to all lands within Zone 6 has already been evaluated by prior environmental analyses, no further environmental review is required.

As discussed in Section 2.0, *Project Description*, Section 4.14, *Utilities and Service Systems*, and the WSA (Appendix J), if available in the future, recycled water could be used to meet a portion of the proposed Project's non-potable irrigation demands. Therefore, the proposed Project's water supply system facilities include on-site "purple pipes" for the distribution of recycled water within the Project (see Figure 2-12a in Section 2.0, *Project Description*). However, the Project does not include the construction of recycled water infrastructure outside of the Project Site, including a pipeline for the delivery of recycled water from the City of Hollister to the water supplier for the proposed Project for use on the Project Site. Accordingly, recycled water is not currently available to the Project Site and there are no current plans to construct facilities that would enable recycled water to be transported to the Project Site from the City of Hollister. Because use of such water is speculative, assessment of environmental impacts of providing and use of recycled water on the Project Site is not required at this time, and subsequent review under CEQA would be required in the future if recycled water becomes generally available in the County and available for use on the Project Site.

Mitigation Measures. No mitigation measures are required.

Significance After Mitigation. Impacts would be less than significant without mitigation.

**Impact HWQ-5 A portion of the Project Site is located in an area subject to inundation should a failure of the San Justo Reservoir dam occur. Impacts are considered Class II, *significant but mitigable*. [Threshold number 9]**

Water from the San Justo Reservoir, in the event of a complete dam failure, could inundate the unincorporated lands throughout the San Juan Valley. Approximately 422 acres of the Project Site (or 22.2%) would be subject to inundation should San Justo Reservoir dam failure occur. As shown in Figure 4.9-1, this area is located primarily in the northern and eastern portions of the Project Site, including areas proposed for residential development. In the event of a catastrophic failure, discharge at the dam site would be approximately 510,000 cubic feet per second and the maximum water velocity through the affected portion of the Project Site could be as great as 40 feet per second. The depth of inundation on the Project Site could range from approximately 7 to 14 feet.

To be conservative, these calculations anticipate a catastrophic dam failure. However, the San Justo Dam has been constructed to withstand an MCE of 7.5 from the San Andreas Fault, based upon extensive geological and geotechnical studies (Bureau of Reclamation 1995). In addition, the dam is inspected regularly and is certified safe by the U.S. Department of Interior, Bureau of Reclamation. Finally, the San Benito County OES includes potential dam inundation areas in their emergency

response planning. It actively engages with the appropriate agencies in receiving and updating Emergency Action Plans associated with each dam.

The Project would not affect the potential for a failure of the San Justo Reservoir Dam. Nevertheless, the increased levels of human activity on the site with the proposed Project would expose additional people to this potential hazard, which would be considered a potentially significant impact unless mitigation is incorporated.

Mitigation Measures. The San Justo Dam has been constructed to withstand the maximum credible earthquake, and is inspected regularly by the Bureau of Reclamation. The following mitigation measures are required to minimize the risk of loss, injury or death to people or structures within the Project Site in the unlikely event of a dam failure.

**HWQ-5(a)** **Hazard Response Plan.** A condition shall be imposed on the amended vesting tentative tract map for the Project that requires the applicant to prepare a hazard response plan for the Project Site in consultation with the Bureau of Reclamation, OES, and SBCWD. The hazard response plan shall include the following elements, consistent with Government Code Section 8589.5(b)(2):

- Delineation of the area of the Project Site subject to potential inundation;
- Identification of evacuation routes and traffic control measures to be used;
- Identification of shelters to be activated for the care of evacuees;
- Methods for the movement of people without their own transportation, including those in the proposed assisted living/skilled nursing/memory care facility;
- Identification of particular areas of facilities in the flood zones that would not require evacuation because of their location on high ground or similar circumstances;
- Procedures for the perimeter and interior security of the area, including such things as passes, identification requirements, and anti-looting patrols;
- Procedures for the lifting of the evacuation and reentry of the area; and
- Details as to which organizations are responsible for the functions described in the plan and the material and personnel resources required, including financial responsibilities for implementing the plan.

The San Benito County Planning and Public Works Departments, the Bureau of Reclamation, OES, and SBCWD shall review and approve the hazard response plan prior to the recordation of the first final map for the Project to ensure compliance with applicable laws.

**HWQ-5(b)** **Dam Inundation Hazard Disclosure.** A condition shall be imposed on the amended vesting tentative tract map for the Project that requires the applicant to place a note on the final maps and requires, upon any transfer of real property or rental agreements on the Project Site, that the transferor shall deliver to the prospective purchaser or tenant or a building within the dam inundation area a written disclosure statement that shall make all prospective purchasers or tenants aware that the building is located within a dam failure inundation hazard area. The disclosure shall include a copy of the approved hazard response plan required in mitigation measure MM HWQ-4(a) above.

The disclosure shall be provided by the property transferor to purchaser(s) and/or tenant(s) upon the transfer of real property at issue and/or execution of lease(s) on the Project Site. Updated disclosure notifications shall be provided to existing owner(s) and tenant(s) of the Project as necessary if substantial new information regarding dam inundation at the site becomes available. Planning Department staff shall review and approve the form of disclosure statement prior to issuance of the first certificate of occupancy for a proposed residential unit.

Significance After Mitigation. With implementation of the above mitigation measure, impacts would be reduced to a less than significant level.

**c. Cumulative Impacts**. Cumulative impacts to water quality could occur due to erosion and sedimentation (Impact HWQ-1) and/or from the release of non-point source pollutants (Impact HWQ-3) associated with cumulative development in the County of San Benito and Cities of Hollister and San Juan Bautista. All future projects in San Benito County and the Cities of Hollister and San Juan Bautista would be required to comply with laws and regulations pertaining to water resources, and that such compliance would include development of Storm Water Pollution Prevention Plans, Water Quality Management Plans, and source control/ treatment control BMPs to prevent water quality degradation from occurring. Cumulative impacts related to water quality degradation from erosion/sedimentation or discharge of non-point source pollutants would therefore be less than significant, and the Project would not make a cumulatively considerable contribution to this impact.

As described in Impact HWQ-2, the Project would increase stormwater runoff due to the increase in impervious surfaces on the Project Site. However, the proposed on-site drainage system would adequately capture associated runoff, and the Project would not substantially contribute to flooding on- or off-site. No mitigation is required to reduce this impact to less than significant. As described in Section 3.3, cumulative development based on long-range general plan buildout of San Benito County and the Cities of Hollister and San Juan Bautista would include approximately 32,300 residents, 10,217 housing units, and approximately 4,320 employees. This level of development would introduce substantial amounts of new impervious surface area, thereby cumulatively increasing peak storm runoff and potential impacts related

thereto. The proposed Project would incrementally contribute to this increase. However, future projects in the region would be required to comply with existing standards, requirements, and policies pertaining to maintaining historic runoff volumes. As such, cumulative impacts regarding the alteration of existing drainage patterns or introduction of new impervious areas would be less than significant and the impacts of the proposed Project are not expected to combine with similar impacts of other projects in region.

Cumulative development may also place additional structures and residents within the San Justo Reservoir inundation zone. However, as noted in Impact HWQ-4, the San Justo Dam has been constructed to withstand the maximum credible earthquake, and is inspected regularly by the Bureau of Reclamation. Additionally, it is anticipated that individual projects within the inundation area would be subject to separate environmental review, and mitigation would be applied where appropriate. These measures should reduce any cumulative impacts related to dam inundation hazards to a less than significant level.