
3.8 SURFACE WATER HYDROLOGY AND WATER QUALITY

3.8 SURFACE WATER HYDROLOGY AND WATER QUALITY

INTRODUCTION

This section discusses surface hydrology and water quality relative to the San Benito County area and the project site. Changes in water quality, drainage patterns, and erosion are analyzed. Information provided in this section is based primarily on the *Engineering Report for Development of Santana Ranch*, (attached as **Appendix G**) as well as flood mapping information provided by San Benito County.

3.8.1 ENVIRONMENTAL SETTING

Drainage Patterns

The project site is located in the Pajaro River watershed which ultimately flows to Monterey Bay. In the project vicinity, Santa Ana Creek flows from southeast to northwest just east of the project site. The project site encompasses the major portions of two local drainage areas and a small portion of a third drainage area, as depicted in **Figure 3.8-1**.

Under current conditions, drainage from the western half of the project site (Drainage Areas C, D, and E) flows toward Fairview Road where a portion of the runoff enters a metal corrugated pipe and is conveyed westward via a 36-inch storm drain to a City of Hollister storm drain in Hillcrest Road and ultimately to Santa Ana Creek. North of this culvert, runoff is collected in an existing roadside swale along the east side of Fairview Road and carried north to Santa Ana Creek.

Drainage from the eastern half of the project site (Drainage Area B) drains to Santa Ana Creek to the north, via existing natural overland channels. Drainage from the extreme northeastern portion of the project site (including the proposed WWTP site) flows to Dry Creek, a seasonal tributary drainage to Santa Ana Creek east of the project site.

Flood Hazards

According to the Flood Insurance Rate Map (FIRM) covering the project site, flooding during a 100-year storm event is confined to the areas adjacent to Santa Ana Creek, and does not extend to any portion of the project site.

Surface Water Quality

Due to the generally undeveloped nature of the project site, surface water quality within the site and immediate vicinity is estimated to be generally good. A minor amount of agricultural runoff from the existing walnut orchard operation may enter the existing Fairview Road swale during storm events. Other development along Fairview Road may also contribute a minor amount of polluted runoff associated with low-density suburban development. Pollutants from vehicle traffic on Fairview Road also enter the swale when washed off the roadway during rain events. It is likely that some of these pollutants are ultimately washed into Santa Ana Creek, along with pollutants from the general watershed area drained by the creek associated with suburban and agricultural uses in the region. The watershed area is further described within the City of Hollister Stormwater Management Plan (SWMP).

According to the SWMP, the Hollister urban area is within the San Felipe Lake watershed basin. This basin collects runoff from the Santa Ana Creek, Dos Picachos, Arroyo De Los Viboras, Pacheco Creek and the Tequisquita slough subbasins.

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Existing surface water quality issues identified within the SWMP

In the Hollister urban area, many different sources of urban runoff pollution were identified due to the variety of land uses within the watershed. The significant sources and examples of activities that may generate pollutants are listed below:

- Industrial facilities: industrial chemical processes; chemical and waste storage; fleet maintenance and vehicle washing; and landscaping.
- Commercial business including food and vehicle service facilities: vehicle and equipment maintenance; food processing; vehicle washing; landscaping; and chemical and waste storage.
- Residential dwellings: vehicle washing; home vehicle repair; home painting and construction projects; chemical and waste storage; and landscaping.
- Construction and remodeling projects: grading; vegetation removal; concrete washout; vehicle and equipment fluids; landscaping; and material and waste storage.
- Municipal sewer system and private sewer laterals: exfiltration from leaking, cracked, and debilitated pipelines; and overflows from blocked pipelines.

The stormwater pollutants of concern generated by the sources described above are numerous and varied, and are listed below:

- Metals
- Solvents
- Paint
- Concrete and masonry products
- Detergents
- Vehicle fuels and fluids
- Oil and grease
- Pesticides and fertilizers (organic compounds and nutrients)
- Pet waste and sewage (bacteria, pathogens and oxygen demanding compounds)
- Debris and litter
- Sediment and silt

In general, the urban area contains most or all of the pollutants listed above. This is because the various types of land uses are distributed throughout the area rather than certain types being concentrated in specific areas, according to the SWMP.

3.8.2 REGULATORY SETTING

FEDERAL CLEAN WATER ACT (33 U.S.C. SECTION 1251 ET SEQ.)

Water quality objectives for all waters in the State of California are established under applicable provisions of Section 303 of the Federal Clean Water Act (CWA) (33 U.S.C. Section 1313) and the State Porter-Cologne Water Quality Control Act (Water Code Section 13020 et seq.). The State Water Resources Control Board (SWRCB) and the Central Coast Regional Water Quality Control Board (RWQCB) are responsible for assuring implementation and compliance with the provisions of the CWA and the Porter-Cologne Water Quality Control Act.

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Section 303 of the CWA (33 U.S.C. Section 1313) requires states to adopt water quality standards for all surface waters of the United States. Section 304(a) (33 U.S.C. 1314(a)) requires the U.S. Environmental Protection Agency (EPA) to publish water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in the water.

CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD

The California State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards have the authority 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 Clean Water Act and under the State's primary water-pollution control legislation, the Porter-Cologne Act. The Central Coast Regional Water Quality Control Board (RWQCB) guides and regulates water quality in streams and aquifers of the Central Coast region through designation of beneficial uses, establishment of water-quality objectives, administration of the National Pollutant Discharge Elimination System (NPDES) permit program for stormwater and construction site runoff and Section 401 (33 U.S.C. Section 1341) water-quality certification where development results in infill of jurisdictional wetlands or waters of the U.S. under Section 404 (33 U.S.C. Section 1344) of the Clean Water Act.

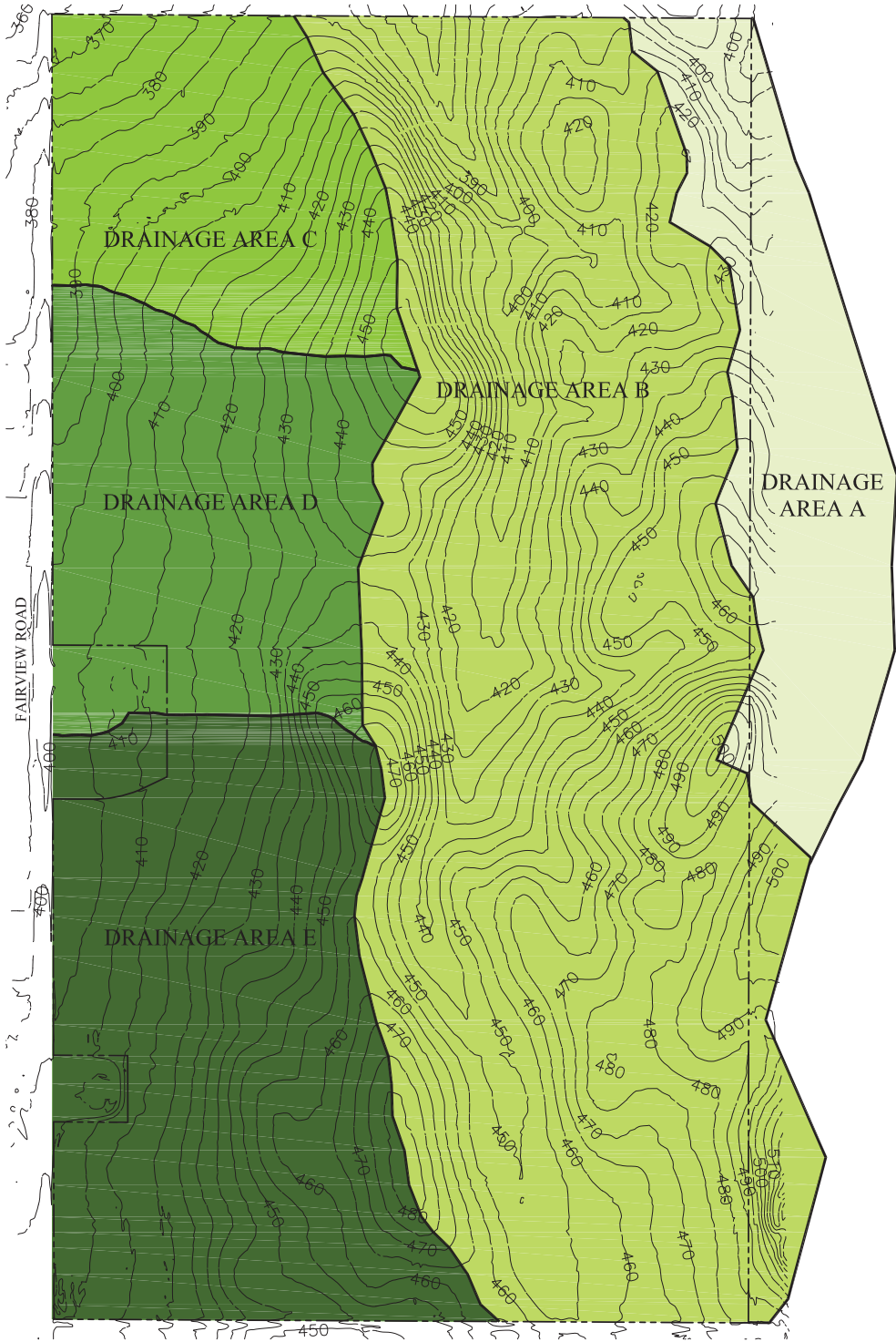
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to the 1987 Amendments to the CWA and 1991 regulations promulgated by the EPA, the SWRCB has adopted the National Pollutant Discharge Elimination System (NPDES) with three general permits for stormwater dischargers. One permit applies to industrial dischargers, another permit relates to construction activities and the third permit is a general permit for municipalities.






NPDES was established by the CWA to regulate municipal and industrial discharges to surface waters of the United States. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Section 401 (33 U.S.C. 1341) and 402 (33 U.S.C. Section 1342) of the CWA contain general requirements regarding NPDES permits. Section 307 (33 U.S.C. Section 1317) of the CWA describes the factors that EPA must consider in setting effluent limits for priority pollutants.

The purpose of the NPDES program is to establish a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of: 1) characterizing receiving water quality, 2) identifying harmful constituents, 3) targeting potential sources of pollutants, and 4) implementing a Comprehensive Stormwater Management Program.

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LEGEND

-  DRAINAGE AREA A
-  DRAINAGE AREA B
-  DRAINAGE AREA C
-  DRAINAGE AREA D
-  DRAINAGE AREA E

Source: Ruggieri-Jensen_Azar, September 2009

Not to Scale



Figure 3.8-1
Existing Site Drainage
PMC[®]

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The RWQCB is responsible for the issuance of NPDES permits under the CWA and on behalf of the SWRCB and the EPA for activities that could cause water quality impacts to surface waters and groundwater. Development of the project site would be required to comply with the permitting requirements in effect at the time of construction activities. The permit requires that the following general measures be implemented during construction activity:

- Eliminate or reduce non-stormwater discharges to stormwater systems and other waters of the U.S.;
- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP); and,
- Perform inspections of stormwater control structures and pollution prevention measures.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

The Federal Emergency Management Agency (FEMA) publishes maps, called Flood Insurance Rate Maps (FIRMs). The purpose of a FIRM is to show the areas in the community that have a one percent or greater chance of flooding in any given year, known as Special Flood Hazard Areas (SFHAs). FIRMs are the result of engineering studies that are reviewed and approved by FEMA. As a participant in the National Flood Insurance Program (NFIP) special building requirements are applicable and defined in Title 44 CFR, Sections 59 through 65.

According to Title 44 CFR, Section 65.3, hydrologic and hydraulic data must be submitted to FEMA for a FIRM revision if the development changes existing Special Flood Hazard Areas. This must be completed no later than six months after such data becomes available. This data must be submitted through a Flood Map Revision Application process by requesting a Conditional Letter of Map Revision (CLOMR) or Letter of Map Revision (LOMR).

PARTICIPATION IN THE SAN FELIPE LAKE BENEFIT AREA

A substantial portion of the project site has been determined to be within the tributary watershed of the Santa Ana Creek and San Felipe Lake. The project will therefore be subject to collection of drainage impact fees for the San Felipe Lake drainage benefit area, as established by Section 5.01.024 of Title 5 of the San Benito County Code.

SAN BENITO COUNTY GENERAL PLAN

Construction and maintenance of public services and utilities in San Benito County, such as drainage improvements, are enabled and regulated by the General Plan and County Ordinances. The following policies from the *County of San Benito General Plan* are relevant regarding hydrology impacts of the proposed project:

Open Space and Conservation Element

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.

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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.

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.

3.8.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The following thresholds for measuring a project's environmental impacts are based on CEQA Guidelines and generally accepted standards for environmental documents prepared pursuant to CEQA and standards utilized by San Benito County. An impact to surface hydrology or water quality is considered significant if implementation of the proposed project will result in any of the following:

- Violate any water quality standards or waste discharge requirements;
- 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 that would result in, or contribute to, flooding on- or off-site;
- 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;
- Substantially degrade surface water quality due to erosion, urban runoff, on-site sewage treatment and disposal system, or other factors, as a result of either construction activities or daily operation;
- Expose people or structures to flood hazards as a result of development 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, or place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- 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;
- Inundation by seiche, tsunami, or mudflow; or,
- Contributes significantly to any cumulative hydrology or water quality impact.

METHODOLOGY

This hydrology and water quality analysis is based on review of the Engineering Report for Development of Santana Ranch prepared by the engineering firm of RJA, which was peer reviewed by PMC, as well as by flood mapping information provided by the County of San Benito.

PROJECT IMPACTS AND MITIGATION MEASURES

Increased Stormwater Runoff

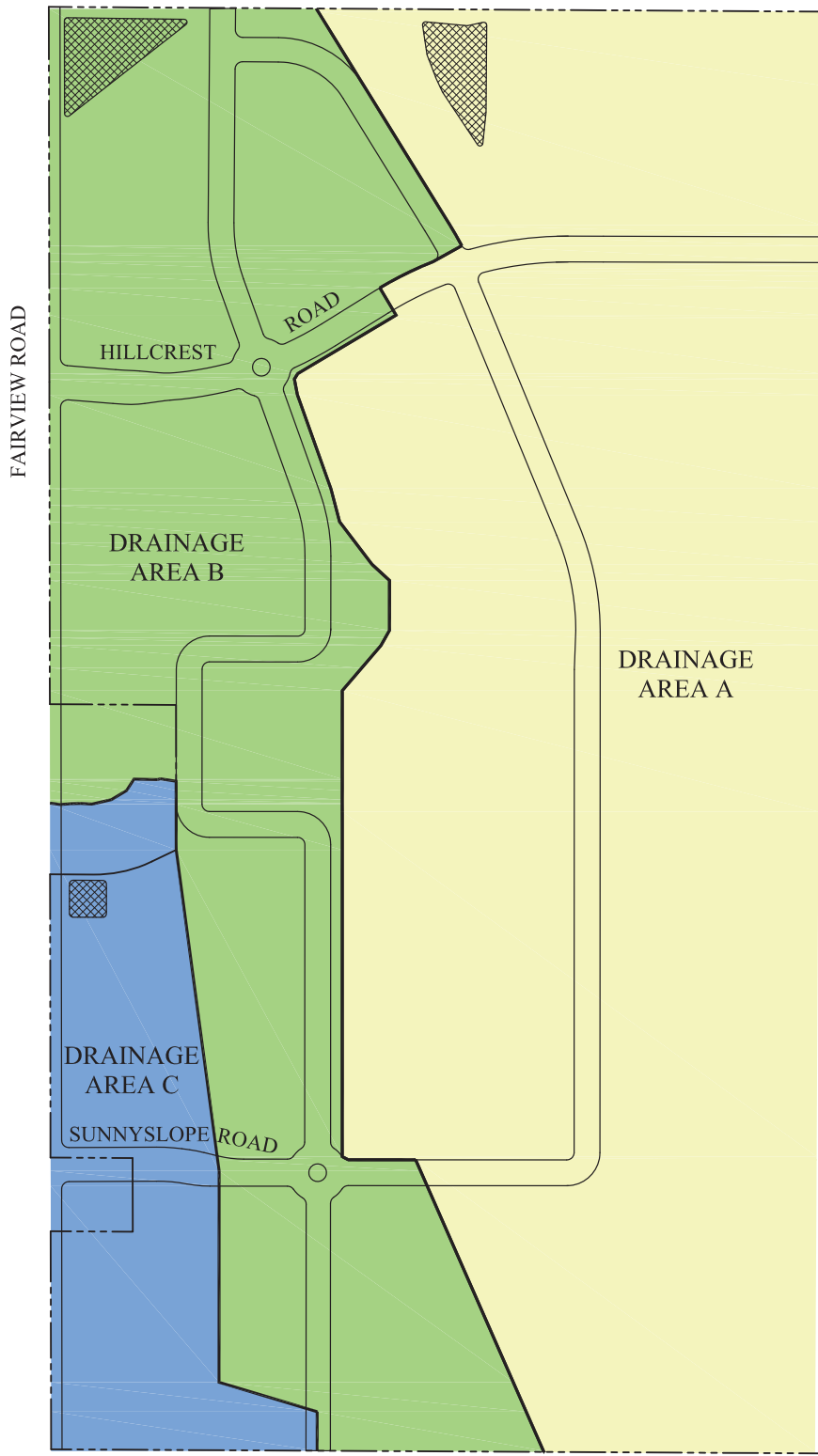
Impact 3.8-1 Development of the proposed stormwater drainage system may create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. This is considered a **potentially significant impact**.

Implementation of the proposed project would result in the conversion of the project site from agricultural land uses to a 1,092-unit residential development with associated neighborhood commercial, potential mixed uses and community facilities. The project would result in the





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coverage of a significant portion of the project site with impervious surfaces, such as pavement, roofing and walkways, and would therefore increase stormwater runoff from the project site, and alter existing drainage patterns.

According to the Engineering Report prepared for the project, (RJA, June 2008), the project will contain three major drainage areas, as depicted in **Figure 3.2-2**. Stormwater flows for the drainage areas will be collected by underground conduits or open surface channels, and be collected in at least two detention basins or through a combination of above and below ground detention basins, as shown in **Figure 3.2-3**. Above ground detention basins would consist of ponds or open areas. Below ground detention systems would consist of large storm drain pipes or other detention structures to be determined by the project engineer and as required by the County of San Benito. Detention basin volumes will be designed to collect and detain the difference between 10-year predevelopment and 100-year post development flow rates.



LEGEND

-  DRAINAGE AREA A
-  DRAINAGE AREA B
-  DRAINAGE AREA C
-  DETENTION BASIN

Source: Ruggieri-Jensen_Azar, September 2009

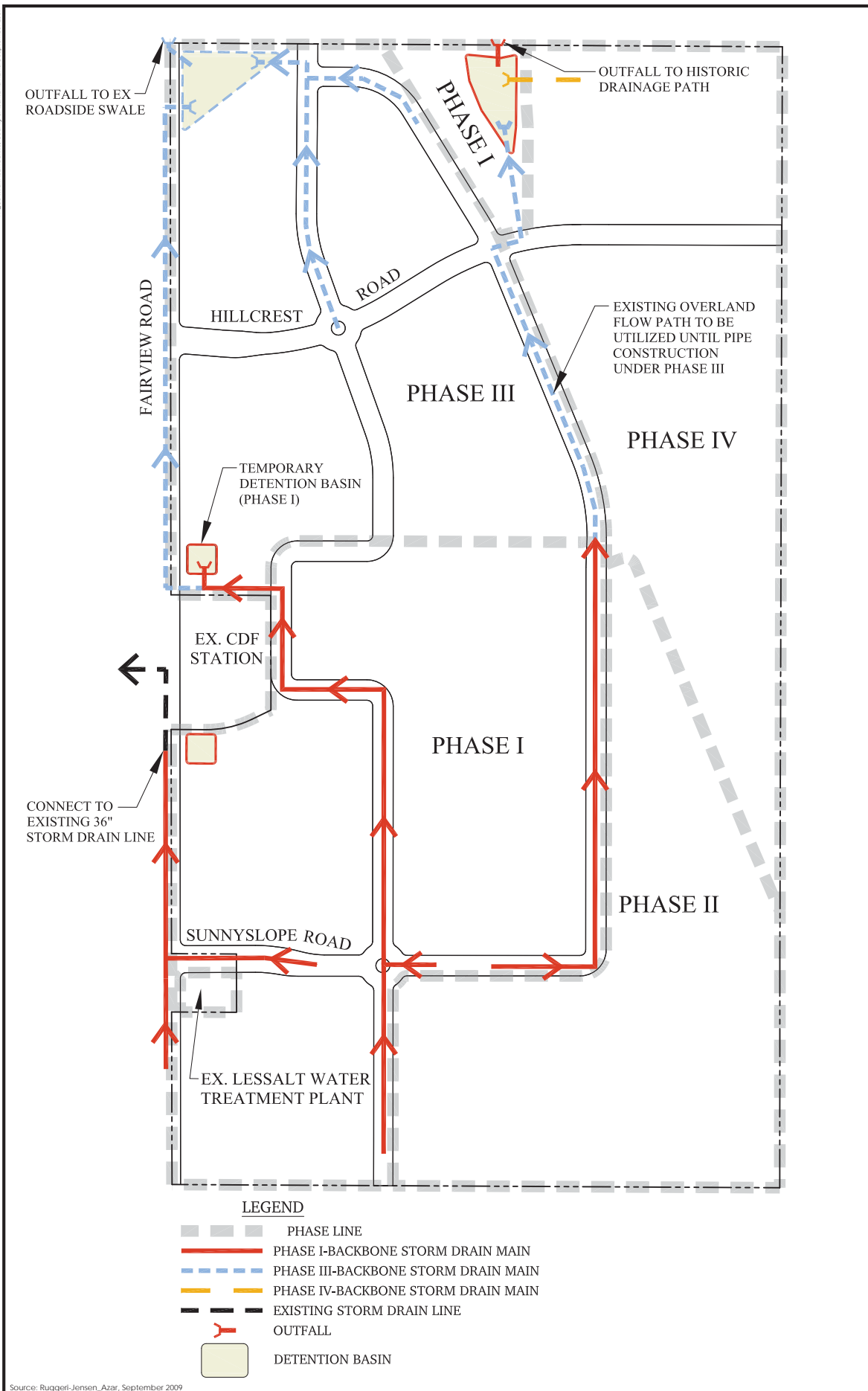
Not to Scale



Figure 3.8-2
Post Development Drainage Area Exhibit



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Source: Ruggieri-Jensen_Azar, September 2009

Not to Scale



Figure 3.8-3
Conceptual Storm Water System Exhibit

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Drainage Area C is bounded by Fairview Road on the west, the project site boundary to the south and contains a portion of the CDF Fire Station parcel to the north. This drainage area contains approximately 41 acres and generally flows north to the northwest, towards Fairview Road, where storm drain runoff will be collected in a 36-inch pipe that will discharge into a detention basin adjacent to the CDF Fire Station. The required storm water detention for Drainage Area C is estimated by the project engineer to be approximately 0.23 acre feet. Metered release of storm water from the Drainage Area C basin would flow into an existing 36-inch storm drain line in Fairview Road, and be conveyed to the discharge point of this line into Santa Ana Creek, approximately 2,100 feet west of the project site.

Drainage Area B contains approximately 85 acres and generally flows north to the northwest towards Fairview Road. A new storm drain line in the proposed Park Center Drive would collect and eventually convey storm runoff to a basin adjacent to the northwestern corner of the project site. The required storm water detention for this drainage area is estimated by the project engineer to be 11.5 acre feet. Metered release of the basin would occur at the existing roadside swale on Fairview Road, and eventually reach Santa Ana Creek north of the project site.

Drainage Area A contains approximately 170 acres and generally flows north to the northern project site boundary. A new storm drain in the proposed Orchard Park Road would collect and convey storm runoff to a detention basin adjacent to the northern boundary of the project site. The required storm water detention for Drainage Area A is estimated to be 11.5 acre feet by the project engineer. Metered storm water release from the basin would continue to flow overland north of the project site boundary and ultimately enter the existing roadside swale and eventually reach Santa Ana Creek.

Detention basins will be designed to release storm water at the 10-year pre-development flow rate as required by the San Benito County storm drainage design standards set forth in the County Code, Chapter 23.31, Article III. The conceptual basin locations on the exhibits are preliminary and will be reviewed and refined during final design. The existing roadside swale may be required to be cleared of existing vegetation and debris to continue to adequately accommodate the 10-year storm flows from the project site, and the swale outfall to Santa Ana Creek may require improvements to adequately discharge the stormwater. To ensure adequate storm drainage capacity exists to accommodate development of the project site, the following mitigation measure will be required.

MM 3.8-1

As part of the tentative map application process for the first small-lot subdivision map, the project developer shall prepare and submit a master phase grading and drainage plan for the overall project site, meeting the criteria specified in the Santana Ranch Specific Plan and Engineering Report for Development of Santana Ranch (RJA, October 2008), as well as applicable Specific Plan policies. Site-specific grading and drainage plans shall be prepared for each phase of the project, and shall conform to the master phase grading and drainage plan for the overall site. The master phase grading and drainage plan, and subsequent site specific grading and drainage plans, shall be subject to review and approval by the County of San Benito. Said plans shall include the following provisions:

- All site drainage facilities shall conform to County of San Benito design standards, and shall be designed to detain the difference between a pre-development 10-year and 100-year storm event on the project site.

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- Impervious surfaces in the residential areas shall be minimized where possible to reduce runoff.
- The existing roadside swale along Fairview Road and outfall to Santa Ana Creek shall be assessed by the project engineer to ensure there is adequate capacity to accommodate 10-year storm flows from the project, in combination with existing stormwater flows from all other tributary properties. The assessment shall include any required measures to ensure adequate stormwater capacity to accommodate 10-year stormwater flows from the project, and be included with the project drainage plans submitted for review and approval by the San Benito County Public Works Department. The swale and outfall shall be improved in accordance with any requirements of the Public Works Department to ensure adequate capacity.

Implementation of the above mitigation measure will reduce potential stormwater capacity impacts to a **less than significant** level.

Short Term and Construction-Related Impacts to Water Quality

Impact 3.8-2 Soil disturbance associated with site preparation, grading and construction activities resulting from the proposed project may cause soil erosion and sedimentation, and/or the release of other pollutants into adjacent waterways. This is considered a **potentially significant impact**.

Delivery, handling and storage of construction materials and wastes, as well as use of construction equipment on-site during the construction phase of the project, will introduce a risk for stormwater contamination that could negatively impact water quality. Refueling and the parking of construction equipment and other vehicles on-site during construction may result in spills of oil, grease or related pollutants that may discharge into on-site drainages. Improper handling, storage or disposal of fuels and materials or improper cleaning of machinery could also cause water quality degradation. Pollutants such as trash, debris, and organic matter are additional potential pollutants associated with the construction phase of the project. Potential impacts include health hazards and aquatic ecosystem damage associated with bacteria, viruses and vectors, which can be harbored by pollutants.

Development of the proposed project would involve construction activities on the project site, such as site clearing, mass grading, excavation and trenching, which can adversely affect water quality by increasing soil erosion rates in the area of the proposed project. The exposure of raw soil to the natural elements (e.g. wind, rain) during grading operations may impact surface runoff by increasing the amount of silt and debris carried by stormwater runoff.

Construction activities associated with any required improvements to the Fairview Road swale outfall to the Santa Ana Creek have the potential to degrade water quality in the creek. Potential impacts would be similar to those associated with construction on the project site, and could include discharge of soils and sediment into the streambed, as well as pollutants from construction equipment and debris during construction. The applicant will be required to obtain necessary permits for any work within the creek channel from the Army Corps of Engineers, Department of Fish and Game, and the Regional Water Quality Control Board. The purpose of these permits is to ensure that water quality is protected both during and after construction of improvements in the channel.

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- Section 5.3, Resource Management Policies, of the Santana Ranch Specific Plan contains the following policies within the Water Quality Protection Policies, subsection B, Water Quality During Construction, which are intended to reduce water quality impacts during the grading and construction phases of the project:
- The Project shall implement construction BMPs to ensure that water quality is protected.
- Construction BMPs shall include erosion control measures, sediment transfer reduction measures and dust control measures.
- All contractors and personnel shall be trained in appropriate BMPs. In addition, the Developer shall retain a construction manager familiar with National Pollution Discharge Elimination System (NPDES) permit requirements to monitor construction activities.

Implementation of the above Specific Plan policies, as well as implementation of the following additional mitigation measures, would reduce impacts to water quality during construction to a **less than significant level**.

MM 3.8-2 In accordance with RWQCB regulations, the developer shall prepare a Stormwater Pollution Prevention Plan (SWPPP) addressing stormwater management during the construction phase of the project. The SWPPP shall be consistent with RWQCB standards, and shall list Best Management Practices (BMPs), which specify how the discharger will protect water quality during the course of construction. Said BMPs shall include, but not be limited to, the following:

- Schedule earthwork to occur primarily during the dry season to prevent most runoff erosion.
- Protect drainages and storm drain inlets from sedimentation with berms or filtration barriers, such as filter fabric fences, hay bales, or straw wattles.
- Divert runoff from exposed slopes to on-site sediment basins before the runoff is released off-site.
- Install gravel construction entrances to reduce tracking of sediment onto adjoining streets.
- Sweep on-site paved surfaces and surrounding streets daily to collect sediment before it is washed into the storm drains or channels.
- After construction is completed, clean all drainage culverts of accumulated sediment and debris.
- Stabilize stockpiles of topsoil and fill material by watering daily, or by the use of chemical agents.
- Store all construction equipment and material in designated areas away from waterways and storm drain inlets. Surround construction staging areas with earthen berms.
- Wash and maintain equipment and vehicles in a separate bermed area, with runoff directed to a lined retention basin.
- Collect construction waste daily and deposit in covered dumpsters.
- All policies in Section 5.3 of the Santana Ranch Specific Plan (Water Quality During Construction section) shall be implemented.

The measures above would reduce potential construction impacts to water quality to a **less than significant** level.

Soil Disturbance Impacts to Surface Water

Impact 3.8-3 The interim overland stormwater discharge from development of Phase I and Phase II development of the project could result in soil disturbance, erosion, sedimentation, and/or the release of other pollutants into adjacent waterways. This is considered a **potentially significant impact**.

As indicated in **Figure 3.8-3, Conceptual Stormwater System**, significant portions of Phase I and Phase II of the Santana Ranch project will temporarily drain via the outfall of the proposed storm drain mainline within Orchard Park Road onto the existing on-site overland flow path, carrying stormwater toward the northern boundary of the project site. When Phase III of the project is developed, the storm drain mainline will be continued within Orchard Park Road as this road is extended to serve this phase of the project. In the interim, however, stormwater entering the existing flow path at the Phase I/II outfall point could result in soil erosion within the flow path, and sedimentation of the proposed detention basin at the northern boundary line of the project site. Sedimentation of the basin could reduce the basin's water detention and percolation capacity, potentially resulting in excess flows and pollution further downstream. Soil erosion can be minimized by reducing the velocity and concentration of overland stormwater flows using appropriate channel design measures, as included in the mitigation measure below:

MM 3.8-3 The master phase drainage and grading plan for the project shall incorporate erosion and sedimentation control measures to minimize potential soil erosion associated with the temporary overland stormwater flow from Phases I and II of the project, to the satisfaction of the San Benito County Public Works Department. Measures may include, but are not limited to, the following:

- Stabilization of the outfall area using rock channels or other energy-dissipating measures.
- Installation of check dams at appropriate intervals within the overland channel to reduce water velocity and allow sediment to settle prior to reaching the detention basin.

With implementation of the above measures, the potential for erosion and sedimentation within the overland channel will be minimized, resulting in a **less than significant impact** to surface water quality.

Urban Non-point Source Pollution

Impact 3.8-4 The proposed project would generate urban non-point contaminants, which would be carried in stormwater runoff from the project site and ultimately affect groundwater quality. This is considered a **potentially significant impact**.

Urban runoff pollution is widely regarded as the nation's leading threat to water quality, and often results in the degradation of water quality due to alteration of the watershed hydrology and the introduction of pollutants. Urban development alters the natural hydrology in the watershed in several ways, for example, natural drainage systems can be replaced with pipes and ditches. The grading of land, creation of impervious surfaces, and the creation of manmade channels for surface waters reduce percolation and increase surface runoff. Removal of vegetation increases erosion potential. All of these changes can, in turn, cause erosion and damage aquatic habitat. Pollutants may include toxic metals, hydrocarbons, nutrients, and suspended solids. Land use is an important factor in determining the potential sources of urban runoff pollution and in considering the potential effects on both land and water resources.

With the Santana Ranch project build out, typical urban runoff contaminants would include petroleum products, heavy metals, and sediments from vehicles; pesticides, fertilizers and plant debris from landscaped areas; and litter deposited in storm drain channels and detention areas. These pollutants could be flushed by stormwater runoff and enter the storm drainage system, where they contribute to cumulative non-point contaminant loads and result in incremental deterioration of surface and groundwater quality. Areas with heavy traffic, in particular the proposed neighborhood commercial center, can be especially significant sources of polluted runoff from the customer vehicle parking areas, as well as service and delivery areas.

The proposed detention basins and grass-lined swales along Hidden Valley Road and Fairview Road would serve to filter and settle out suspended sediments and urban pollutants, thereby reducing potential surface water quality impacts to natural streams and water bodies. As set forth in the Specific Plan policies, drainage from the parking lots within the project would be directed to sediment traps to remove oils, metals, sediment and debris before being discharged into the storm drainage system.

In addition to the design features above, Section 5.3, Resource Management Policies, of the Santana Ranch Specific Plan contains the following policies within the Water Quality Protection Policies, subsection C, Water Quality Post Construction, which are intended to reduce water quality impacts during the operational phases of the project:

Residential Areas:

- The Developer shall provide information and instructions to potential project residents before close of escrow of their home purchases regarding water quality BMPs.
- Public education activities. The Developer shall provide information to new project residents regarding water pollution prevention.
- In addition to the other requirements set forth herein, the project shall include requirements for the Homeowners Association to implement the following additional measures within any common landscaping and open space areas:
 - Materials Use Controls, which include good housekeeping practices (storage, use and cleanup) when handling potentially harmful materials, such as cleaning materials, fertilizers, paint and where feasible using safer alternative products;
 - Material Exposure Controls, which prevent and reduce pollutant discharge to storm water by minimizing, to the extent feasible, the storage of hazardous materials (such as pesticides) on-site, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors;
 - Material Disposal and Recycling Controls, which include storm drain system signs and stenciling with language to discourage illegal dumping of unwanted materials.
- The project shall include a prohibition on the dumping of waste (solid waste, liquid and yard waste) into storm drain systems, open space areas, and creeks.
- The project shall include provisions for private street parking lot and storm drain maintenance activities. These activities shall control the movement of pollutants and removal of them from the pavement through catch basin cleaning, storm drain flushing, street sweeping, and by regularly removing illegally dumped material from the project site.

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Commercial Areas:

- The Developer of the Neighborhood Commercial Center and any areas that are used for commercial uses in the future shall be required to adhere to the following measures within any private and/or common landscaping and open space areas:
 - Materials Use Controls, which include good housekeeping practices (storage, use and cleanup) when handling potentially harmful materials, such as cleaning materials, fertilizers, paint, and where feasible using safer alternative products;
 - Material Exposure Controls, which prevent and reduce pollutant discharge to storm water by minimizing the storage of hazardous materials (such as pesticides) onsite, storing materials in a designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors;
 - Material Disposal and Recycling Controls, which include storm, drain system signs and stenciling with language to discourage illegal dumping of unwanted materials.
- Development of the Neighborhood Commercial Center and any areas that are used for commercial uses in the future shall include a prohibition on the dumping of waste products (solid waste, liquid waste and yard trash) into storm drain systems, open space areas, and creeks.
- The commercial operators shall be responsible for related private street parking lot and storm drain maintenance activities to ensure that movement of pollutants is controlled. These activities shall include the removal of pollutants from the pavement through catch basin cleaning, storm drain flushing, street sweeping, and by regularly removing illegally dumped material from these areas.
- The commercial operators shall be responsible for the inspection, maintenance and repair of sediment and oil filtering devices for the pretreatment of the major paved areas.

With implementation of the above polices, potential non-point water quality impacts for the operational phase of the project are anticipated to be less than significant. To ensure the above policies are complied with, and to ensure post-construction water quality impacts are reduced to the greatest extent feasible, the following mitigation measure shall be implemented, reducing potential impacts to a **less than significant** level.

MM 3.8-4 All policies in Section 5.3 of the Santana Ranch Specific Plan (Water Quality Post Construction section) shall be implemented throughout the life of the project.

Point-Source Pollution – Potential Wastewater Treatment Plant

The site for the potential wastewater treatment plant is located within the Drainage Area A of the project site. As discussed above, this area naturally drains to Dry Creek, a seasonal tributary to Santa Ana Creek. The effluent produced by the wastewater treatment facility would be treated to a Class 1 level, suitable for unrestricted landscape irrigation under Title 22 of the California Code of Regulations, and would be stored in a holding pond, pending its use for landscape irrigation within the project site. It is therefore not anticipated that water quality impacts would result from the treated effluent produced by the facility. Effluent in the pre-treatment stage at the plant, however, could potentially impact water quality through

accidental upset or spillage, which could result in a significant impact to water quality. However, due to the stringent design, permitting and monitoring requirements under applicable laws and regulations, which will be imposed on this facility in the event it is ultimately constructed, accidental upset or spillage is unlikely to occur. Full discussion on the potential wastewater treatment plant, including potential impacts to water quality, is found in **Section 3.14, Wet and Dry Utilities**. Based on the discussion and information in this section, potential impacts to water quality associated with the treatment plant are considered to be **less than significant**.

Flood Hazards

According to the Flood Insurance Rate Map (FIRM) No. 06069C0205D covering the project site (effective April 16, 2009), the area subject to flooding during the 100-year event is confined to the area adjacent to Santa Ana Creek. No portion of the project site, including the area proposed for the wastewater treatment facility, is subject to flooding during the 100-year or 500-year events. The project site carries a flood zone designation of 'X', the lowest flood threat designation. Therefore, flooding is considered a **less than significant impact**.

Inundation by Seiche, Tsunami, or Mudflow

Seiches and tsunamis are the result of waves of bodies of water created by earthquakes. A tsunami is not likely to affect the project site as the nearest point of the Pacific Ocean is approximately 40 miles away. It is unlikely that seiches would cause an impact on the proposed project since there are no large water bodies in the vicinity of the project site. Since the project site is relatively flat, no mudflow impacts on the proposed project would occur. Therefore, inundation caused by seiche, tsunami, or mudflow is considered **less than significant**.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Surface Water Runoff and Contamination

Impact 3.8-5 The proposed project in combination with past, present and reasonably foreseeable, probable future development in the area may cause a cumulative effect with regard to drainage and water quality. This cumulative impact is considered **less than significant**.

Development of the project site would contribute to cumulative drainage flows and surface water quality impacts when combined with past, present, and reasonably foreseeable, probable future growth and development in the project vicinity, including:

- **Gavilan College San Benito Campus** This project involves the construction of a 3,500 full-time equivalent (FTE) student college facility, as well as approximately 285 residential units and 35,000 square feet of retail space, on a 137-acre site at the northeast corner of Fairview Road and Airline Highway.
- **Award Homes Subdivision** 595 single family homes and 100 apartment units are proposed for this project on the west side of Fairview Road, south of St. Benedict's Church and east of Calistoga Drive within the City of Hollister.

It is also anticipated that, over time, the Fairview Road corridor will be further developed, consistent with the Area of Special Study designation of this corridor.

3.8 SURFACE WATER HYDROLOGY AND WATER QUALITY

The County of San Benito, however, requires that new development mitigate storm drainage impacts through the construction of retention/detention basins with adequate capacity to handle projected flows generated by each development, including the on-site stormwater capacity to release project flows at the 10-year, pre-development rate from the site. The project has been conceptually designed to meet this release requirement, and will be subject to performance standards and the County's grading and drainage permitting process to ensure the stormwater drainage and detention system conforms to this requirement. The proposed project shall also be subject to requirements of the Regional Water Quality Control Board regarding short-term and long-term water quality impacts. The application of these standards and practices at proposed development sites would result in a minimization of the combined impact, by limiting runoff to a pre-development, 10-year storm event, and implementation of Specific Plan policies and additional mitigation measures protecting surface water quality. Therefore, the project would not incrementally contribute to any cumulative stormwater runoff and contamination impacts, which therefore are considered to be **less than significant**.

REFERENCES/DOCUMENTATION

- Central Coast Water Quality Control Board. *Water Quality Control Plan for the Tulare Lake Basin, 2nd Edition*. 2004
- City of Hollister. *Storm Water Management Plan (Currently Adopted Plan)*. February 2, 2005
- County of San Benito. *General Plan, Open Space and Conservation Element (1995)*.
- County of San Benito. *Santana Ranch Draft Specific Plan*, November 2009.
- Federal Emergency Management Agency, Flood Insurance Rate Map No. 06069C0205D, effective April 16, 2009.
- Governor's Office of Planning and Research, State of California. *Guidelines for Implementation of the California Environmental Quality Act, as amended*. 2009.
- Ruggeri-Jensen-Azar & Associates (RJA). October 2008. *Engineering Report for Development of Santana Ranch*.