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Draft Mitigated Negative Declaration
11NGD-00000-00008

Las Vegas – San Pedro Creeks Capacity Improvement Project

On Route 101 in Santa Barbara County
Postmile 22.3-23.2

Caltrans Authorization EA 05-0G0700
April 13, 2011

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1.0 REQUEST/PROJECT DESCRIPTION

The Santa Barbara County Flood Control District (CFCD) in partnership with Caltrans is proposing hydraulic capacity improvements along Las Vegas and San Pedro Creeks under Calle Real, Route 101, and the Union Pacific Railroad (UPRR). The proposed project would increase the hydraulic capacity of the two creeks from a 10-year to a 25-year storm water event (Figure 1; all figures are presented in Section 12.0 Attachments).

1.1 Background

The project area is located in the Cities of Goleta and Santa Barbara north of Hollister Avenue between Fairview Avenue and Los Carneros Road. Both Las Vegas Creek and San Pedro Creek run north to south and pass under the local City of Goleta Street Calle Real, Route 101, and the UPRR. The creeks originate in the Santa Ynez Mountains and extend across the Goleta Valley to discharge into the Goleta Slough adjacent to the Pacific Ocean.

The existing hydraulic capacity of Las Vegas and San Pedro Creeks has become inadequate at specific locations, resulting in break-out flooding during 10-year storm events. This hydraulic capacity improvement project would involve Calle Real within the City of Goleta, Route 101 within Caltrans right-of-way (ROW), the UPRR within the UPRR ROW, and the City of Santa Barbara Airport properties downstream of the UPRR.

Currently, the Las Vegas Creek culverts under Route 101 and under the UPRR facility have the hydraulic capacity to carry peak flows of less than a ten-year event, while San Pedro Creek under Calle Real, Route 101 and the UPRR has the hydraulic capacity to carry peak flows of no greater than a ten-year event. As a result, the existing hydraulic capacities of the Las Vegas and San Pedro Creeks under Calle Real, Route 101 and UPRR result in overtopping of the roadway surface at Calle Real and Route 101 during heavy rains. In 1995, 1998, and 2000 flooding of Calle Real and Route 101 occurred. These flooding events resulted in closures of both Calle Real and Route 101.

Improvements are proposed for Las Vegas and San Pedro Creeks starting at Calle Real within the City of Goleta, Route 101 within Caltrans right-of-way (ROW), the UPRR within the UPRR ROW, and the City of Santa Barbara Airport properties downstream of the UPRR. The project has been separated into three components to facilitate implementation by CFCD and Caltrans. The three components are identified as:

- Project A: Improvements within Caltrans ROW and on San Pedro Creek extending to Calle Real within City of Goleta ROW;
- Project B: Improvements within UPRR ROW; and
- Project C: Improvements within the City of Santa Barbara Airport properties downstream of the UPRR.

This Mitigated Negative Declaration evaluates all three components of the project.

The specific roles and responsibilities of Caltrans and CFCD for developing the project are contained in Cooperative Agreement #05-CA-0154.

1.2 Project Construction Elements

Project details are provided below, presented in a north-to-south direction.

Project A: Improvements within Caltrans ROW and on San Pedro Creek Extending to Calle Real within the City of Goleta ROW

Caltrans would be responsible for the following project elements (see Figures 3 and 4):

- Increase the capacity of Las Vegas Creek under Route 101 by replacing existing culverts with a bridge The resulting channel would have a natural bottom (unpaved, without any impervious surfaces).

- Increase the capacity of Las Vegas Creek under the southbound Route 101/ Fairview Avenue off-ramp by replacing existing culverts with a three-sided concrete box culvert. The resulting channel will also have a natural bottom.

- Increase the capacity of San Pedro Creek under Calle Real and under Route 101 by replacing existing culverts with a bridge with a natural bottom. All work to be completed within Caltrans ROW and within the City of Goleta ROW at Calle Real.

- **Utilities.** Existing utilities affected by the project include a Goleta Sanitary District (GSD) sewer line and a Goleta Water District (GWD) water supply main. The sewer line would be protected in place and the water main would be relocated. Caltrans would coordinate directly with the GSD and GWD.

Project B: Improvements within the UPRR ROW and CFCD ROW Upstream of Calle Real

The CFCD would partner with the UPRR to implement the following project elements (see Figures 5 and 6).

- Replacement of the UPRR bridge over Las Vegas Creek.

- Replacement of the UPRR bridge over San Pedro Creek.

- Creek channel conform work (i.e., the improvements that provide a transition between proposed and existing channel characteristics) between the proposed UPRR bridges and the proposed Caltrans bridges.

- Hydraulic Drop Structure. A Hydraulic drop structure is needed in San Pedro Creek upstream of Calle Real (see Figure 7). This element is needed to address a change in elevation along San Pedro Creek and to transition from the existing upstream concrete lined channel to the new natural channel bottom of San Pedro Creek. Because construction of this element is contingent on the order of downstream construction (refer to Section 1.3 below), the CFCD would design and build it. However, a future Cooperative Agreement would be developed defining how this element would be funded by the respective agencies

Project C: Improvements within the City of Santa Barbara Airport Properties Downstream of the UPRR

The CFCD would implement the following project elements (see Figure 8).

- Las Vegas Creek conform work between the proposed wider UPRR bridge and downstream to the existing Las Vegas Creek within the Twin Lakes Golf Course.

- San Pedro Creek conform work between the proposed wider UPRR bridge and downstream to the existing San Pedro Creek.

- Installation of a berm and floodwall on the Santa Barbara Airport property located along the west side of the San Pedro Creek channel north of Hollister Avenue within Airport Long-Term Parking Lot #2 to compensate for water surface elevation increases resulting from upstream capacity improvements.

1.3 Interim and Ultimate Project Configurations

In order to accommodate the funding requirements of Caltrans and the CFCD, it became necessary to devise a method to allow the construction of the Project A in advance of Projects B and C. (Projects B and C must be built in a specific downstream to upstream order).

An Interim Project has been developed that would facilitate the construction of improvements within the Caltrans ROW and Calle Real on San Pedro Creek in such a way that the CFCD could implement the remainder of the project elements on timelines that are compatible with County of Santa Barbara funding sources, and agreements with other agencies.

Project A-Interim

The Project A-Interim consists of all items that are listed above in section 1.2. In addition, wing walls would be installed at the inlets of the new structures on Las Vegas and San Pedro Creeks. The function of the walls is to restrict flow in the new creek channels to replicate the existing hydraulic channel capacity. A temporary creek bottom would be constructed by placing engineered fill new channel bottoms so that the Project A-Interim channel profile would restore the pre-construction channel profile. About 100 feet of rock slope protection (RSP) would be installed in the San Pedro Creek channel in order to transition from the upstream, concrete-lined channel to the new, natural-bottom channel. All bridge and culvert structures would be built to ultimate lines and grades.

Ultimate Project

The Ultimate Project consists of all the bulleted project elements described above in Section 1.2. It includes all elements of Projects A, B, and C.

Implementation Scenarios

In the event that funding is not available for CFCD to proceed with the construction of Project B and C either ahead of or at the same time as Project A, Caltrans would implement Project A-Interim. Subsequently, the CFCD would implement Projects B and C. In this scenario, the CFCD would be responsible for implementing modifications needed to convert Project A- Interim into Project A. The needed modifications would involve the removal of wing walls, Project A-Interim temporary creek bottoms, and the Interim grouted RSP on San Pedro Creek. CFCD would also construct the Ultimate Project channel modifications needed to create the new channel width and profile in the area between the Caltrans ROW and UPRR ROW.

In the event that Projects B and C proceed ahead of or at the same time as Project A, Caltrans would implement Ultimate Project A without using any of the Interim elements. In this scenario, the Hydraulic Drop Structure upstream of Calle Real on San Pedro Creek would be constructed by CFCD *after* Caltrans has would have completed the majority of work on San Pedro Creek, and all downstream areas would be ready to receive design flows.

Final Channel Conforms

Responsibility for final channel conforms is dependent on which of the above scenario occurs. Responsibility will be determined based on which projects are constructed first. At each conform, the subsequent project and its respective agency would be responsible for building final conforms to the project component that was previously completed. If construction of the projects would occur such that final conform work would occur simultaneously, the respective agency Resident Engineers would negotiate as to which construction crew would complete the work, and costs would be evenly divided.

Fish Passage

All proposed creek improvements, both interim and ultimate, would be designed to allow for fish passage. The proposed hydraulic drop structure located upstream of Calle Real in San Pedro Creek would not, however, be fish passable. This is because the existing concrete-lined channel upstream of the proposed drop structure is not currently fish-passable, and is outside of the proposed project area and scope. All proposed Interim and Ultimate Project channel improvement areas would have a natural bottom, except for the installation of Interim Project RSP on San Pedro Creek described above, and permanent RSP as part of the proposed hydraulic drop structure upstream of Calle Real in San Pedro Creek.

The proposed project includes the following components to avoid or minimize adverse impacts to the Southern California Steelhead DPS during project construction:

1) Pre-construction surveys shall be conducted by the US Fish and Wildlife Service (USFWS)-approved biologist within all suitable steelhead habitat on site immediately prior to construction to determine if steelhead are actively present in the work area.
2) Construction activity shall avoid actively flowing water, where feasible.
3) Any shallow or deep aquatic habitat including existing pools, riffles, and plunge pools shall be retained and/or restored within the impacts limits, where feasible.
4) Any bridge construction activities and grading resulting in ground or vegetation disturbance occurring within the channel shall occur when water levels are low, where feasible.
5) If dewatering is anticipated, a pump shall be used to remove water to an upland disposal site or a filtering system shall be used to collect, filter, and return clear water back to the creek(s).
6) The disposal or storage of paint, solvents, stucco, fuel, cement, excess soil, mortar, and other toxicants within 100 feet of sensitive resources including Las Vegas and San Pedro Creeks shall be prohibited.
7) A qualified biological monitor shall be present on site while crews are working within the channel bed and banks of Las Vegas and San Pedro Creeks to protect preserved biological resources and enforce project conditions and compliance.
8) Where appropriate, silt fences, settling basins, and other sediment control devices shall be temporarily used during construction to control sedimentation and turbidity releases.
9) Heavy equipment shall use existing access ramps, roads, and/or disturbed land covers or areas where vegetation removal is proposed as part of the project to access work areas within Las Vegas and San Pedro Creeks.

1.4 Project A – Additional Details

Las Vegas Creek

The single-span concrete slab bridge conveying Las Vegas Creek flows under Route 101 would be 45-feet long and 124-feet wide (Figure 2). The existing concrete box culvert under the southbound Route 101/Fairview Avenue off-ramp would be replaced with a three-sided concrete box culvert (Figure 3).

The proposed three-sided concrete box culvert under the southbound Route 101/Fairview Avenue off-ramp would be constructed using cut and cover methods and have a natural bottom (Figure 4). The southbound Fairview Avenue off-ramp would be backfilled and repaved back to its original condition. The southbound Route 101/ Fairview Avenue off-ramp would be closed for up to six months, and the northbound Route 101/ Fairview Avenue off-ramp for up to 18 months; each would be reopened when work in this area is complete.

Excavation within Las Vegas Creek would incorporate up to 10-foot wide, 2:1 cut slopes along creek banks (i.e., between Calle Real and Route 101 Northbound, and south of the UPRR bridge) and cuts of between 2- and 11-feet deep within the creek channel.

San Pedro Creek

The existing double-reinforced concrete box culvert conveying San Pedro Creek flows under Route 101 and the adjacent Calle Real frontage road would be replaced with a single-span concrete slab structure 45-feet long and 197-feet wide (Figure 3 and 5).

Excavation within San Pedro Creek would incorporate up to 20-foot wide, 2:1 cut slopes along creek banks (i.e., north of Calle Real, between Route 101 and the UPRR bridge, and south of the UPRR bridge) and cuts of between 2-and 8-feet deep within the creek channel.

Grouted RSP within San Pedro Creek would be placed downstream of the hydraulic drop structure for a length of 100-feet under the bridge at Calle Real and Route 101. This RSP would serve as scour protection immediately downstream of the proposed hydraulic drop structure and the existing concrete-lined channel.

Staging and Equipment Storage Areas

Temporary staging areas for construction equipment parking and materials storage would occur west of the Las Vegas Creek improvements north and south of Route 101 and east of San Pedro Creek south of Route 101 (see Figure 9). Haul routes between the two creeks would parallel the UPRR and southbound Route 101.

1.5 Project B – Additional Details

The existing facility being used by UPRR and Amtrak consists of one mainline track. Improvements to the existing hydraulic capacity at both the San Pedro and Las Vegas Creeks through the UPRR ROW are proposed by replacing the existing structures in these locations. The intent of the hydraulic capacity improvements would be to upgrade the existing drainage facilities to accommodate a 100-year rain event.

UPRR's standard design criteria are: (1) the 50-Year Water Surface Elevation cannot be higher than the bottom of the bridge super-structure (low chord) of the structure; and (2) the 100-Year Water Surface Elevation cannot exceed the sub-grade elevation of the tracks. The hydraulics model of the proposed improvements indicates that the proposed project's bridge opening sizes would meet current UPRR design requirements.

The proposed improvements at the UPRR creek crossings would replace the existing bridges with a 94-foot, three-span pre-cast concrete box girder bridge over San Pedro Creek and a 90-foot, three-span pre-cast concrete box girder bridge over Las Vegas Creek. Figure 5 shows a cross-section elevation of the proposed UPRR bridge at Las Vegas Creek, and Figure 6 shows a cross-section elevation of the proposed UPRR bridge at San Pedro Creek. The bridge pilings would be installed within a period of 4 to 6 hours when rail service would be temporarily suspended. Demolition and replacement of the bridges would occur during a maximum 48-hour suspension of train service.

Removal of Interim Project A Modification items

The needed modifications would involve the removal of wing walls, Project A-Interim temporary creek bottoms, and the Interim grouted RSP on San Pedro Creek. CFCD would also construct the Ultimate Project channel modifications (for Project B) needed to create the new channel width and profile in the area between the Caltrans ROW and UPRR ROW.

Staging and Equipment Storage Areas

Temporary staging areas for construction equipment parking and materials storage would occur west of the Las Vegas Creek improvements north and south of Route 101 and east of San Pedro Creek south of Route 101 (see Figure 9). Haul routes between the two creeks would parallel the UPRR and southbound Route 101.

1.6 Project C – Additional Details

Immediately downstream of the proposed UPRR bridges over Las Vegas Creek and San Pedro Creek, capacity improvements to the creeks would be made to accommodate the proposed bridges discussed above. Improvements would consist of creek channel widening at Las Vegas Creek to a total width of 90 feet at the UPRR Bridge, narrowing to a width of approximately 20 feet moving downstream. The length of channel improvements on Las Vegas Creek downstream of UPRR is approximately 200 feet. At San Pedro Creek, widening would occur to a total width of approximately 90-feet conforming to existing channel for a length of approximately 80-feet. These capacity improvements would occur within the existing municipal Twin Lakes Golf Course property owned by the City of Santa Barbara Airport.

A flood wall and berm would be installed on Santa Barbara Airport property adjacent to the western channel bank of San Pedro Creek and north of Hollister Avenue, to compensate for water surface elevation increases resulting from capacity improvements upstream, in order to protect downstream facilities and properties. The preliminary dimensions of a berm necessary to provide stream flow flood control are 1,100 feet long and vary in width from 30 feet to 100 feet (Figure 8). The berm height is expected to be 2.6 feet at the downstream end near Hollister Avenue decreasing to 0.75 feet at the upstream end. The berm would be able to contain 25-year flood waters and does not include any freeboard. Side slopes for the berm would be constructed at a 20:1 (height to vertical) slope.

A floodwall is also required upstream of the berm along the western bank of San Pedro Creek. The floodwall would be able to contain 100-year flood waters in the channel, but there is potential for backwater flooding in low overbank areas near the end of the floodwall. In order to obtain FEMA certification for the levee, the floodwall requires 3.5 feet of freeboard at the upstream end, tapering down to 3 feet at the downstream end. The floodwall height is expected to be 4.5 feet at both of the ends increasing to 5 feet at center, including freeboard.

Temporary staging areas for creek capacity improvements on Santa Barbara Airport property would be adjacent to the proposed flood wall and berm, and an undeveloped dirt area north of the Airport parking lot and south of San Pedro Creek (Figure 10).

1.7 Construction Schedule and Traffic Control Measures

Estimates of construction duration follow. Specific construction timing of these elements is undetermined, however, it is generally expected that Project A-Interim would be constructed in advance of the other project elements.

- Project A: Improvements within Caltrans ROW and on San Pedro Creek Extending to Calle Real within the City of Goleta ROW - 21 months.

- Project B: Improvements within the UPRR ROW and CFCD ROW Upstream of Calle Real - 7 months.

- Project C: Improvements within the City of Santa Barbara Airport Properties Downstream of the UPRR - 5 months.

Project A construction activities would temporary impact traffic flow on local roadways and intersections including Route 101, Fairview Avenue, Los Carneros Road, Hollister Avenue, Calle Real, and Cathedral Oaks Road. The following construction traffic control measures would be implemented:

- install a temporary traffic signal at the Calle Real/Los Carneros Road intersection;
- temporarily restripe the southbound Route 101/Los Carneros Road Off-Ramp to allow a double left-turn movement to northbound Los Carneros Road;
- potential temporary adjustments to signal timing along Calle Real between Patterson Avenue and Los Carneros Road, along Hollister Avenue, and along Cathedral Oaks Road; and
- temporary detour of pedestrians and bicyclists using the shoulders of Calle Real (eastbound bicycles would use the southern shoulder, while westbound bicycles and all pedestrians would use the northern shoulder).

1.9 Vegetation Removal and Restoration

Vegetation removal associated with both permanent and temporary impacts (i.e., staging areas) required to accommodate project improvements is summarized in Table 1, below:

Table 1. Vegetation Removal

Project	***Mature Vegetation[1] to be Removed***
A: ***Improvements within Caltrans ROW and on San Pedro Creek Extending to Calle Real within the City of Goleta ROW***	5 – eucalyptus trees 2 – skyline eucalyptus tree 1 – sycamore tree **TOTAL: 8 trees** 80-feet of shrubbery on the Route 101/Calle Real fence line, on San Pedro Creek
B: ***Improvements within the UPRR ROW and CFCD ROW Upstream of Calle Real***	5 – cottonwood trees 3 – sycamore trees 1 – skyline sycamore tree 4 – willow trees 6 – Italian cypress 2 – eucalyptus trees 1 – coast live oak **TOTAL: 22 trees** 200-feet of shrubbery on the Route 101/Fairview Avenue southbound off-ramp embankment
C: ***Improvements within the City of Santa Barbara Airport Properties Downstream of the UPRR***	4 – willows 2 – eucalyptus trees 1 – skyline eucalyptus tree **TOTAL: 7 trees** 3 - non-native shrubs (e.g., pittosporum)

[1] Mature vegetation is defined as trees with trunk diameters of 6 inches and greater measured at 4 feet from the ground, or other mature vegetation such as shrubs.

Improvements to the southbound Route 101/Fairview Avenue off-ramp and compliance with current freeway shoulder widths would result in the following changes to the existing vegetation within the Route 101 median barrier east of the Fairview Avenue Overpass: removal of 340 feet of existing median barrier with a 3.5-foot planter box area, and replacing it with 200 feet of an approximately 2-foot wide planter box area in which replacement of permanent irrigation and vegetation would be established. Removal of portions of the planter box barrier is necessitated by efforts to comply with the standard 10-foot shoulder width for the three northbound Route 101 traffic lanes under the Fairview Avenue Overpass. A Mandatory Design Exception would be allowed to accommodate an increased shoulder width from 3.25 to 5.0 feet, instead of 10.0 feet. A net loss of 140 feet of Route 101 median barrier vegetation to the east of the Fairview Avenue Overpass would result. Shrubbery extending approximately 200 feet to the west of the Fairview Avenue Overpass embankment on the Route 101/Fairview Avenue southbound off-ramp would be removed. Existing plantings at the northbound Route 101/Fairview Avenue on-ramp would be marked and fenced as an Environmentally Sensitive Area (ESA) that would not be disturbed by construction activities, including equipment and materials staging.

Replacement of trees and vegetation removed would occur onsite and be implemented within and near the areas of disturbance to the maximum extent possible considering safety, maintenance, and horticultural feasibility. If 100 percent tree replacement on-site is not feasible, offsite mitigation shall be provided by planting of replacement trees at a site or sites within view of the project area. Additional detail is provided in the Aesthetics/Visual Resources section, 4.1.

1.10 Grading

The grading for the proposed project is summarized in Table 2 below. Calculations are provided in terms of cubic yards (CY):

Table 2. Preliminary Grading Quantities (CY)			
Location	**Cut**	**Fill**	**Structural Backfill (Import)**
Las Vegas Creek Mainline	1,022		100
San Pedro Creek Mainline	1,888		228
Las Vegas Creek Route 101 Off-Ramp	14,470	13,370	
UPRR Las Vegas Creek Bridge	2,000		13
UPRR San Pedro Creek Bridge	3,000		13
Totals	**22,380**	**13,370**	**327**

Table 2 indicates that the project would result in the need to export approximately 9,000 CY of excess soils, while importing approximately 325 CY of structured fill.

2.0 PROJECT LOCATION

The proposed project area is bounded by the west bank of San Pedro Creek, and northward on San Pedro Creek just beyond Calle Real. It extends east of Las Vegas Creek and the U.S. 101/Fairview Avenue Overpass, and south to Hollister Avenue (Figure 1). The northern portion of the project area, extending south from Calle Real to just south of the Union Pacific Railroad (UPRR) right of way (ROW), is located within the City of Goleta. The southerly portion of the project area extending south of the UPRR ROW to Hollister Avenue, including the Twin Lakes Golf Course and Santa Barbara Airport Overflow Parking Lot, are located within the City of Santa Barbara Airport jurisdiction. Both Las Vegas Creek and San Pedro Creeks run north to south and pass under Calle Real, Route 101, the UPRR ROW, and Hollister Avenue. Numerous Assessors' Parcel Numbers (APN) are involved. The project area is entirely within the Third Supervisorial District.

Table 3. Site Information	
Comprehensive Plan Designation	City of Goleta: Public/Quasi-public. City of Santa Barbara: Major Public and Institution
Zoning District, Ordinance	City of Goleta: Light Industry (M-1). City of Santa Barbara: Municipal Code Chapter 29.23 C-R Commercial and Recreational Zone
Site Size	Permanent Disturbance Area: 3.44 acres; Temporary Disturbance Area: 3.96 acres. Total Project Area: 7.40 acres
Present Use & Development	Las Vegas and San Pedro Creeks are maintained by the SBCFCD for flood control purposes.
Surrounding Uses/Zoning	North: Professional offices (Professional and Institutional PI), single family residential to northwest (R-1/E-1), Fairview and Calle Real Shopping Centers to north and northeast (Shopping Center SC) South: Twin Lakes Golf Course south on Las Vegas Creek (Major Public and Institution) Santa Barbara Airport commercial uses south of San Pedro Creek (Airport Commercial A-C). East: Retail commercial north of Calle Real; Twin Lakes Golf Course (Major Public and Institution) south of UPRR West: Single family residential north of Calle Real (R-1/E-1); Route 101 (Light Industry M-1) west of San Pedro Creek north of Twin Lakes Golf Course; Light Industry south of UPRR ROW and north of Hollister Avenue (Airport Industrial Area Specific Plan Zone, SP-6)
Access	North to South: Calle Real; Fairview Avenue; U.S. (State Route) 101; and Hollister Avenue
Public Services	Water Supply: Goleta Water District Sewage: Goleta Sanitary District Fire: Santa Barbara County Fire Department Station 14, 320 Los Carneros Road Other: Goleta Union School District (elementary, junior high); Santa Barbara Unified School District (high school)

3.0 ENVIRONMENTAL SETTING

3.1 PHYSICAL SETTING

The project site is within the Goleta Valley, a gentle alluvial fan and coastal plain stretching southward from the Santa Ynez Mountains to the Pacific Ocean. The valley is incised by north-south trending drainages such as Las Vegas and San Pedro Creeks. Topography is very level within the project area. Roadways traversing the project area include three that run from east to west. The major corridor is Route 101; Calle Real is the frontage road to the north, and Hollister Avenue is the business district thoroughfare to the south. The Fairview Avenue / Route 101 Overpass runs north to south, perpendicular to these roadways.

Slope/Topography: Nearly level within the Goleta Valley.

Fauna: San Pedro Creek is designated critical habitat for Southern California Steelhead (*Oncorhynchus mykiss*), federally listed as an endangered species. San Pedro Creek likely provides pass-through habitat for steelhead during the winter and early spring months when water levels are high. The federally listed endangered southern steelhead was identified at the confluence of Las Vegas and San Pedro Creeks in spring 2008, just off site and downstream of the project area.

Flora: No federal or state-listed threatened or endangered flora species have been identified during protocol-level surveys within the project area. Riparian habitat including willows, sycamores, and oak trees exist along both Las Vegas and San Pedro Creeks. Ornamental shrubbery exists adjacent to Route 101 shoulders and in the median strip.

Archaeological Sites: Two prehistoric archaeological sites, CA-SBA-60 and CA-SBA-1703, are recorded within the project area. Extended Phase 1 boundary identification and Phase 2 significance testing excavations have concluded that the portions of CA-SBA-60 within the project area have been previously disturbed, and are therefore not considered eligible for listing on the state California Register of Historical Resources (CRHR) or the federal National Register of Historic Places (NRHP). Portions of CA-SBA-1703 are intact and are considered eligible for listing on the CRHR and the NRHP.

Soils: Soils throughout the project area are Camarillo fine sandy loam, except for Goleta loam, 0 to 2 percent slopes, on the northern reach of Las Vegas Creek.

Surface Water Bodies: Las Vegas Creek and San Pedro Creek are intermittently flowing creeks that each support riparian vegetation along portions of their reaches within the project area.

Surrounding Land Uses: Las Vegas Creek and San Pedro Creek are within the urban area of the City of Goleta and Santa Barbara Airport District. Residential uses are located only to the west and north of the project site on San Pedro Creek. Commercial and professional office uses are located to the north, east, and south of the project site on Las Vegas Creek. Recreational uses (Twin Lakes Golf Course) abut the east side of San Pedro Creek and both sides of Las Vegas Creek. Industrial uses are located west of San Pedro Creek.

Existing Structures: No structures exist within the project area. Hard bank protection, culverts, and bridges exist on both creeks and under Calle Real, Route 101, and the UPRR.

3.2 ENVIRONMENTAL BASELINE

The environmental baseline from which the project's impacts are measured consists of the on the ground conditions described above.

4.0 POTENTIALLY SIGNIFICANT EFFECTS CHECKLIST

The following checklist indicates the potential level of impact and is defined as follows:

Potentially Significant Impact: A fair argument can be made, based on the substantial evidence in the file, that an effect may be significant.

Less Than Significant Impact with Mitigation: Incorporation of mitigation measures has reduced an effect from a Potentially Significant Impact to a Less Than Significant Impact.

Less Than Significant Impact: An impact is considered adverse but does not trigger a significance threshold.

No Impact: There is adequate support that the referenced information sources show that the impact simply does not apply to the subject project.

Reviewed Under Previous Document: The analysis contained in a previously adopted/certified environmental document addresses this issue adequately for use in the current case and is summarized in the discussion below. The discussion should include reference to the previous documents, a citation of the

page(s) where the information is found, and identification of mitigation measures incorporated from the previous documents.

4.1 AESTHETICS/VISUAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. The obstruction of any scenic vista or view open to the public or the creation of an aesthetically offensive site open to public view?				✓	
b. Change to the visual character of an area?		✓			
c. Glare or night lighting which may affect adjoining areas?				✓	
d. Visually incompatible structures?				✓	

The following analysis is based on the *Visual Impact Assessment of the Las Vegas/ San Pedro Creeks Capacity Improvements Project*, prepared by Dudek (October 2010). The report is available for review at Santa Barbara County Flood Control District offices.

Existing Setting:

The Las Vegas and San Pedro Creeks project area is within the urban area of the City of Goleta, 50 to 90 feet west of the Route 101/Fairview Avenue Overpass. Public roadways with view corridors traversing the project include: Route 101; Calle Real to the north, and Hollister Avenue to the south. The Fairview Avenue / Route 101 Overpass runs north to south, perpendicular to these roadways. The visual character of the project site is primarily that of a transportation corridor, though the southern portion of the creeks pass through the public Twin Lakes Golf Course south of Route 101 and the UPRR.

Travelers along Route 101 looking northward experience periodic long-range vistas of the Santa Ynez Mountains, though close-in views of adjacent commercial and residential development and screening vegetation are more common. No comparable long-range views are experienced southward, as screening vegetation along the roadway edge, creeks, and built berms constrain the traveler to close-in perspectives. Views from Calle Real southward towards the project site are also dominated by close-in views of riparian vegetation along Las Vegas Creek, and shrubs bordering the southern roadway shoulder and chain link fencing separating the Route 101 to the south. Views from Hollister Avenue northward include periodic glimpses of the Santa Ynez Mountains in the background and the Twin Lakes Golf Course in the middle-ground, but are dominated by close-up views of retail and commercial development, parking lots, and the hard bank surfaces along both Las Vegas and San Pedro Creeks. Views from the Fairview Avenue Overpass, due to their elevation above Route 101, are expansive and include long-range vistas of the Santa Ynez Mountains to the north, the Goleta Valley westward, and the Pacific Ocean to the south. Close-in views of vegetation along Calle Real and Route 101 are also experienced.

Although Las Vegas Creek and San Pedro Creek traverse the project area, surface water in these drainages is not an important visual element. The normal flow through Las Vegas Creek north of Route 101 and south of Calle Real can be experienced from the Fairview Avenue Overpass, but it is relatively shallow, with little exposure. No other surface water can be observed due to intervening culverts and/or riparian vegetation.

Vegetation is the defining component of visual character along roadways throughout the project area and is a mix of riparian, prominent skyline eucalyptus and sycamore specimens, coast live oaks, and other non-native shrubs.

The existing visual quality within the project area is very high, as the most expansive views are from Route 101 and the Fairview Overpass, which are identified as Scenic Corridors in the City of Goleta General Plan. This view quality is due primarily to the abundance of mature native and non-native vegetation along Las Vegas and San Pedro Creeks, and the skyline eucalyptus and sycamore trees. Among the few visual detractors within the project limits are high volumes of vehicular traffic on the roadways themselves, and street lights along Calle Real. Overhead utility lines also exist adjacent to the single skyline sycamore tree on San Pedro Creek at Calle Real.

The primary affected viewers are those who travel the highway and are in the immediate vicinity of the project. Viewers through this area generally have high expectations regarding scenic quality, and the local scenic designations further heighten viewers' sensitivity along this route.

County Environmental Thresholds. The County's Visual Aesthetics Impact Guidelines classify coastal and mountainous areas, the urban fringe, and travel corridors as "especially important" visual resources. A project may have the potential to create a significantly adverse aesthetic impact if (among other potential effects) it would impact important visual resources, obstruct public views, remove significant amounts of vegetation, substantially alter the natural character of the landscape, or involve extensive grading visible from public areas. The guidelines address public, not private views.

Impact Discussion:

a. Replacement of the existing culverts conveying Las Vegas and San Pedro Creek waters under Route 101 would not result in any noticeable impact on the visual environment experienced by motorists, bicyclists, or pedestrians travelling on local roadways. The finished elevation of the concrete bridges would be relatively flush with the existing road grade, and the standard concrete would be consistent with the existing material treatment. The top of the bridges would be essentially flush with existing curbs on Calle Real, such that no additional visual impact would occur. The three-sided concrete box culvert (with a natural bottom) to be constructed at the base of the Route 101 off-ramp would not be visible to travelers on the roadway, given that it will be depressed below the road surface. Replacement of the bridges over the UPPR would not have a substantial effect on visual resources. The proposed bridges would have galvanized, non-reflective steel railings extending 4 feet above the track elevation. These would be relatively consistent with the existing wood rail fencing. The Las Vegas Creek bridge is only visible for a brief duration from the southbound Fairview Avenue / Route 101 off-ramp and the Fairview Avenue Overpass. Depending on the location of vegetation replantings south of the UPRR bridge, the new bridge railing would possibly be visible from the Twin Lakes Golf Course. The relatively low profile of the railing and its limited extent (90-feet long) would not make this new architectural element a substantial visual intrusion when considered in the context of substantial screening vegetation along the south side of the UPRR, north of the Twin Lakes Golf Course.

Proposed structural development would therefore not obstruct existing public views from surrounding roadways or from the UPRR, and would not create an aesthetically offensive site experienced from these public view corridors. ***No impacts on aesthetics/visual resources would result***.

b. Existing vegetation that would be removed represents potential impacts on the existing visual character of the project area. Proposed tree removals identified in Table 1 and illustrated in Figure 12 total 37 mature (greater than 6-inch diameters measured 48-inches from the ground) trees: 8 in Project A; 22 in Project B; and 7 in Project C. These are all considered important visual resources, as the contribute to the visual character as experienced from public view corridors including from Route 101, Calle Real, the Fairview Avenue Overpass, Twin Lakes Golf Course and Hollister Avenue. Of the trees to be removed two eucalyptus and one sycamore tree are considered "skyline" trees, having a substantial height that makes it particularly visually conspicuous: two eucalyptus in Project A along

southbound Route 101; one sycamore in Project B on the east bank of San Pedro Creek, north of Calle Real; and one eucalyptus in Project C along San Pedro Creek on the Twin Lakes Golf Course.

In addition to the trees identified above, an estimated three non-native shrubs (e.g., pittosporum) would be removed along Hollister Avenue at the base of the berm and floodwall on the Santa Barbara Airport property within Project C that screen the project area. The embankment supporting the Route 101/Fairview Avenue Overpass southbound off-ramp would be reconstructed, such that existing sparse shrubbery on the north side of the structure would be almost completely removed. This would leave an exposed section of earthwork visible from Route 101 and Calle Real. Removal of 140-feet of Route 101 median barrier vegetation south of the Fairview Avenue overpass would have a minimal visual impact, in that this ornamental roadside landscaping does not represent a substantial visual resource. It is experienced only briefly at speeds of 65 miles per hour or more, and does not constitute an important near-ground visual resource. The median vegetation is limited in extent to south of the Route 101/Fairview Avenue Overpass, such that removal of 140 feet of the plantings, while retaining the northerly 200 feet of landscaping, would not result in a substantial impairment of a dominant visual landscape along the Route 101 corridor.

Due to the overall reduction in mature vegetation along the corridor, impacts on aesthetics/visual resources would be potentially significant.

c. The proposed project would not introduce any new permanent sources of glare or night lighting which would potentially affect adjoining areas. Construction within the Route 101 corridor would potentially occur during night-time hours, but this activity would be temporary, and the lighting directed to within the transportation corridor. ***No impacts on aesthetics/visual quality of the area would result.***

d. The proposed project would not introduce any visually incompatible structures. Replacement of the existing culverts with bridges conveying Las Vegas and San Pedro Creek waters under Route 101 would not result in any noticeable impact on the visual environment experienced by motorists, bicyclists, or pedestrians travelling on local roadways (see impact discussion **a.,** above). ***No impacts on aesthetics/visual quality would result.***

Cumulative Impacts: The City of Goleta General Plan/Coastal Land Use Plan Final EIR (City of Goleta 2006) analyzed the impacts of buildout of the community planning area on the aesthetics and visual resource of the area (Impact 3.1-1). The EIR found that the impacts of buildout on aesthetics Citywide Visual Character would be significant and unavoidable, and a Statement of Overriding Consideration was adopted. Although the implementation of the Las Vegas – San Pedro Creeks Capacity Improvements Project would contribute to a minor loss of vegetative character along the Highway 101 corridor, this visual change would not be cumulatively considerable when considered in association with buildout of the City of Goleta Community Plan/Coastal Land Use Plan EIR.

Mitigation and Residual Impact:

The following mitigation measures would reduce the project's aesthetic impacts to a less than significant level:

AES-1 Staging Area Fencing – All native trees and eucalyptus trees located within temporary impact staging areas shall be avoided to the maximum extent feasible. Staging areas shall be constrained to the minimum area necessary to successfully complete project construction. Exclusionary Environmentally Sensitive Area (ESA) fencing (either chain link or other material) shall be established at the edge of the defined staging area boundary and adjacent to all existing landscaping adjacent to the Route 101/Fairview Avenue northbound on-ramp to ensure that all equipment and personnel vehicles are parked outside of the sensitive vegetation areas. No construction equipment shall be parked, stored or operated within the protected area. No fill soil, rocks or construction materials shall be stored or placed within the protected area.

Plan Requirements and Timing: This condition shall be printed on all project plans. Fencing shall be graphically depicted on all project plans.

MONITORING: The permitting agency shall review and approve plans. The environmental monitor, Resident Engineer and/or construction inspector shall conduct site inspections to ensure compliance, including fence installation, during grading and construction.

AES-2 In order to protect existing native trees including oaks, sycamores, and willows and skyline eucalyptus specimens and minimize adverse effects of grading and construction onsite, a tree protection and replacement plan shall be implemented. No ground disturbance including soil compaction, soil stock piling, or grading shall occur within the critical root zone of any native or skyline tree unless specifically authorized by the approved tree protection and replacement plan. The tree protection and replacement plan shall include the following :

a. An exhibit showing the location, diameter and critical root zone of all native and skyline trees located onsite.

b. Fencing of all trees to be protected at or outside of the critical root zone. Fencing shall be at least three feet in height of chain link or other material acceptable and shall be staked every 6 feet. The applicant shall place signs stating "tree protection area" at 15-foot intervals on the fence. Said fencing and signs shall be shown on the tree protection exhibit, shall be installed and shall remain in place throughout all grading and construction activities.

c. The tree protection plan shall clearly identify any areas where landscaping, grading, trenching, or construction activities would encroach within the critical root zone of any native or specimen tree. All encroachment is subject to review and approval by the appropriate permitting agency.

d. Any proposed tree wells or retaining walls shall be shown on the tree protection plan exhibit as well as grading and construction plans and shall be located outside of the critical root zone of all protected trees unless specifically authorized.

   i. Any encroachment within the critical root zone of native trees shall adhere to the following standards:

   ii. Any trenching required within the critical root zone of a protected tree shall be done by hand.

   iii. Any roots one inch in diameter or greater encountered during grading or trenching shall be cleanly cut and sealed.

e. No permanent irrigation shall occur within the critical root zone of any native or skyline tree. Drainage plans shall be designed so that tree trunk areas are properly drained to avoid ponding.

f. Only trees designated for removal on the approved tree protection/removal plan shall be removed.

g. Any protected trees with 6-inch diameter trunks measured 48 inches above the ground surface which are removed, relocated and/or damaged (more than 20% encroachment into the critical root zone) shall be replaced on a 10:1 basis with 1-gallon size saplings grown from seed obtained from the same watershed as the project site. Where necessary to remove a tree and feasible to replant, trees shall be boxed and replanted.

h. Any unanticipated damage that occurs to trees or sensitive habitats resulting from construction activities shall be mitigated in a manner approved by the permitting agency. This mitigation may include but is not limited to posting of a performance security, tree replacement on a 10:1 ratio and hiring of an outside consultant biologist to assess the damage and recommend mitigation. The required mitigation shall be done immediately under the direction of the permitting agency prior to any further work occurring on site. Any

performance securities required for installation and maintenance of replacement trees will be released by the permitting agency after its inspection and approval of such installation.

Plan Requirements and Timing: Prior to approval by the permitting agency, the contractor shall submit grading plans, building plans and the tree protection and replacement/removal plan for review and approval by the permitting agency. All aspects of the plan shall be implemented as approved. Caltrans shall comply with standard specification 7-1.11 Preservation of Property.

MONITORING: The environmental monitor shall conduct site inspections throughout all phases of development to ensure compliance with and evaluate all tree protection and replacement/removal measures.

AES-3 Landscaping – A Mitigation Planting Plan shall be implemented within and near the areas of project disturbance to the maximum extent possible considering safety, maintenance, and horticultural feasibility. The project Mitigation Planting Plan prepared by a qualified restoration biologist shall include the following (a Conceptual Mitigation Planting Plan is provided in Figure 13):

a. Native specimen plants and seed stock from locally obtained sources shall be utilized for landscaping purposes.

b. Replacement trees for the skyline sycamore specimens shall be replanted from 24-inch box containers, and skyline eucalyptus specimens with 15-gallon containers. Planting of replacement trees shall occur as close to the area of impact as possible, and within the Route 101 public view corridor. If 100-percent tree replacement on-site is not feasible, offsite mitigation shall be provided by planting of replacement trees at a site or sites within view of the project area. Mitigation for all removed native and non-native vegetation including planting in raised median, willows, trees and shrubbery and vine tree replanting shall require a separate Highway Planting contract including a minimum 3-year plant establishment period ensuring 100-percent survival at the end of that period. In addition, the replacement planting shall be monitored for a period of 5 years. This term includes the initial 3-year plant establishment period. The plantings shall be protected from predation by wild and domestic animals, and from human interference by the use of chain link or other acceptable fencing and gopher fencing during the maintenance period. All mitigation planting shall be developed in coordination with any biological resource mitigation requirements. A total of 1.74 acres are available for replanting within Project A, and 0.54 replanting area within Project B (see Figure 13).

c. The southbound Route 101/Fairview Avenue Overpass off-ramp and onramp embankments shall be planted with permanent shrubbery to cover exposed graded slopes. New shrub planting shall include permanent irrigation and a 3-year plant establishment period.

d. In areas where the existing Route 101 median barrier planter south of the Route 101/Fairview Avenue Overpass is proposed to remain, existing planting shall be protected to the greatest extent possible. If existing planting in these areas is disturbed, it shall be replaced in-kind. The new and reconstructed median barrier planting box shall include continuous ornamental planting that is visually and horticulturally compatible with the existing median planting to the south and throughout the Route 101 corridor. New median planting shall include permanent irrigation and a 3-year plant establishment period.

e. Vines or other appropriate vegetation shall be implemented as necessary to fill in landscaping gaps along the existing chain link fence along the south side of Calle Real, beginning at the Route 101/Fairview Avenue Overpass and ending approximately 200 feet west of the proposed San Pedro Creek Bridge. New vine planting shall include permanent irrigation and a 3-year plant establishment period.

f. Restoration plantings along Las Vegas and San Pedro Creeks shall be consistent with existing Airport and Golf Course operations, as appropriate.

Plan Requirement: The Mitigation Planting Plan shall include the above components as notes and/or specifications. The Mitigation planting plan shall be reviewed and approved by the Santa

Barbara Airport and Twin Lakes Golf Course staff to ensure its consistency with Airport and Golf Course operations. **Timing:** Plans shall be reviewed and approved prior to construction by the permitting agency; vegetation shall be installed within 90 days of construction completion.

MONITORING: The environmental monitor shall check plans and ensure landscaping installation in the field.

A Conceptual Tree Protection and Replacement Plan is illustrated on Figure 13. It indicates that 1.74 acres of tree replanting area exist on Project A, and 0.54 acres exist on Project B. Unlimited area exists on the Twin Lakes Golf Course in Project C. Project A tree replanting requirement areas total 0.60 acres, Project B, 1.39 acres, and Project C, 0.20 acres. Therefore, adequate replanting area exists within the project area for Project A replanting. Project B replanting requirements would be addressed within the APE, as well as adjacent County ROW along Route 101. Project C replanting would occur within the Twin Lakes Golf Course.

Mitigation and Residual Impact

With the incorporation of these measures, residual impacts would be less than significant.

4.2 AGRICULTURAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Convert prime agricultural land to non-agricultural use, impair agricultural land productivity (whether prime or non-prime) or conflict with agricultural preserve programs?				✓	
b. An effect upon any unique or other farmland of State or Local Importance?				✓	

a-b. The project site does not contain a combination of acreage and/or soils which render the site an important agricultural resource. The site does not adjoin and/or will not impact any neighboring agricultural operations.

Mitigation and Residual Impact: No impacts are identified. No mitigations are necessary.

4.3 AIR QUALITY

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. The violation of any ambient air quality standard, a substantial contribution to an existing or projected air quality violation, or exposure of sensitive receptors to substantial pollutant concentrations (emissions from direct, indirect, mobile and stationary sources)?			✓		
b. The creation of objectionable smoke, ash or odors?			✓		
c. Extensive dust generation?			✓		
Greenhouse Gas Emissions	**Poten. Signif.**	**Less than Signif. with Mitigation**	**Less Than Signif.**	**No Impact**	**Reviewed Under Previous Document**
d. Emissions equivalent to or greater than 10,000 metric tons of CO_2 per year from stationary sources during long-term operations?				✓	
e. Emissions equivalent to or greater than 1,100 MT of CO_2E per year or 4.6 MT CO_2E/Service Population (residents + employees) per year from other than stationary sources during long-term operations?				✓	
f. Emissions equivalent to or greater than 6.6 MT CO_2E/Service Population (residents + employees) per year for plans (General Plan Elements, Community Plans, etc.)?				✓	

The following analysis is based on the *Air Quality Study Report, Las Vegas/ San Pedro Creeks Capacity Improvements Project*, prepared by Dudek (June 2009). The report is available for review at Santa Barbara County Flood Control District offices.

County Environmental Threshold:

Chapter 5 of the Santa Barbara County Environmental Thresholds and Guidelines Manual (as amended in 2006) addresses the subject of air quality. The thresholds, along with Santa Barbara County Air Pollution Control District's (SBCAPCD) *Scope and Content of Air Quality Sections in Environmental Documents* (SBCAPCD 2008), provide that a proposed project will not have a significant impact on air quality if operation of the project will:

- emit (from all project sources, mobile and stationary), less than the daily trigger (55 pounds per day) for offsets or air quality impact analysis set in the SBCAPCD New Source Review Rule for any pollutant; and
- emit (from all project sources, both stationary and mobile) less than 25 pounds per day of oxides of nitrogen (NO_X) or reactive organic compounds (ROC) from motor vehicle trips only; and
- not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and
- not exceed the APCD health risk public notification thresholds adopted by the APCD Board; and
- be consistent with the adopted federal and state Air Quality Plans; and
- Expose new or existing receptors to objectionable odors.

Although quantitative thresholds of significance are not currently in place for short-term emissions, CEQA requires that short-term impacts such as exhaust emissions from construction equipment and fugitive dust generation during grading be discussed in an environmental document. In the interest of public disclosure, the SBCAPCD recommends that construction-related NO_X, ROC, particulate matter smaller than 10 microns in diameter (PM_{10}) and particulate matter smaller than 2.5 microns in diameter ($PM_{2.5}$) emissions from diesel and gasoline powered equipment, paving and other activities, be quantified.

Presently, Santa Barbara County is in attainment of the California Ambient Air Quality Standards (CAAQS) for nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and carbon monoxide (CO). The County is also considered in attainment for the state 1-hour standard for ozone as of June, 2007; however, the County violates the California 8-hour ozone standard, implemented in May 2006. Although the County meets the federal PM_{10} standard, the air basin does not meet the state standard for PM_{10}. There is not yet enough data to determine the County's attainment status for either the federal or the state $PM_{2.5}$ standard. The County is currently considered "Unclassifiable/Attainment" for the federal $PM_{2.5}$ standard.

Impact Discussion:

a, c. During construction, the proposed project would generate air pollutants. The exhaust from construction equipment contains hydrocarbons, NO_X, CO, suspended particulate matter, and odors. However, the largest percentage of pollutants would be windblown dust generated during excavation, grading, hauling, and various other activities. The impacts of these activities would vary each day as construction progresses. Dust and odors at some residences very close to the right of way could potentially cause occasional annoyance and complaints.

The project is expected to take approximately 2 years plus 4 months to complete, starting with the construction of Subproject C near the airport properties and subsequent work progressing upstream. Construction of Subproject C would take approximately 5 months to complete; starting in May 2011 and ending in November 2011. Subproject B construction would commence in November 2011, after the completion of Subproject C, and would reach completion 6 months later in May 2012. Subproject A would be the longest phase, requiring 17 months of construction; from May 2012 to December 2013. There would be a temporary increase in local air pollutant emissions during the construction period. There are three major sources for the five primary air pollutants associated with construction of a project. These are: ROC emissions from asphalt use; PM_{10} from grading; and, CO, ROC, NOx, PM_{10}, and $PM_{2.5}$ emissions from construction vehicles exhaust. ROC and NO_X combine in the presence of sunlight to form ozone. These pollutants can contribute to respiratory ailments.

Total Suspended Particulate matter (TSP) would be the major air pollutant generated; PM_{10} would be of particular concern. PM_{10} is about 65% of TSP, and is considered a health hazard that can lead to respiratory ailments, especially in the young and the elderly, who are more prone to respiratory ailments. The primary activities responsible for generation of air pollutants will be soil grading and application of asphalt/concrete products, including the activities themselves, and exhaust from vehicles that perform the operations.

The Road Construction Emissions Model, Version 6.3, developed by the Sacramento Metropolitan Air Quality Management District, was utilized to estimate emissions for both vehicle exhaust and fugitive dust for each Subproject. This worksheet applies EMFAC2007 and OFFROAD2007 modeling data to calculate the project emissions in pounds per day (and kilograms per day) by project phase and tons (and megagrams) over the entire construction period. Construction emissions estimates for Subprojects A, B, and C, and the combined total are provided in Table 4.

Table 4. Estimated Construction Air Quality Emissions

	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2
Subproject A						
Maximum (pounds/day)	3	18	26	16	4	3,580
Total (tons/construction project)	0.5	2.6	4.1	2.1	7.8	449.2
Subproject B						
Maximum (pounds/day)	3	16	28	12	4	3,124
Total (tons/construction project)	0.2	0.8	1.4	0.6	6.2	147.9
Subproject C						
Maximum (pounds/day)	4	15	39	11	3	4,624
Total (tons/construction project)	0.1	0.6	1.2	0.4	5.2	145.7
TOTAL						
Total (tons/construction complete project)	0.8	4.0	6.7	3.1	19.2	742.8

Source: Dudek 2009

Construction-related emissions of NO_x and ROC would not be significant on a project-specific or cumulative basis.

As no short-term construction significance thresholds are established by Santa Barbara County, these emissions would be adverse, but less than significant.

The purpose of the proposed project is to increase capacity and efficiency of the Las Vegas and San Pedro Creeks and would not include improvements to the street system. As such, there would be no long-term operational emissions associated with the proposed project. The project would not affect traffic volumes or capacity or circulation of the local street network. ***Therefore, no long-term emissions or impacts on air quality would occur.***

b. Existing concrete bridge structures (the northbound and southbound Route 101 bridges over Las Vegas and San Pedro Creeks and the Calle Real Bridge over San Pedro Creek) would be demolished and replaced with the proposed project. Because of the potential for older bridges to contain asbestos, a National Elimination System for Hazardous Air Pollutants (NESHAP) notification is required prior to demolition. This notification is given to the local Air Pollution Control District by the construction Contractor. These bridges would require inspection for the presence of asbestos-containing materials, and would be included in the NESHAP notification. ***The application of standard construction measures would ensure that impacts on air quality would remain adverse, but less than significant.***

The project would not result in significant project-specific long-term air quality impacts. No further mitigation measures are required.

d-f. Greenhouse Gases / Global Climate Change

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). Principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone O_3, and water vapor (H_2O).. Combustion of fossil fuels constitutes the primary source of GHGs. GHGs accumulate in the atmosphere, where these gases trap heat near the Earth's surface by absorbing infrared radiation. This effect causes global warming and climate change, with adverse impacts on humans and the environment. Potential effects include reduced water supplies in some areas, ecological changes that threaten some species, reduced agricultural productivity in some areas, increased coastal flooding, and other effects. The effect each GHG has on climate change is measured as a combination of the mass of its emissions and the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP). The GWP varies between GHGs and total GHG emissions are expressed as a function of how much

warming would be caused by the same mass of CO_2. Thus, GHG gas emissions are typically measured in terms of pounds or tons of "CO_2 equivalents" (CO_2E).[1]

The County's methodology to address Global Climate Change in CEQA documents is evolving. The County is currently working to develop an inventory of GHG emissions and a Climate Action Strategy and Climate Action Plan based on the inventory data. Until County-specific data becomes available and significance thresholds applicable to GHG emissions are developed and formally adopted, the County has implemented an interim approach to evaluating GHG emissions. The interim approach uses the criteria adopted by the Bay Area Air Quality Management District (BAAQMD) to determine significance of a project's GHG emissions in its *California Environmental Quality Act – Air Quality Guidelines*.[2] The BAAQMD has not adopted a threshold of significance for construction-related GHG emissions. Instead, the BAAQMD does recommend quantification and disclosure of GHG emissions generated during construction, and a determination on the significance of these construction-generated GHG emission impacts in relation to meeting Assembly Bill (AB) 32 GHG reduction goals.[3] Furthermore, the BAAQMD encouraged lead agencies to:

> "incorporate best management practices to reduce GHG emissions during construction, as applicable. Best management practices may include, but are not limited to: using alternative fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; using local building materials of at least 10 percent; and recycling or reusing at least 50 percent of construction waste or demolition materials"[4]

The project is not anticipated to generate long-term operational GHG emissions as it would include improvements to creeks and would not affect the traffic or the capacity of the street network; therefore, the BAAQMD operational-related thresholds would not apply to this project.

GHG emissions would be associated with the construction phase of the proposed project through the use of heavy equipment and vehicle trips. Emissions of greenhouse gases would be short-term. During the 28 months of construction, the proposed project is estimated to generate approximately 680 MTCO2E over the 3-year construction period. Subproject A, lasting 17 of those months, would be responsible for the largest portion of CO2 emitted, generating a total of approximately 412 metric tons of CO2 equivalents (MTCO2E). Table 5 illustrates estimated greenhouse gas emissions generated by the proposed project during construction of each subproject. Table 6 illustrates the combined subproject construction emissions, representing the project's contribution to cumulative greenhouse gas impacts.

Table 5 Construction Greenhouse Gas Emissions by Subproject

	Subproject A		**Subproject B**		**Subproject C**	
Year(s)	2011		2011-2012		2012-2013	
	CO_2 (tons)	CO_2E (MT)	CO_2 (tons)	CO_2E (MT)	CO2 (tons)	CO_2E (MT)
Diesel Equipment	408	373	139	127	134	122
Worker Trips	41	39	9	8	12	11
Total	**449**	**412**	**148**	**135**	**146**	**133**

Source: Dudek 2009
Notes: CO_2E: Carbon Dioxide Equivalent; MT: metric tons.

[1] The CO_2 equivalent for a gas is derived by multiplying the mass of the gas by the associated GWP, such that $MTCO_2E$ = (metric tons of a GHG) x (GWP of the GHG). For example, the GWP for CH_4 is 21. This means that emissions of 1 metric ton of methane is equivalent to emissions of 21 metric tons of CO_2.
[2] BAAQMD. 2010. *California Environmental Quality Act – Air Quality Guidelines*. June 2010.
[3] BAAQMD 2010.
[4] BAAQMD 2010.

Table 6 Total Construction Greenhouse Gas Emissions

	CO_2 (tons)	CO_2E (MT)
Diesel Equipment	682	622
Worker Trips	61	58
Total	**743**	**680**

Source: Dudek 2009
Notes: CO_2E: Carbon Dioxide Equivalent; MT: metric tons.

As shown in Table 6 above, the proposed project would generate approximately 622 $MTCO_2E$ from diesel equipment operation and 58 $MTCO_2E$ from worker vehicular trips, for a total of 680 $MTCO_2E$ over the construction. Although the proposed project would result in emissions of GHGs during construction, the County's interim guidance does not indicate what level of construction-related GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. While all sources of GHG emissions, including construction of the proposed project, contribute to some extent to global climate change, the amount of GHG emissions generated by the proposed project would not likely impede or conflict with the State's ability to achieve the goals of AB 32. The Climate Change Scoping Plan adopted by the California Air Resources Board (CARB) in December 2008 does not include measures directed at GHG emissions associated with construction[5]. Measures adopted by CARB to reduce NO_X, PM, and toxic air contaminant emissions from in-use diesel equipment and truck fleets will accelerate the replacement of older equipment and trucks with some secondary benefit for GHGs emissions due to improved fuel efficiency. The primary deadlines as revised in December 2010, however, will occur after completion of the project. Although not required, it is recommended that best management practices (BMPs) to reduce GHG emissions during construction be implemented consistent with the BAAQMD guidance. Recommended BMPs relating to construction equipment are provided in Discretionary Mitigation Measure AQ-3. ***Because the proposed project would not generate operational GHG emissions, it would result in no impacts per thresholds d, e, and f. Nonetheless, the proposed project would generate GHG emissions during the construction phase, but its cumulative impact on global climate change would be less than significant.***

Cumulative Impacts:

The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the threshold of significance for air quality. Therefore, the project's contribution to regionally significant air pollutant emissions is not considerable, and its cumulative effect is less than significant.

Mitigation and Residual Impact:

Due to the non-attainment status of the air basin for the California 8-hour ozone standard, the proposed project would be required to implement measures recommended by the APCD to reduce construction-related emissions of ozone precursors to the extent feasible. Compliance with these measures is routinely required for all new development in the County. Implementation of standard conditions placed on the grading plan as implemented through Chapter 14 (Grading Ordinance) of the County Code, along with standard APCD conditions would ensure that all potential short-term dust impacts would remain at a less than significant level. These are listed below:

[5] CARB. 2008. *Climate Change Proposed Scoping Plan: A Framework for Change*. December 2008.

AQ-1 Fugitive PM_{10} Management Measures Techniques (employ as applicable)

a. Reduce the amount of disturbed area where possible.

b. Use water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 miles per hour. Reclaimed (i.e., non-potable) water should be used whenever possible.

c. All dirt stockpile areas should be sprayed daily as needed.

d. Permanent dust control measures identified in the approved re-vegetation plans should be implemented as soon as possible following completion of any soil-disturbing activities.

e. Exposed ground areas that would be reworked more than one month after initial grading should be sown with a fast-germinating native grass seed and watered until vegetation is established.

f. All disturbed soil areas not subject to re-vegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the Santa Barbara Air Pollution Control District. Within the Santa Barbara Airport Plan area, methods shall be consistent with the City of Santa Barbara Stormwater Management Plan.

g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading, unless seeds or soil binders are used.

h. Vehicle speed for all construction vehicles should not exceed 15 miles per hour on any unpaved surface at the construction site.

i. All trucks hauling dirt, sand, or other loose materials are to be covered or should maintain at least 2-feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code Section 23114.

Plan Requirements: All requirements shall be shown on grading plans. **Timing:** Condition shall be adhered to throughout all grading and construction periods.

MONITORING: The permitting agency shall ensure measures are on plans. The environmental monitor shall ensure compliance on-site. APCD inspectors shall respond to nuisance complaints.

AQ-2 Standard Minimization Measures for Construction Equipment

a. Maintain all construction equipment in proper tune according to manufacturer's specifications.

b. Fuel all off-road and portable diesel-powered equipment including, but not limited to, bulldozers, graders, cranes, loaders, scrapers, backhoes, generator sets, compressors, and auxiliary power units, with motor diesel fuel certified by the California Air Resources Board (non-taxed version suitable for off-road).

c. Maximize, to the extent feasible, the use of diesel construction equipment meeting the California Air Resources Board's 1996 or newer certification standard for off-road heavy-duty diesel engines.

Plan Requirements: All requirements shall be shown on grading plans. **Timing:** Condition shall be adhered to throughout all grading and construction periods.

MONITORING: The permitting agency shall ensure measures are on plans. The environmental monitor shall ensure compliance on-site. APCD inspectors shall respond to nuisance complaints.

AQ-3 Discretionary Minimization Measures for Construction Equipment

a. Electric equipment shall be used where feasible.

b. Substitute gasoline-powered for diesel-powered equipment, where feasible.

c. Use alternatively fueled construction equipment onsite, where feasible, such as compressed natural gas, liquefied natural gas, propane, or bio-diesel.

Plan Requirements: All requirements shall be shown on grading plans. **Timing:** Condition shall be adhered to throughout all grading and construction periods.

MONITORING: The permitting agency shall ensure measures are on plans. The environmental monitor shall ensure compliance on-site. APCD inspectors shall respond to nuisance complaints.

AQ-4. Discretionary Activity Management Techniques

a. Develop a comprehensive activity management plan designed to minimize the amount of large construction equipment operating in any given time period.

b. Schedule construction truck trips during non-peak hours to reduce peak hour emissions.

c. Limit the length of the construction workday, if necessary.

d. Phase construction activities, if appropriate.

Plan Requirements: All requirements shall be shown on grading plans. **Timing:** Condition shall be adhered to throughout all grading and construction periods.

MONITORING: The permitting agency shall ensure measures are on plans. The environmental monitor shall ensure compliance on-site. APCD inspectors shall respond to nuisance complaints.

Although not required to address a significant impact, the proposed project should incorporate measures such as energy-efficient building techniques (i.e. meeting or exceeding Title 24), incorporation of drought-tolerant or native plants, use of recycled and/or local building materials, and recycling or reusing project construction waste or demolition materials, to reduce cumulative GHG emissions.

Residual Impact

Residual impacts would be less than significant.

4.4 BIOLOGICAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
Flora					
a. A loss or disturbance to a unique, rare or threatened plant community?		✓			
b. A reduction in the numbers or restriction in the range of any unique, rare or threatened species of plants?				✓	
c. A reduction in the extent, diversity, or quality of native vegetation (including brush removal for fire prevention and flood control improvements)?		✓			
d. An impact on non-native vegetation whether naturalized or horticultural if of habitat value?				✓	
e. The loss of healthy native specimen trees?		✓			
f. Introduction of herbicides, pesticides, animal life, human habitation, non-native plants or other factors that would change or hamper the existing habitat?		✓			
Fauna					
g. A reduction in the numbers, a restriction in the range, or an impact to the critical habitat of any unique, rare, threatened or endangered species of animals?			✓		
h. A reduction in the diversity or numbers of animals onsite (including mammals, birds, reptiles, amphibians, fish or invertebrates)?			✓		
i. A deterioration of existing fish or wildlife habitat (for foraging, breeding, roosting, nesting, etc.)?			✓		
j. Introduction of barriers to movement of any resident or migratory fish or wildlife species?			✓		
k. Introduction of any factors (light, fencing, noise, human presence and/or domestic animals) which could hinder the normal activities of wildlife?			✓		

The following analysis is based the project Natural Environment Survey (NES) dated June 2010, prepared for and approved by Caltrans. This document is available for review at Santa Barbara Flood Control offices.

Existing Plant and Animal Communities/Conditions:

Background and Methods:

Santa Barbara County has a wide diversity of habitat types, including chaparral, oak woodlands, wetlands and beach dunes. These are complex ecosystems and many factors are involved in assessing the value of the resources and the significance of project impacts. For this project, a general biological resources survey of the project site was conducted by Dudek biologists, which included vegetation mapping, a jurisdictional wetlands delineation, a general inventory of plant and wildlife species using the site, and a habitat assessment for special-status plant and wildlife species on February 28, 2007. Based on the presence of riparian habitat in the project area and prior California Natural Diversity Data Base (CNDDB) records in the project vicinity, a focused survey for the black-flowered figwort (*Scrophularia atrata*) and Santa Barbara morning glory (*Calystegia sepium* ssp. *Binghamiae*) was conducted by Maureen Spencer from the Santa Barbara County FCD on May 20, 2010. Resulting biological reports including a Natural Environment Survey (NES) and Biological Assessment (BA) were prepared for and approved by Caltrans on June 25, 2010 and September 24, 2010, respectively. The following analysis is based on this information.

Flora:

The California Natural Diversity Data Base (CNDDB) and City of Goleta General Plan/Coastal Land Use Plan EIR (City of Goleta 2006) identify that Southern Tarplant, a special-status species, has been recorded along Las Vegas Creek between Calle Real and the UPRR. Riparian Marsh, considered an Environmentally Sensitive Habitat area (EHSA), is identified in the City of Goleta General Plan/Coastal Land Use Plan EIR (City of Goleta 2006) within the project area on Las Vegas Creek between Calle Real and Route 101, and on San Pedro Creek between Route 101 and the UPRR. The Las Vegas Creek between Route 101 and San Pedro Creek between north of Calle Real and between Route 101 and the Twin Lakes Golf Course is designated Unvegetated Open Creek Channel ESHA (City of Goleta 2006).

Seven vegetation communities/land covers were identified within the project site: southern willow scrub (1.02 acres); non-wetland waters of the U.S. (open channel (0.44 acre); open water (0.05 acre); annual (non-native) grassland (1.43 acres); eucalyptus (0.07 acre); ornamental (0.49 acre); and developed land (3.92 acres). These habitats and non-native vegetation areas are summarized below in Table 7, and are illustrated in Figure 11.

Table 7
Vegetation Communities/Land Covers on Site

Vegetation Community/Land Cover	Acres
Wetland Communities	
Southern Willow Scrub	1.02
Non-Wetland Waters of the U.S.-Open Channel	0.44
Non-Wetland Waters of the U.S.-Open Water	0.05
Subtotal	*1.51*
Non-Native Land Covers	
Annual (Non-Native) Grassland	1.43
Eucalyptus	0.07
Ornamental	0.49
Developed	3.92
Subtotal	*5.91*
Total	**7.42**

Southern Willow Scrub

Southern Willow Scrub is typically a broad-leafed, winter-deciduous riparian community dominated by willow (Salix) species, with scattered Fremont's cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*) in the canopy with a limited understory. This plant community is considered rare by the California Department of Fish and Game (2003). Within the project area, this habitat is characterized by a mixed strata including arroyo willow (*Salix lasiolepis*), coyote brush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), and myoporum (*Myoporum laetum*) in the canopy and poison oak (*Toxicodendron diversilobum*), garden nasturtium (*Tropaeolum majus*), California blackberry (*Rubus ursinus*), periwinkle (*Vinca major*), giant reed (*Arundo donax*), assorted mustards (*Brassica* ssp.), California mugwort (*Artemisia douglasiana*), curly dock (*Rumex crispus*), and bristly ox-tongue (*Picris echioides*) in the understory.

A heritage-sized western sycamore approximately 4 feet in diameter was mapped in the project area north of Calle Real, just east of San Pedro Creek.

Non-Wetland Waters of the U.S.

Open channel typically refers to areas within a stream channel that have been previously subjected to increased flow and scour resulting in an open, dry, virtually unvegetated channel. Open channel can also refer to areas where the channel vegetation has been removed by humans for flood control, sand mining, or other

purposes. Although not considered a jurisdictional wetland resource, open channel is within the ordinary high water mark (OHWM). Therefore, it is considered a non-wetland waters of the U.S. and as such is under the jurisdiction of the CDFG, pursuant to Section 1602 of the California Fish and Game Code; the ACOE, pursuant to Section 404 of the Clean Water Act; and the RWQCB pursuant to Section 401 of the federal Clean Water Act and the Porter-Cologne Act. The project area contains 0.44 acres of this habitat.

Open Water

Open water typically refers to areas containing pools of standing or flowing freshwater with little to no emergent vegetation. Open water provides aquatic habitat for waterfowl, fish, invertebrates, and amphibians. It is also a source of water for various land animals and a source of fish for birds. Within the project area, open water refers to the open, unvegetated low flow of Las Vegas Creek through the golf course.

Although not considered a jurisdictional wetland resource, open water is within the OHWM, therefore it is considered a non-wetland waters of the U.S. It is therefore under the jurisdiction of the California Department of Fish and Game (CDFG), pursuant to Section 1602 of the California Fish and Game Code; the ACOE, pursuant to Section 404 of the Clean Water Act; and the RWQCB pursuant to Section 401 of the federal Clean Water Act and the Porter-Cologne Act. The project area contains 0.05 acres of this habitat.

Annual Non-Native Grasslands

California annual grassland predominantly occurs in proximity to Route 101, the UPRR facilities, and the City of Santa Barbara Municipal Airport on the Twin Lakes Golf Course. Elsewhere on site, these grasslands typically form the understory in woodlands. California annual grassland is not considered a sensitive vegetation community because of the lack of native species and the isolated context of these resources on site.

Eucalyptus

While not recognized as a native plant community, Eucalyptus is a distinct "naturalized" vegetation type that is fairly widespread throughout southern California. A eucalyptus woodland habitat is mapped east of the Route 101/Fairview Avenue Overpass and north of the UPRR, 125 feet east of Las Vegas Creek (City of Goleta 2006). Within the project area, Eucalyptus is concentrated near Fairview Avenue, along the UPRR facilities, and in individual stands across the Twin Lakes Golf Course. It typically consists of stands of introduced Australian eucalyptus trees (*Eucalyptus* spp.). The understory is either sparse or absent owing to shade and the possible allelopathic (toxic) properties of the eucalyptus leaf litter. Although eucalyptus woodlands are of limited value to most native plants and animals, they may provide nesting and perching sites for several raptor species and provide critical overwintering habitat for the monarch (*Danaus plexippus*).

Ornamental

Ornamental landscaping refers to those areas within the project area where ornamental plant species and landscaping have been installed in place of native plantings primarily for esthetic purposes. Ornamental areas are not considered sensitive natural communities because they do not occur naturally or contain native vegetation. These areas exhibit limited natural ecological processes and do not necessarily support native vegetation or habitat for species. Various commonly cultivated ornamental plants are located near Route 101 and Fairview Avenue at the northeast corner of Twin Lakes Golf Course and near the UPRR facilities.

A total of 59 species of vascular plants were recorded from the study area (Appendix B). The distribution of 30 native (51%) and 29 non-native (49%) reflect the limited variations in topography, soil type, and the mixture of agriculture, disturbed, and developed areas on site. Many of the non-native species observed within the project area, including eucalyptus, giant reed, and Mexican fan palm, are recognized by the California Invasive Plant Council (Cal-IPC) Invasive Plant Inventory List (Cal-IPC 2007).

Developed

This area refers to ground surfaces that are not covered with either native or ornamental vegetation or ground cover.

State- and/or Federally Listed Plant Species

No state- and/or federally listed plant species were observed on site during the biological resources survey, and due to extensive site disturbance and general lack of native habitat and soils, none are expected to occur. All special-status plant species with potential to occur on site based on site location and general soils mapping are shown below in Table 8. For each species listed, a determination was made regarding the potential for the species to occur on site based on information gathered during the field survey including: the location of the site, habitats or land covers present, current site conditions, degree of disturbance on site, and past and present land use.

Table 8 Special-Status Plant Species and Critical Habitat Potentially Occurring or Known to Occur on Site

Scientific Name	Common Name	Federal/ State Status[1]	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
Arctostaphylos refugioensis	Refugio manzanita	None/ None	List 1B.2	Chaparral, sandstone soils/ Evergreen shrub/ December–March	Absent. Would have been detected on site during the 2007 survey. Appropriate habitat and soils not present.
Astragalus brauntonii	Braunton's milk-vetch	FE/None	List 1B.1	Chaparral/Coastal scrub/ Valley and foothill grassland/January–August	Absent. Would have been detected on site during the 2007 survey. Appropriate habitat and soils not present.
Astragalus pycnostachyus var. *lanosissimus*	Ventura marsh milk-vetch	FE/SE	List 1B.1	Coastal dunes/Coastal scrub/Marshes and dunes/June–October	Not expected. Appropriate habitat and soils not present.
Atriplex coulteri	Coulter's saltbush	None/ None	List 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland (alkaline or clay)/Perennial herb/March–October	Not expected. Appropriate habitat and soils not present.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None/ None	List 1B.2	Coastal bluff scrub, coastal scrub (alkaline)/Annual herb/April–October	Not expected. Appropriate habitat and soils not present. Previously documented on what is currently the UCSB campus in 1948 (CNDDB).
Calochortus weedii var. *vestus*	Late-flowered mariposa lily	None/ None	List 1B.2	Chaparral, cismontane woodland, riparian woodland (often serpentinite)/ Bulbiferous herb/ June–August	Not expected. Appropriate habitat and soils not present.
Calystegia sepium ssp. *binghamiae*	Santa Barbara morning glory	None/ None	List 1A	Marshes and swamps (coastal)/Rhizomatous herb/ April–May	Absent. A focused survey conducted for this species on May 20, 2010 was negative.
Centromadia parryi ssp. *australis*	Southern tarplant	None/ None	List 1B.1	Marshes and swamps, valley and foothill grassland (vernally mesic), vernal pools, often in disturbed sites with alkaline soils near the coast./Annual herb/May–	Not expected. Along the California coast this species is typically seen in seasonally mesic areas or along disturbed roads,

Scientific Name	Common Name	Federal/ State Status[1]	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status on Site or Potential to Occur
				November	trails, and habitat edges with alkaline soils.
Horkelia cuneata ssp. *puberula*	Mesa horkelia	None/ None	List 1B.1	Chaparral, cismontane woodland, and coastal scrub (sandy or gravelly)/Perennial herb/February–July	Absent. Would have been detected during the 2007 survey if present.
Lasthenia conjugens	Contra Costa goldfields	FE/ None	List 1B.1	Cismontane woodland, playas (alkaline), valley and foothill grassland, and vernal pools (mesic)/Annual herb/March–June	Not expected. Appropriate habitat and soils not present.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/ None	List 1B.1	Marshes and swamps (coastal salt), playas, and vernal pools/Annual herb/February–June	Absent. Would have been detected during the 2007 survey if present.
Layia heterotricha	Pale-yellow layia	None/ None	List 1B.1	Cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland (alkaline or clay)/Annual herb/Mar–Jun	Not expected. The project area does not support suitable habitat for this species.
Lonicera subspicata var. *subspicata*	Santa Barbara honeysuckle	None/ None	List 1B.2	Chaparral, cismontane woodland, and coastal scrub/Evergreen shrub/May–Aug	Not expected. The project area does not support suitable habitat for this species. Previously documented in the Goleta Slough area in 1982 (CNDDB).
Pentachaeta lyonii	Lyon's pentachaeta	FE/SE	List 1B.1	Chaparral/Coastal scrub/Valley and foothill grassland/Mar-Aug	Not expected. The project area does not support suitable habitat for this species.
Scrophularia atrata	Black-flowered figwort	None/ None	List 1B.2	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub (calcareous and/or diatomaceous soils)/Perennial herb/Mar–Jul	Absent. A focused survey conducted for this species on May 20, 2010 was negative.
Suaeda esteroa	Estuary seablite	None/ None	List 1B.2	Marshes and swamps (coastal salt)/Perennial herb/May–Oct	Not expected. The project area does not support suitable habitat for this species. Previously documented in the Goleta Slough in 1964 (CNDDB).
Thelypteris puberula var. *sonorensis*	Sonoran maiden fern	None/ None	List 2.2	Meadows and seeps (seeps and streams) /Rhizomatous herb/ Jan–Sep	Not expected. The project area does not support suitable habitat for this species.

Federal Designations: **State Designations:**
FE Federally listed Endangered SE State listed Endangered

Fauna:

Though native wildlife habitat is concentrated along and within Las Vegas and San Pedro Creeks, providing sparse to moderately dense riparian habitat, only eleven wildlife species comprised entirely of local avifauna were observed on site during the biological resource survey. The relatively low diversity of wildlife species is likely a result of the limited native habitat areas and the amount of disturbance associated with the current uses of the site and surrounding areas.

No state- and/or federally listed wildlife species were identified on site during the February 2007 biological resources survey. However, in spring 2008, an individual federally listed as endangered Southern California Steelhead Distinct Population Segment (DPS) was relocated from a shallow pool at the confluence of San Pedro and Las Vegas Creeks just upstream of Hollister Avenue. While the habitat conditions within the project area are not conducive to spawning and/or rearing for southern steelhead (i.e., both creeks lack sufficient pools/ponding to support spawning/rearing sites) San Pedro Creek likely provides pass-through habitat for this species during the winter and early spring months when water levels are high. Las Vegas Creek has a low potential to support southern steelhead due to the erosive and intermittent nature of the channel, which is densely vegetated in some areas making it difficult for southern steelhead to migrate through the stream corridor.

All other special-status wildlife species with a potential to occur within or adjacent to the project area are presented below in Table 9. For each species listed, a determination is made regarding the potential use of the site based on information gathered during the general biological survey including known habitat preferences and knowledge of their relative distributions in the area.

Table 9
Special-Status Wildlife Species and Critical Habitat
Potentially Occurring or Known to Occur on Site

Scientific Name	Common Name	Federal/ State Status	Primary Habitat Associations	Status on Site (Observed, Expected, Absent)
Invertebrates				
Branchinecta conservatio	Conservancy fairy shrimp	FE/ None	Vernal pools	Not expected. No potential to occur on site due to the lack of vernal pool habitat.
Branchinecta lynchii	Vernal pool fairy shrimp	FT/ None	Vernal pools	Not expected. No potential to occur on site due to the lack of vernal pool habitat.
Cicindela hirticollis gravida	Sandy beach tiger beetle	None/ None	Sandy areas adjacent to non-brackish water along California coast; found in dry sand in upper zone	Not expected. No potential to occur based on overall lack of suitable habitat within the project area.
Coelus globosus	Globose dune beetle	None/ None	Coastal dunes; foredunes and sand hummocks. Most common beneath dune vegetation.	Not expected. No potential to occur based on the lack of foredunes and associated vegetation within the study area.
Danaus plexippus	Monarch butterfly	None/ None	Overwinters in eucalyptus groves	Moderate potential to forage and pass-through the study area based on the presence of eucalyptus within the project area. Study area is not within mapped butterfly tree habitat. No potential to overwinter on site due to lack of suitable overwintering habitat.
Streptocephalus woottoni	Riverside fairy shrimp	FE/ None	Deep, long-lived vernal pools or seasonal ponds, stock ponds; warm water pools with low to moderate dissolved solids	Absent. No potential to occur on site due to the lack of vernal pool habitat.
Tryonia imitator	Mimic tryonia	None/ None	Herbaceous wetlands, especially in brackish salt marshes	Not expected. Project site is disturbed and lacks suitable habitat (i.e., herbaceous wetlands with brackish waters) necessary to support this species.
Fish				
Eucyclogobius newberryi	Tidewater goby	FE/CSC	Low-salinity waters in coastal wetlands	Not expected. No potential to occur within the study area due to unsuitable habitat and lack of tidal influence. Previous surveys conducted by Santa

Scientific Name	Common Name	Federal/ State Status	Primary Habitat Associations	Status on Site (Observed, Expected, Absent)
				Barbara County FCD in October 2006 and 2008 off-site and downstream were negative.
Oncorhynchus mykiss	Southern steelhead	FE/CSC	Juveniles occur in cool, freshwater streams with riffle-pool complexes; moderate-sized gravel with shallow waters. Adults migrate to the ocean after 1–5 years in freshwater.	High potential to occur in San Pedro Creek; low potential to occur in Las Vegas Creek. No potential to support spawning and/or rearing sites in either creek due to lack of suitable riffle and pool habitat. A steelhead was relocated from a shallow pool by Santa Barbara County FCD at the confluence of Las Vegas and San Pedro Creeks in March/April 2008.
Amphibians				
Bufo californicus	Arroyo toad	FE/CSC	Semi-arid regions near lowland streams, wetlands, or washes with slow-moving water	Absent. Low potential to occur in both San Pedro and Las Vegas Creeks due to golf course management, the routine maintenance/disturbance of existing channel, intermittent stream flow, habitat isolation, chemicals, and increased sedimentation.
Rana aurora draytoni	California red-legged frog	FT/ CSC	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands.	Absent. Previous surveys conducted by Santa Barbara County FCD over the past 10 plus years in the general project area were negative. There have been no documented occurrences of this species in the project area. Closest documented occurrences are in the upper reaches of Glen Annie and San Antonio Creeks.
Birds				
Charadrius alexandrinus nivosus	Western snowy plover	FT/None	Sandy beaches, dry mud or salt flats, sandy shores of rivers, and some shallow inland lakes.	Absent. The project area lacks the appropriate beach habitat needed to support this species.
Empidonax traillii extimus (nesting)	Southwestern willow flycatcher	FE/SE	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk	Not expected. Although formerly a fairly widespread and common nester in the Santa Barbara County region, it is now a rare breeder regionally only in the Santa Ynez River. Although the project area supports a limited extent of willow habitat, the current conditions include small, linear strips of habitat bound by urbanization and major roadways, which tend to discourage use.
Gymnogyps californianus	California condor	FE/SE, WL	Requires vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude.	Not expected to occur based on the small size of the project area, urban setting, and lack of suitable breeding and foraging habitat.

Scientific Name	Common Name	Federal/ State Status	Primary Habitat Associations	Status on Site (Observed, Expected, Absent)
Lanius ludovicianus	Loggerhead shrike	None/CSC	Breeds mainly in shrubland or open woodlands with a fair amount of grass cover and areas of bare ground.. Require tall shrubs or trees (also use fences or power lines) for hunting perches and open areas for hunting. They also need impaling sites for prey manipulation or storage.	Moderate potential to nest in suitable shrubs or trees and forage in over the grassland habitat adjacent to the creeks
Passerculus sandwichensis beldingi	Belding's savannah sparrow	None/P	Salt marshes of coastal southern California	Not expected to occur due to lack of suitable breeding and foraging habitat.
Rallus longirostris levipes	Light-footed clapper rail	FE/P	Grassy (cordgrass-pickleweed), saltwater, and brackish marshes	Not expected to occur due to lack of suitable breeding and foraging habitats.
Vireo bellii pusillus (nesting)	Least Bell's vireo	FE/SE	Nests in southern willow scrub with dense cover within 1–2 meters of the ground; habitat includes willows, cottonwoods, baccharis, wild blackberry or mesquite on desert areas	Not expected to occur due to habitat fragmentation caused by surrounding urbanization and major roadways. Existing habitat present lacks vertical stratification needed to support nesting vireo. CNDDB reports closest documented occurrences of this species near Santa Ynez River (CNDDB).

Federal Designations:
FC: Federal candidate for listing (former Category 1 candidates)
FD: Delisted species; monitoring for five years
FE : Federally listed Endangered
FT : Federally listed as Threatened

State Designations:
CSC: California Special Concern Species
P: California Department of Fish and Game Protected and Fully Protected Species
SE: State listed as Endangered
ST: State listed as Threatened
WL: CDFG Watch List

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for dispersal or migration of animals, as well as dispersal of plants (e.g., via wildlife vectors). Wildlife corridors contribute to population viability in several ways: (1) they assure continual exchange of genes between populations which helps maintain genetic diversity; (2) they provide access to adjacent habitat areas representing additional territory for foraging and mating; (3) they allow for a greater carrying capacity; and (4) they provide routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (i.e., the rescue effect).

While there is extensive disturbance within and in areas immediately surrounding the project site, both Las Vegas and San Pedro Creeks likely function as local movement corridors that facilitate limited terrestrial wildlife movement and ample avifaunal movement between coastal areas to the south and open upland areas to the north.

San Pedro Creek may provide pass-through habitat for southern steelhead during the winter and early spring months when water levels are high. However, an existing vertical grade drop structure at San Pedro Creek

just south of Route 101 inhibits the passage of fish and terrestrial wildlife movement. In addition, a 1,500-foot long concrete-lined channel upstream of Calle Real excludes movement from the project site to upstream areas. Las Vegas Creek has a low potential to provide fish passage or to support southern steelhead due to the erosive and intermittent nature of the channel. The channel is also densely vegetated in some areas, making it difficult for southern steelhead to migrate through the stream corridor. Thus, the potential for Las Vegas Creek to support fish habitat is low.

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Habitat linkages may serve as both habitat and avenues of gene flow for small animals such as reptiles, amphibians, and rodents. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as stepping stones for dispersal and movement (especially for birds and flying insects).

Thresholds:

Santa Barbara County's Environmental Thresholds and Guidelines Manual (2008) include guidelines for the assessment of biological resource impacts. The following thresholds are applicable to this project:

Riparian Habitats: Project created impacts may be considered significant due to: direct removal of riparian vegetation; disruption of riparian wildlife habitat, particularly animal dispersal corridors and or understory vegetation; or intrusion within the upland edge of the riparian canopy leading to potential disruption of animal migration, breeding, etc. through increased noise, light and glare, and human or domestic animal intrusion; or construction activity which disrupts critical time periods for fish and other wildlife species.

Individual Native Trees: Project created impacts may be considered significant due to the loss of 10% or more of the trees of biological value on a project site.

Other Rare Habitat Types: The Manual recognizes that not all habitat-types found in Santa Barbara County are addressed by the habitat-specific guidelines. Impacts to other habitat types or species may be considered significant, based on substantial evidence in the record, if they substantially: (1) reduce or eliminate species diversity or abundance; (2) reduce or eliminate the quality of nesting areas; (3) limit reproductive capacity through losses of individuals or habitat; (4) fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources; (5) limit or fragment range and movement; or (6) interfere with natural processes, such as fire or flooding, upon which the habitat depends.

Table 10
Vegetation Communities/Land Covers Impacts

Vegetation Community/Land Cover	Project A Impacts	Project B Impacts	Project C Impacts	Total Impact Acres
Wetland Communities				
Southern Willow Scrub	0.25	0.28	0.0	0.53
Non-Wetland Waters of the U.S.-Open Channel	0.0	0.0	0.0	0.00
Non-Wetland Waters of the U.S.-Open Water	0.0	0.0	0.0	0.00
Subtotal	*0.25*	*0.28*	*0.0*	0.53
Non-Native Land Covers				
Annual (Non-Native) Grassland	1.14	0.28	0.01	1.43
Eucalyptus	0.06	0.01	0.0	0.07
Ornamental	0.09	0.0	0.40	0.49
Developed	1.01	2.31	0.53	3.92
Subtotal	*2.30*	*2.60*	*0.94*	5.91
Total	**2.55**	**2.88**	**0.94**	**6.44**

Impact Discussion:

a. The project would result in the permanent impacts to 0.53 acres of native Southern Willow Scrub habitat on Las Vegas and San Pedro Creeks, considered rare by the California Department of Fish and Game (2003) and an ESHA by the City of Goleta. The breakdown of impacts by jurisdiction is: Caltrans, 0.25 acres; and CFCD, 0.28 (including other areas in the City of Santa Barbara, UPRR ROW, and CFCD ROW). ***The loss or disturbance to these rare or threatened plant communities is considered a significant impact on biological resources.***

The project would result in temporary disturbance to Unvegetated Open Creek Channel areas extending from Route 101 south to the Twin Lakes Golf Course that are considered ESHA by the City of Goleta. The proposed project design calls for the existing unvegetated open creek channel area defined above to remain a natural soft-bottom. Therefore, there would be no long-term, permanent conversion of Unvegetated Open Creek Channel as a result of project implementation. ***The temporary disturbance to this habitat would be a less than significant impact on biological resources.***

b. Based on the results of biological surveys, the project would not result in the reduction in numbers; restriction in range; or disturbance to any rare or special status plant species. Though recorded on the CNDDB and City of Goleta's General Plan/Local Coastal Plan ESHA map, the Southern Tarplant does not exist in Las Vegas Creek. ***No impacts on biological resources would occur***.

c. The project would result in the loss of 0.53 acres of native Southern Willow Scrub habitat on Las Vegas and San Pedro Creeks. ***The reduction in the extent and quality of native vegetation is considered a significant impact on biological resources.***

d. The project would result in the loss of non-native annual grasslands. Due to their fragmented, urban nature separated by major roadways, they do not represent an important biological habitat. ***No impacts on biological resources would occur***.

The project would result in the loss of seven skyline eucalyptus trees and 0.07 acres of eucalyptus woodland would be removed. Grading for Las Vegas Creek channel improvements and staging areas would extend only 60 feet east of the creek centerline, and would be entirely west of the Route 101/Fairview Avenue Overpass. The disturbance area is completely outside of the mapped eucalyptus woodland habitat east of the Route 101/Fairview Avenue Overpass (City of Goleta 2006). The eucalyptus trees, therefore, do not represent significant nesting or roosting habitat. ***The loss of this habitat isolated from adjacent foraging area and abutting urban transportation corridors would be a less than significant impact on biological resources.***

e. Approximately 11 coast live oaks, 2 skyline sycamore, and 16 willow trees would be removed. ***The removal of healthy native specimen trees would be a significant impact on biological resources.***

f. Temporary presence of heavy equipment would have the potential to impact existing riparian habitat along Las Vegas and San Pedro Creek. Equipment parked within staging areas adjacent to the creeks could inadvertently release petrochemicals that could harm downstream habitat. ***The short-term introduction of construction equipment and associated pollutants would be a significant impact on biological resources.***

g-k. A reduction to the number or restriction in range of the Pacific steelhead trout would potentially occur during construction, as steelhead have been found in San Pedro Creek. Throughout the design process, special attention was paid to fish passage and identifying those areas along San Pedro Creek where fish passage barriers could be eliminated to restore and/or improve fish passage. Within the project area, San Pedro Creek transitions from an impassable concrete-lined, trapezoidal channel just upstream of Calle Real to a manmade, earthen channel with a steep, vertical drop structure (potentially passable during certain flows). The concrete-lined channel (which is outside of the project limits) prohibits the

migration of passing steelhead to upstream spawning sites. To reduce the number of impediments on San Pedro Creek, the ultimate project configuration eliminates the vertical drop structure downstream of Route 101.

Existing culverts along San Pedro Creek at Route 101 and the UPRR crossing would be replaced with single-span, cast-in-place, soft-bottomed bridges to accommodate a 25-year flow event. Portions of San Pedro Creek between the UPRR crossing and Route 101 and portions of Las Vegas Creek upstream would be recontoured and widened to increase flood storage and water retention in the area.

Based on the proposed avoidance project components including pre-construction surveys, avoidance of working in flowing water, retaining aquatic habitat features (e.g., pools, riffles, and plunge pools), and implementation of standard best management practices (BMPs) (see section 4.13, Water Resources and Flooding), the proposed project would not result in a reduction in the number, restriction in range, or impact the critical habitat of the Southern California steelhead. ***This would be a less than significant impact on biological resources.***

Construction activities and associated equipment noise, increased human presence, etc. on Las Vegas and San Pedro Creek would temporarily reduce the diversity or numbers of animals in the non-wetland waters of the U.S. Except for the Southern California steelhead, no other faunal species of special concern are expected to be using the stream corridors during this time. ***Therefore, temporary disturbances to non-sensitive faunal species would be a less than significant impact on biological resources.***

Cumulative Impacts:

The project's impacts on biological resources would be short-term and limited to construction activity only. Long-term impacts on biological resources would be less than significant as no new land uses would be introduced, restoration of all disturbances to biological habitats would be accomplished and the vertical drop structure downstream of Route 101 would be removed. Therefore, as no long-term significant impacts on biological resources would occur, the proposed project would not have a cumulatively considerable effect on the County's biological resources.

Mitigation and Residual Impact:

As noted in the project description, the proposed project includes the following components to avoid or minimize adverse impacts to the Southern California Steelhead DPS during project construction:

1) Pre-construction surveys shall be conducted by the USFWS-approved biologist within all suitable steelhead habitat on site immediately prior to construction to determine if steelhead are actively present in the work area.
2) Construction activity shall avoid actively flowing water, where feasible.
3) Any shallow or deep aquatic habitat including existing pools, riffles, and plunge pools shall be retained and/or restored within the impacts limits, where feasible.
4) Any bridge construction activities and grading resulting in ground or vegetation disturbance occurring within the channel shall occur when water levels are low, where feasible.
5) If dewatering is anticipated, a pump shall be used to remove water to an upland disposal site or a filtering system shall be used to collect, filter, and return clear water back to the creek(s).
6) The disposal or storage of paint, solvents, stucco, fuel, cement, excess soil, mortar, and other toxicants within 100 feet of sensitive resources including Las Vegas and San Pedro Creeks shall be prohibited.
7) A qualified biological monitor shall be present on site while crews are working within the channel bed and banks of Las Vegas and San Pedro Creeks to protect preserved biological resources and enforce project conditions and compliance.
8) Where appropriate, silt fences, settling basins, and other sediment control devices shall be temporarily used during construction to control sedimentation and turbidity releases.

9) Heavy equipment shall use existing access ramps, roads, and/or disturbed land covers or areas where vegetation removal is proposed as part of the project to access work areas within Las Vegas and San Pedro Creeks.

The following mitigation measures would reduce the project's biological resource impacts to a less than significant level.

BIO-1 The applicant shall implement the Mitigation Planting Plan to address the removal of 0.53 acres of native Southern Willow Scrub habitat on Las Vegas and San Pedro Creeks. The project shall provide compensatory habitat mitigation for the removal of riparian and wetland habitat at a 3:1, replacement-to-removal ratio. Caltrans would be responsible for 0.75 acres, and CFCD would be responsible for 0.84 acres. Thus, a total of 1.59 acres of wetlands mitigation is proposed to compensate for permanent and temporary Southern Willow Scrub impacts. Upon project completion, the 1.59 acres shall be revegetated and restored. Project A has a total of 0.96 acres available for replanting, while Project B has a total of 1.24 acres available for replanting or a total area of 2.55 acres (see Figure 13). The restoration area shall include all newly constructed creek banks in between proposed bridges, and these additional preliminary locations: a 10- to 15-foot corridor adjacent to existing riparian vegetation along the east bank of San Pedro Creek extending 1,400 feet south from the UPRR tracks; and existing degraded areas between Route 101 and the UPRR (in part proposed for temporary project construction staging). If needed, the CFCD shall use credits from the Los Carneros Mitigation Bank Instrument (located south of Lake Los Carneros, over 4.5 acres of mitigation are available) to address this agency's residual mitigation requirements (a Conceptual Mitigation Planting Plan is provided in Figure 13).

The Mitigation Planting Plan shall be prepared by a qualified restoration biologist and shall include, but not be limited to, the following measures:

a. Landscaping shall consist of native riparian Southern Willow Scrub species such as arroyo willow (*Salix lasiolepis*), coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), California Wild Rose (*Rosa california*), Wild Blackberry (*Rubus ursinus*), Chaparral Morning Glory (Calystegia macrostegia, subspecies cyslostegia), Mugwort (*Artemesia douglasiana*), Creek clemantis (*Clemantis ligusticifolia*). Species shall be from locally obtained plants and seed stock.

b. The Mitigation Planting Plan shall provide for replacement of the 11 coast live oaks, 2 skyline sycamore, and 16 willow trees to be removed. A replacement ratio of 3:1 shall be used for oaks, sycamores, and willows. Tree replacement for mitigation of visual resources impacts (Mitigation Measure AES-2.g, the replanting on a 10:1 basis with 1-gallon size saplings grown from seed obtained from the same watershed as the project site, and a 24-inch box for each of the skyline sycamore specimens on San Pedro Creek) shall be credited toward this requirement.

c. The new plantings shall be irrigated with drip irrigation on a timer, and shall be weaned off of irrigation over a period of two to three years.

d. The creek restoration area shall be fenced with temporary construction fencing. Removal of native species in the creek shall be prohibited beyond that necessary to construct the project.

e. Non-native species including periwinkle (*Vinca major*), giant reed (*Arundo donax*), and mustards (*Brassica* ssp.) shall be removed from the creek within project limits.

Plan Requirements: The permitting agency shall review and approve the Mitigation Planting Plan, prepared by a qualified restoration biologist. **Timing:** Planting work shall commence within 90 days of completion of capacity improvements.

MONITORING: The environmental monitor shall inspect for restoration. Maintenance shall be confirmed through site inspections.

The following measure provides additional detail to proposed project erosion and sediment control measures components:

BIO-2 Best available erosion and sediment control measures shall be implemented during grading and construction. Best available erosion and sediment control measures may include but are not limited to use of sediment basins, gravel bags, silt fences, geo-bags or gravel and geotextile fabric berms, erosion control blankets, coir rolls, and jute net. Storm drain inlets shall be protected from sediment-laden waters by use of inlet protection devices such as gravel bag barriers, filter fabric fences, block and gravel filters, and excavated inlet sediment traps. Sediment control measures shall be maintained for the duration of the grading period and until graded areas have been stabilized by structures, long-term erosion control measures or landscaping. Landscaping and restoration shall be planted as soon as feasible. If the project grading is completed between October and April, an erosion control blanket material shall be placed on exposed slopes where appropriate until plantings can commence. A layer of mulch or other equivalent sediment control measures shall be placed on exposed, graded ground surfaces and maintained until restoration plantings are completed. Construction entrances and exits shall be stabilized using gravel beds, rumble plates, or other measures to prevent sediment from being tracked onto adjacent roadways. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods.

Plan Requirements: The permitting agency shall review and approve an erosion and sediment control plan. The plan shall be designed to address erosion and sediment control during all phases of development of the site. **Timing:** The plan shall be implemented prior to the commencement of grading/construction.

MONITORING: The environmental monitor shall perform site inspections throughout the construction phase.

Implementation of mitigation measure AES-2, including a tree protection plan of trees to be avoided during construction, would also reduce potentially significant biological impacts.

With the incorporation of these measures, residual impacts would be less than significant.

4.5 CULTURAL RESOURCES

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
Archaeological Resources					
a. Disruption, alteration, destruction, or adverse effect on a recorded prehistoric or historic archaeological site ?		✓			
b. Disruption or removal of human remains?		✓			
c. Increased potential for trespassing, vandalizing, or sabotaging archaeological resources?				✓	
d. Ground disturbances in an area with potential cultural resource sensitivity based on the location of known historic or prehistoric sites?		✓			
Ethnic Resources					
e. Disruption of or adverse effects upon a prehistoric or historic archaeological site or property of historic or cultural significance to a community or ethnic group?			✓		
f. Increased potential for trespassing, vandalizing, or sabotaging ethnic, sacred, or ceremonial places?				✓	
g. The potential to conflict with or restrict existing religious, sacred, or educational use of the area?				✓	

The following analysis is based on several technical reports including: *Archaeological Survey Report for the Las Vegas – San Pedro Creeks Capacity Project* (Applied Earthworks 2009); and *Extended Phase I/Phase II Testing at Sites CA-SBA-60 and CA-SBA-1703 for the Las Vegas – San Pedro Creeks Capacity Project* (Dudek 2009). These confidential reports, as well as correspondence from the Office of Historic Preservation regarding documentation prepared for this project, are available to qualified personnel at Santa Barbara County Flood Control District offices.

Existing Setting:

For at least the past 10,000 years, the area that is now Santa Barbara County has been inhabited by Chumash Indians and their ancestors. A series of investigations have been completed to identify and evaluate the significance of cultural resources within the project area: 1) the Archaeological Survey Report (Applied Earthworks 2009) included a record search of previous investigations on file at the Central Coast Information Center of the University of California, Santa Barbara, and an intensive Phase 1 survey of the Area of Potential Effects (APE), including both construction and staging areas; 2) an Extended Phase 1 excavation program (Dudek 2009) that utilized backhoe trenches to evaluate the depth and integrity of archaeological site soils; and 3) a Phase 2 significance assessment program of hand excavation to determine the eligibility of archaeological resources for listing in the California Register of Historic Resources (CRHR) and National Register of Historic Places (NRHP).

The investigations determined the existence of two prehistoric sites and one historic archaeological site within the APE.

CA-SBA-60: The recorded boundary of CA-SBA-60, the ethnohistoric village of *S'axpilil*, extends within a portion of the APE. *S'axpilil* was one of the larger villages in the region and was one of four flanking the Goleta Slough. Historical accounts indicate that the village continued to be occupied long after the founding of Mission Santa Barbara. Excavation at CA-SBA-60 began as early as 1870, and has continued through 2004. The site contains three periods of site occupation (Applied EarthWorks 2004, 2008):

- a late-Middle Period through early-Late Period occupation (1145 to 650 B.P.), characterized by a relatively low density deposit;
- a Late Period occupation (825 to 420 B.P.), characterized by a substantially denser and more diverse occupation density deposit; and
- a Late Period (420 B.P.) through Protohistoric Period (240 B.P.) occupation, and Mission Period (240 to 175 B.P.) occupation, also characterized by a high density deposit.

CA-SBA-60 was previously determined eligible for listing in the National Register of Historic Places (NRHP) under Criterion A and under Criterion D, as they have "yielded, or may be likely to yield, information important in prehistory or history" (Bowser and Stone 1994; Bowser and Woodman 1994; Levulett 1995; Woodman et al. 1994). The California State Historic Preservation Officer (SHPO) concurred in these determinations (Widell 1995, FHWA940103A).

Extended Phase I backhoe trench excavations within the previously recorded CA-SBA-60 site areas within the APE determined that this portion of the site was clearly disturbed, based on the presence of extensive modern historic debris (Stone and Victorino 2009). Based on the mixing of prehistoric artifacts and modern cultural debris, it was determined that the shell fragments came from secondary (i.e., not intact) deposits. Therefore, the deposit is regarded as disturbed, and does not "possess integrity of location." As a result, this light shellfish scatter is a non-contributing element to the NRHP-eligible CA-SBA-60. The State Historic Preservation Officer (SHPO) has concurred with this finding (Donaldson, 2010; FHWA 091125A).

CA-SBA-1703: Prehistoric archaeological site CA-SBA-1703 was recorded in 1982 (Wilcoxon et al.1982) as a well-developed, buried shell midden stratum. Though apparently disturbed by creek hard

bank channelization, the deposit represents an intact soil horizon containing numerous estuarine shellfish species, stone tool manufacturing waste flakes, and fire-cracked rock. A small portion of the recorded site is located in the project APE. Two Extended Phase 1 backhoe trenches within the APE identified a low density shellfish deposit, with no evidence of soil disturbance (i.e., no modern trash). Based on the presence of the shell fragments, dark organic soil, and the lack of modern trash, the deposit was considered to be a potentially intact prehistoric cultural deposit representing a small campsite/activity area (Stone and Victorino 2009).

Two hand-excavated 0.5 X 1.0 meter (1.7 X 3.2 feet) units were excavated adjacent to the Extended Phase 1 backhoe trench profiles. An intact prehistoric deposit ranging between 12 and 20 inches deep was identified buried below over 3 feet of fill. The portion of CA-SBA-1703 excavated during the Phase 2 investigation represents a small campsite/activity area, a site where only brief occupations took place, or a non-residential site where shellfish or other resource processing took place. Shellfish recovered from the site date to 5910 and 5310 ago (before present), associated with the Early Period, or Middle Holocene of Santa Barbara Channel prehistory. Importantly, there is no corresponding interval during which the CA-SBA-60 was occupied to the south. It is therefore reasonable to assume that the dated archaeological deposits identified with CA-SBA-1703 are distinct from the CA-SBA-60 deposit and village of *S'axpilil*. The portion of CA-SBA-1703 within the project ADI possesses: 1) a temporally discrete stratum; 2) artifacts in sufficient quantities for statistical analysis; and 3) variability in composition. CA-SBA-1703 therefore is considered eligible for listing in the NRHP under Criterion D for its potential to yield information important to prehistory.

Extensive consultation with Chumash tribal representatives, individuals, and Most Likely Descendants identified by the Native American Heritage Commission (NAHC) took place throughout the preparation and execution of all archaeological investigations described above. Consultation with interested Chumash representatives included exchanging letters and telephone calls, providing copies of cultural resources reports and summaries, holding meetings and field reviews, and ensuring that Native American monitors were present during all field excavations. The list of interested Native American representatives included both individuals and groups identified by the Native American Heritage Commission (NAHC) as well as individuals who have contacted Caltrans and wish to be kept informed about projects within a specific geographic area. All consulting individuals and groups were also provided with a copy of the Finding of Adverse Effect for CA-SBA-1703 (Stone 2010) and a draft Memorandum of Agreement (MOA) and Data Recovery Plan for CA-SBA-1703 (Stone and Joslin 2010). In addition, a Chumash representative was present during all ground disturbances within CA-SBA-60 and -1703. The Chumash have indicated a desire to preserve CA-SBA-1703 and -60 deposits, regardless of whether they have been previously disturbed. They have indicated a desire to be involved in all future decisions regarding the sites, and that a Chumash monitor be present during all excavations within the archaeological site areas (Stone and Victorino 2009; Stone 2010).

CA-SBA-3715H: This site is a portion of Las Vegas Creek channelized in 1943 in conjunction with Marine Corps Air Station Goleta (MCASG) drainage improvements. The portion of CA-SBA-3715H within the project APE is north of the concrete-lined bank segment. Its modern setting has been altered radically as a result of demolition of associated Marine Corps structures and grading for golf course construction (Lebow et al. 2003). CA-SBA-3715H was evaluated as ineligible for CRHR and NRHP listing because of its radically altered setting and its peripheral relationship to MCASG operations. The SHPO has concurred with this evaluation (Donaldson, 2010; FHWA 091125A).

County Environmental Thresholds: The County Environmental Thresholds and Guidelines Manual contains guidelines for identification, significance determination, and mitigation of impacts to important cultural resources. Chapter 8 of the Manual, the *Archaeological Resources Guidelines: Archaeological, Historic and Ethnic Element,* specifies that if a resource cannot be avoided, it must be evaluated for importance under CEQA. CEQA Section 15064.5 contains the criteria for evaluating the importance of archaeological and historical resources. For archaeological resources, the criterion usually applied is: (D),

"Has yielded, or may be likely to yield, information important in prehistory or history". A project that may cause a substantial adverse effect on an archaeological resource may have a significant effect on the environment.

Impact Discussion:

a, d. Only one significant cultural resource, CA-SBA-1703, is located within the APE. Portions of CA-SBA-60 within the APE and CA-SBA-3715H are not significant cultural resources, as they are not eligible for CRHR or NRHP listing. A portion of the CA-SBA-1703 within the APE estimated at 15.8 cubic meters of deposit would be disturbed to accommodate the proposed expansion of the Las Vegas Creek channel. This section of the site contains intact and significant cultural deposits with data potential, and contributes to the site's CRHR and NRHP eligibility. Project impacts would result in additional disturbances due to grading and other project activity. Damage or loss of these materials would diminish the potential for research on paleoenvironment, prehistoric occupation seasonality, and diet. ***For these reasons, potential project effects are considered to be adverse according to the criteria of adverse effect outlined in CEQA Guidelines 15064.5 (b).***

b. The portions of CA-SBA-1703 that have been tested have not identified any prehistoric human remains. It is possible, however, that unknown, isolated human burials occurred within the small campsite/activity area that would be impacted by the project. ***Any disruption or removal of unknown human remains from within CA-SBA-1703 would be considered a significant impact on cultural resources.***

c. Data recovery excavations at CA-SBA-1703 would remove all significant archaeological deposits in the APE prior to construction. Therefore, the potential for increased human encroachment within the CA-SBA-1703 during construction would be avoided. ***Therefore, no impact associated with the increased potential for trespassing, vandalizing, or sabotaging of significant archaeological resources would result.***

e. Chumash representatives consider both CA-SBA-1703 and CA-SBA-60 deposits significant ethnic resources, regardless of whether previous disturbances may have impaired site integrity and compromised research values. These parties have indicated their concern for proper treatment of the archaeological remains recovered at CA-SBA-1703, and have requested that a Chumash consultant be on site during data recovery excavations. The consultation group has also requested that the project monitor(s) provide field notes to all interested individuals to keep them informed on project activities. All of these measures are Caltrans standard conditions and would be implemented during project construction***. Incorporation of these standard conditions would ensure that impacts on ethnic resources would be less than significant.***

f. Data recovery excavations at CA-SBA-1703 would remove all archaeological deposits in the APE prior to construction. Therefore, the potential for increased human encroachment within the CA-SBA-1703 during construction would be avoided. ***Therefore, no impact associated with the increased potential for trespassing, vandalizing, or sabotaging of significant ethnic resources would result.***

g. The prehistoric archaeological sites within the APE have not been used by contemporary Chumash for religious, sacred, or educational uses. ***Therefore, disturbances to CA-SBA-1703 and CA-SBA-60 deposits would not result in an impact on cultural resources relative to existing religious, sacred, or educational uses.***

Cumulative Impacts:
The area of influence for evaluating cumulative impacts on archaeological resources extends throughout the area that was prehistorically occupied by the Barbareño Chumash. This area extended from Gaviota

in the north to Rincon Point in the south, and inland from the coast to the Santa Ynez Mountains. Archaeological sites in this area share similar characteristics of populations who were last to inhabit the land before Missionization in the late 18th Century. It is important to recognize, however, that prehistoric archaeological sites in the area are components of a larger cultural interaction sphere that extended throughout Santa Barbara County.

Development in the Area of Influence, like that in Santa Barbara County, is considered to have resulted in the destruction of over 90 percent of all prehistoric and historic archaeological sites in the area. Within the Area of Influence, destruction of sites has resulted from urbanization in Carpinteria, Summerland, Montecito, Santa Barbara, and Goleta, the oil industry, agribusiness concerns, and the University of California, Santa Barbara. The proposed project would result in the direct disturbance of a portion of CA-SBA-1703, potentially eligible for listing on the NRHP and CRHR. Other pending projects within the project vicinity around the Goleta Slough, including the Marriott Residence Inn, Fairview Commercial Center, and Willow Springs II would have the potential to contribute to direct or indirect impacts known cultural resources. Therefore, combined past and reasonable probable cumulative impacts on archaeological resources within the Region of Influence are significant.

The portion of recorded site CA-SBA-1703 that would be disturbed by project implementation is small relative to the entire site area that extends outside of the project APE. The portion of the site within the APE also has been previously disturbed, such that the area of direct impact does not reflect the full range of prehistoric activities that occurred there. Therefore, the project's contribution to cumulative impacts on cultural resources is less than cumulatively considerable.

Mitigation and Residual Impact:

In accordance with federal and state cultural resources regulations, Caltrans proposes to enter into a MOA with the SHPO and members of the Chumash community. The MOA would implement a Phase 3 (III) Data Recovery Plan for CA-SBA-1703. The MOA and Data Recovery Plan are being reviewed and approved by the SHPO, the Advisory Council on Historic Preservation (ACHP), the Chumash community, and the County of Santa Barbara.

The following mitigation measures identify components of the MOA that would reduce the project's cultural resource impacts to a less than significant level:

CR-1 A Phase 3 Data Recovery Plan outlining the mitigation program including excavation of a 100 percent sample of the 15.8 cubic meters (20.6 cubic yards) of CA-SBA-1703 deposit to be disturbed within the APE shall be completed. The Phase 3 block excavations shall occur within the area of direct impact (ADI) in parallel rows, in line with the previously completed Phase 2 significance test excavation units. The Data Recovery Mitigation program shall incorporate the following:

a. Research design that guides the excavation, laboratory analysis, and report preparation;

b. Procedures for treatment of human remains, in the event they are encountered during excavations;

c. Curation of artifacts at University of California, Santa Barbara archaeological repository, with other artifacts previously collected from this site ;

d. Native American consultation, including the presence of a Chumash monitor during all archaeological excavations;

e. Updates to the CA-SBA-1703 site record; and

f. Presentation of data recovery findings to all interested Chumash members involved in project consultation.

Plan Requirements and Timing: Caltrans shall prepare an agreement with a County-qualified archaeologist and Chumash representative that ensures the implementation of the Phase 3 Data Recovery Plan. The Draft Phase 3 Data Recovery Report shall be reviewed and approved by Santa Barbara County and the City of Goleta.

MONITORING: Santa Barbara County and the City of Goleta shall receive a copy of the Final Phase 3 Data Recovery Report and copy of the curation agreement within 180 days of completion of all fieldwork.

CR-2 The portions of CA-SBA-60 and CA-SBA-1703 site boundaries outside the APE shall be temporarily fenced with orange exclusionary fencing to preclude site disturbance.

Plan Requirements: The fencing requirement shall be shown on approved grading and building plans. **Timing:** Plans to be approved and fencing to be in place prior to start of construction.

MONITORING: The project archaeologist shall verify installation of fencing by reviewing photo documentation or by site inspection, and ensure fencing is in place throughout grading and construction through site inspections.

CR-3 Subsequent to completion of Phase 3 Data Recovery excavations, all construction activities within CA-SBA-60 and CA-SBA-1703 site boundaries and a 50-foot buffer area extending from the recorded boundary shall be monitored by a qualified archaeologist and Chumash representative. The monitors shall examine excavated sediment for evidence of cultural features and materials, collect all formed tools exposed during excavation, and prepare detailed daily field monitoring notes that document all construction activity, artifacts encountered, locations of collected formed tools and exposed features, and the extent and type of ground disturbances. The monitor shall also take photographs of the work and of any unanticipated finds. If archaeological features, or other unanticipated finds, are uncovered during excavation, the archaeological monitor shall temporarily halt construction activity and notify the Resident Engineer. The archaeologist shall make a preliminary assessment of the content, age, association, and integrity of the find. If further data recovery excavations are necessary to either sample or recover feature materials, the archaeologist shall consult with the Caltrans archaeologist and the Chumash community monitor to determine the scope of work and analyses. Excavation methods shall follow procedures identified in the approved Phase 3 Data Recovery Plan. In the event that human remains are encountered, the archaeological monitor shall halt all construction activity in the vicinity of the find and protect the exposed remains. The monitor shall then contact Caltrans archaeologist who shall follow the procedures identified in the approved Phase 3 Data Recovery Plan.

The Chumash project monitor(s) shall provide field notes to the Caltrans archaeologist that shall be shared with all interested Chumash individuals as needed to keep all concerned representatives informed on project activities.

A post-construction monitoring report shall be prepared that contains an introduction to the project, a description of the monitoring methods, a discussion of the monitoring results, and an interpretation of the finds.

Plan Requirements/Timing: This condition shall be printed on all grading plans. The construction monitoring report shall be reviewed and approved by the permitting agency prior to start of construction.

MONITORING: The permitting agency shall check plans prior to commencement of construction/grading and shall spot check in the field. The construction monitoring report shall be reviewed and approved by permitting agency.

With the incorporation of these measures, residual impacts would be less than significant.

4.6 ENERGY

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Substantial increase in demand, especially during peak periods, upon existing sources of energy?			✓		
b. Requirement for the development or extension of new sources of energy?				✓	

Impact Discussion: The County has not identified significance thresholds for electrical and/or natural gas service impacts (Thresholds and Guidelines Manual). Private electrical and natural gas utility companies provide service to customers in Central and Southern California, including the unincorporated areas of Santa Barbara County. The proposed project would result in only short-term, expenditure of energy associated with construction equipment operation. The project would have no long-term energy requirements as proposed flood control capacity improvements would not result or promulgate any new residential, commercial, industrial or institutional development. Therefore, no adverse impacts would result.

Cumulative Impacts:

The project's contribution to the regionally significant demand for energy is not considerable, and is therefore less than significant.

Mitigation and Residual Impact:

No mitigation is required. Residual impacts would be less than significant.

4.7 FIRE PROTECTION

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Introduction of development into an existing high fire hazard area?				✓	
b. Project-caused high fire hazard?				✓	
c. Introduction of development into an area without adequate water pressure, fire hydrants or adequate access for fire fighting?				✓	
d. Introduction of development that will hamper fire prevention techniques such as controlled burns or backfiring in high fire hazard areas?				✓	
e. Development of structures beyond safe Fire Dept. response time?				✓	

Impact Discussion:

a.-e. The project is not located within a High Fire Hazard Area, and does not involve new fire hazards. All standard temporary construction traffic control measures would be established consistent with County of Santa Barbara Fire Department and Caltrans standards.

Mitigation and Residual Impact: No impacts are identified. No mitigation is necessary.

4.8 GEOLOGIC PROCESSES

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Exposure to or production of unstable earth conditions such as landslides, earthquakes, liquefaction, soil creep, mudslides, ground failure (including expansive, compressible, collapsible soils), or similar hazards?			✓		
b. Disruption, displacement, compaction or overcovering of the soil by cuts, fills or extensive grading?		✓			
c. Exposure to or production of permanent changes in topography, such as bluff retreat or sea level rise?				✓	
d. The destruction, covering or modification of any unique geologic, paleontologic or physical features?				✓	
e. Any increase in wind or water erosion of soils, either on or off the site?			✓		
f. Changes in deposition or erosion of beach sands or dunes, or changes in siltation, deposition or erosion which may modify the channel of a river, or stream, or the bed of the ocean, or any bay, inlet or lake?			✓		
g. The placement of septic disposal systems in impermeable soils with severe constraints to disposal of liquid effluent?				✓	
h. Extraction of mineral or ore?				✓	
i. Excessive grading on slopes of over 20%?				✓	
j. Sand or gravel removal or loss of topsoil?				✓	
k. Vibrations, from short-term construction or long-term operation, which may affect adjoining areas?			✓		
l. Excessive spoils, tailings or over-burden?			✓		

Environmental Setting:

The project site is not underlain by any known fault. The More Ranch Fault, considered Potentially Active, is located over 1 mile (5,600 feet) south of the project site (City of Goleta 2006). Project areas south of Calle Real are characterized as having a high potential for compressible soils (City of Goleta 2006). The nearly level topography of the project area containing primarily Camarillo fine sandy loam is characterized by very slow runoff. Liquefaction potential in the area has been determined to be low.

Threshold of Significance

Pursuant to the County's Adopted Thresholds and Guidelines Manual, impacts related to geological resources may have the potential to be significant if the proposed project involves any of the following characteristics:

1. The project site or any part of the project is located on land having substantial geologic constraints, as determined by P&D or PWD. Areas constrained by geology include parcels located near active or potentially active faults and property underlain by rock types associated with compressible/collapsible soils or susceptible to landslides or severe erosion. "Special Problems" areas designated by the Board of Supervisors have been established based on geologic constraints, flood hazards and other physical limitations to development.

2. The project results in potentially hazardous geologic conditions such as the construction of cut slopes exceeding a grade of 1.5 horizontal to 1 vertical.

3. The project proposes construction of a cut slope over 15 feet in height as measured from the lowest finished grade.

4. The project is located on slopes exceeding 20% grade.

Impact Discussion:

a. Potential to Result in Geologic Hazards. Compliance with existing building regulations would reduce potential ground shaking impacts caused by movement associated with the distant More Ranch Fault to a less than significant level. Any potential for expansive soils would be mitigated by the use of non-expansive engineered fill. All soils-related hazards would be reduced to a less than significant level through the normal permitting agency project review and inspection process. The proposed project site does not have substantial geological constraints or slopes exceeding 20%. The proposed project would not result in excessive grading. ***As such, the proposed project would not result in less than significant impacts related to geological resources.***

b. Potential for Grading-Related Impacts. The project would result in 22,380 CY of cut and 13,697 CY of fill. Overall, approximately 9,000 CY of excess soils would be exported, while approximately 325 CY of structured fill would be imported. ***Short-term impacts on geological resources would be potentially significant.***

c, i. Potential for Permanent Changes to Topography. Project grading would not result in exposure to or production of permanent changes in topography, such as bluff retreat or sea level rise. Ground disturbances would not occur on slopes exceeding 20 percent. ***No impacts on geological resources associated with permanent changes to topography would result.***

e, f., l. Potential Erosion and Sedimentation Impacts. Grading operations that would occur on the project site would remove vegetative cover and disturb the ground surface, thereby increasing the potential for erosion and sedimentation impacts. However, the potential for the project to cause substantial erosion and sediment transport would be adequately mitigated by County and Caltrans standard erosion control and drainage requirements. ***Impacts on geological resources would be reduced to adverse, but less than significant.***

d, g - h, j. Other Potential Geological Hazards. There are no unique geological features located on the project site, and the project would not result in the use of septic systems. The project would not involve mining, or the loss of topsoil. ***As such, the proposed project would not result in impacts related to geological hazards.***

k. Potential Pile Driving Impacts**.** Proposed pile driving has been designed consistent with standard professional engineering practices in such a manner as to avoid any adverse consequences on adjacent soils or landforms. ***Impacts on geological resources would be reduced to adverse, but less than significant.***

Cumulative Impacts:

Since the project would not result in significant geologic impacts, it would not have a cumulatively considerable effect on geologic hazards within the County.

Mitigation and Residual Impact:

GEO-1 County Structures shall be designed to earthquake standards of the Uniform Building Code Seismic Design Category D. Caltrans structures shall be designed to the standards of the California Building Code.

Plan Requirements and Timing: Caltrans and or FCD shall submit building plans indicating standards to the satisfaction of the appropriate permitting agency.

MONITORING: Appropriate permitting officials shall site inspect at completion. The Caltrans Resident Engineer shall monitor construction activity and inspect the structures within Caltrans ROW at completion.

GEO-2 Excavations and grading shall be limited to the dry season of the year (i.e. April 15 to November 1) unless a permitting agency approved erosion and sediment control plan is in place and all measures therein are in effect. All exposed graded surfaces shall be reseeded with ground cover vegetation to minimize erosion.

Plan Requirements: This requirement shall be noted on all grading plans. **Timing:** Graded surfaces shall be reseeded within 4 weeks of grading completion, with the exception of surfaces graded for the placement of structures. These surfaces shall be reseeded if construction of structures does not commence within 4 weeks of grading completion.

MONITORING: The environmental monitor shall site inspect during grading to monitor dust generation and 4 weeks after grading to verify reseeding and to verify the construction has commenced in areas graded for placement of structures.

GEO-3 Permanent erosion control measures shall be installed.

Plan Requirements: Caltrans or the FCD shall submit detailed plans and a report prepared by a licensed geologist or registered civil engineer for any proposed permanent erosion control measures for review and approval by the permitting agency. **Timing:** Erosion control plans shall be approved by the permitting agency prior to the start of construction.

MONITORING: The environmental monitor shall ensure installation prior to any structural development or initiation of grading.

GEO-4 Grading and erosion and sediment control plans shall be designed to minimize erosion and shall include the following:

a. Grading shall be prohibited outside of designated construction areas. The limits of construction and temporary staging areas shall be designated with orange construction fencing or other barrier to prevent entry by equipment or personnel into adjacent sensitive habitat areas.

b. Methods such as geotextile fabrics, erosion control blankets, retention basins, drainage diversion structures, siltation basins and spot grading shall be used to reduce erosion and siltation into adjacent water bodies or storm drains during grading and construction activities.

c. All entrances/exits to the construction site shall be stabilized (e.g. using rumble plates, gravel beds or other best available technology) to reduce transport of sediment off site. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods.

d. Storm drain inlets shall be protected from sediment-laden waters by the use of inlet protection devices such as gravel bag barriers, filter fabric fences, block and gravel filters, and excavated inlet sediment traps.

e. Graded areas shall be revegetated as soon as possible after grading activities with deep rooted, native, 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.

f. Temporary storage of construction equipment shall be limited to a areas defined by Caltrans and identified in the approved project description.

Plan Requirements: The grading and erosion and sediment control plan shall be submitted for review and approved by the permitting agency. The plan shall be designed to address erosion and sediment control during all phases of development of the site. The applicant shall notify the environmental monitor prior to commencement of grading. **Timing:** Components of the grading plan shall be implemented prior to the start of construction. Erosion and sediment control measures shall be in place throughout grading and development of the site until all disturbed areas are permanently stabilized.

MONITORING: The permitting agency shall photo-document revegetation and ensure compliance with plan. Construction inspectors shall monitor technical aspects of the grading activities.

With the incorporation of these measures, residual impacts would be less than significant.

4.9 HAZARDOUS MATERIALS/RISK OF UPSET

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. In the known history of this property, have there been any past uses, storage or discharge of hazardous materials (e.g., fuel or oil stored in underground tanks, pesticides, solvents or other chemicals)?				✓	
b. The use, storage or distribution of hazardous or toxic materials?		✓			
c. A risk of an explosion or the release of hazardous substances (e.g., oil, gas, biocides, bacteria, pesticides, chemicals or radiation) in the event of an accident or upset conditions?				✓	
d. Possible interference with an emergency response plan or an emergency evacuation plan?				✓	
e. The creation of a potential public health hazard?				✓	
f. Public safety hazards (e.g., due to development near chemical or industrial activity, producing oil wells, toxic disposal sites, etc.)?				✓	
g. Exposure to hazards from oil or gas pipelines or oil well facilities?				✓	
h. The contamination of a public water supply?				✓	

The following assessment is based on a technical report evaluating the proposed project's hazardous materials impacts*, Las Vegas-San Pedro Creeks Draft Initial Site Assessment* (Dudek November 2010). The technical report is available for review at Santa Barbara County Flood Control District offices.

Environmental Setting:

The Project APE existed as orchard and grazing land prior to 1928. Development of the Marine Corps Air Station between 1938 and 1947 changed the character of the southern portion of the project area from agriculture to urban, and also involved the re-location of San Pedro Creek and Las Vegas Creek channels south of the railroad to their present-day configuration. By 1967, the creek channels north of Route 101 were bounded by residential neighborhoods, Fairview Avenue had been developed into the current interchange for Route 101 which had by that time been constructed in the current alignment, and a golf course had been developed in the center of the project area (Dudek 2010).

A project site field reconnaissance of the project area (primarily the creek channels and immediately adjacent areas for construction encroachment) did not identify illegal dumping, soil staining or sheens on water surfaces, distressed vegetation, drums or storage tanks, or suspicious odors. Reconnaissance of immediately adjacent commercial land uses, including interview with these enterprises, concluded an absence of evidence for environmental contamination or issues of concern (Dudek 2010).

An investigation was performed for the presence of Aerially Deposited Lead (ADL) that was deposited through vehicular exhaust until the 1970s, when use of leaded gasoline within the state of California was prohibited. The investigation (Geocon Consultants Inc., 2010) identified concentrations of lead in shallow soil in shoulders next to Route 101 at Las Vegas Creek (north side of Route 101 only) and San Pedro Creek (north and south) that would lead to characterization of these soils as a California Hazardous Waste. The vertical extent of elevated lead concentration is limited, and disposal of these soils excavated as part of the project would meet all regulatory requirements.

Based on a review of the regulatory database search, it is unlikely that other properties have impacted the environmental conditions at the subject property.

Impact Discussion:

Hazardous Materials Thresholds**:** The County's safety threshold addresses involuntary public exposure from projects involving significant quantities of hazardous materials. The threshold addresses the likelihood and severity of potential accidents to determine whether the safety risks of a project exceed significant levels.

a. There is no evidence that hazardous materials were used, stored or spilled on site in the past. ***No impacts on hazardous materials/risk of upset would occur.***

b. Fueling of heavy equipment during construction activities would occur within staging areas. There is the potential for release of these hazardous fuels if proper storage is not provided. ***An unintended release of construction equipment fuels would be a potentially significant hazardous materials impact***.

d – h. The proposed project would result in improvements to existing flood control infrastructure on Las Vegas and San Pedro Creeks. These improvements would not represent public safety hazards, a potential risk of upset, or be capable of polluting a public water supply. Short-term construction traffic would be regulated by a plans and routes developed in consultation with Caltrans and the City of Goleta Community Services Department, such that no interference with emergency response capabilities to the project site or to other properties in the project area would occur. ***No impacts on hazardous materials/risk of upset would occur.***

Cumulative Impacts:

Since the project would not create significant impacts with respect to hazardous materials and/or risk of upset, it would not have a cumulatively considerable effect on safety within the County.

Mitigation and Residual Impact:

The following mitigation measures would reduce the project's effects regarding hazardous materials and/or risk of upset to a less than significant level:

HAZ-1 Construction equipment fuels shall be stored, handled, and disposed of in a manner which minimizes the potential for risk of upset.

Plan Requirements and Timing: Bulk storage locations for construction materials and any measures proposed to contain the materials shall be shown on the grading plans submitted to the permitting agency prior to start of construction. Caltrans shall comply with 07-345 Construction Site Management standard special provision.

MONITORING: The environmental monitor shall site inspect prior to the commencement of and as needed during all grading and construction activities. The Caltrans Resident Engineer and construction inspectors routinely inspect and ensure compliance with Caltrans special provisions.

With the incorporation of these measures, residual impacts would be less than significant.

4.10 HISTORIC RESOURCES

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Adverse physical or aesthetic impacts on a structure or property at least 50 years old and/or of historic or cultural significance to the community, state or nation?				✓	
b. Beneficial impacts to an historic resource by providing rehabilitation, protection in a conservation/open easement, etc.?				✓	

Impact Discussion:

a, b. No potentially architectural historic structures or formal landscape features currently exist within the project site.

Cumulative Impacts:

Since the project would not result in any substantial change in the historic character of the site, it would not have any cumulatively considerable effect on the region's historic resources.

Mitigation and Residual Impact: No impacts are identified. No mitigations are necessary.

4.11 LAND USE

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Structures and/or land use incompatible with existing land use?				✓	
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				✓	
c. The induction of substantial growth or concentration of population?				✓	
d. The extension of sewer trunk lines or access roads with capacity to serve new development beyond this proposed project?				✓	
e. Loss of existing affordable dwellings through demolition, conversion or removal?				✓	
f. Displacement of substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓	
g. Displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓	
h. The loss of a substantial amount of open space?				✓	
i. An economic or social effect that would result in a physical change? (i.e. Closure of a freeway ramp results in isolation of an area, businesses located in the vicinity close, neighborhood degenerates, and buildings deteriorate. Or, if construction of new freeway divides an existing community, the construction would be the physical change, but the economic/social effect on the community would be the basis for determining that the physical change would be significant.)				✓	
j. Conflicts with adopted airport safety zones?				✓	

Existing Setting:

The project site is located in the Urban area of the City of Goleta and City of Santa Barbara Airport Property. Residential uses are located only to the west and north of the project site on San Pedro Creek. Commercial and professional office uses are located to the north, east, and south of the project site on Las Vegas Creek. Recreational uses (Twin Lakes Golf Course) abut the east side of San Pedro Creek and both sides of Las Vegas Creek. Industrial uses are located west of San Pedro Creek

Environmental Threshold: The Thresholds and Guidelines Manual contains no specific thresholds for land use. Generally, a potentially significant impact can occur if a project as proposed is potentially inconsistent with policies and standards adopted by an agency for the purposes of environmental protection or would result in substantial growth inducing effects.

Impact Discussion:

a, c-j. Proposed flood control capacity improvements would occur within Las Vegas and San Pedro Creek corridors that have been previously improved and maintained for this function. The project is not growth inducing, and does not result in the loss of affordable housing, loss of open space, or a significant displacement of people. The project does not involve the extension of a sewer trunk line, and does not conflict with any airport safety zones. The project is compatible with existing land uses. ***Therefore, the project would have no impacts on land use.***

b. The proposed project would be consistent with City of Goleta General Plan/Local Coastal Plan Policy OS CE 1.6 Protection of ESHAs. The project would impact 0.53 acres of Riparian Marsh, and 0.37 acres of Unvegetated Open Creek Channel considered EHSA by the City of Goleta. CE 1.6 states:

CE 1.6 Protection of ESHAs. *ESHAs shall be protected against significant disruption of habitat values, and only uses or development dependent on and compatible with maintaining such resources shall be allowed within ESHAs or their buffers. The following shall apply:*

> *d. The following uses and development may be allowed in ESHAs or ESHA buffers only where there are no feasible, less environmentally damaging alternatives and will be subject to requirements for mitigation measures to avoid or lessen impacts to the maximum extent feasible: 1) public road crossings, 2) utility lines, 3) resource restoration and enhancement projects, 4) nature education, and 5) biological research, and 6) Public Works projects as identified in the Capital Improvement Plan, only where there are no feasible, less environmentally damaging alternatives*.

The proposed project has been designed to minimize disturbances within Las Vegas Creek and San Pedro Creek corridors, including removal of ESHA. Restoration of riparian marsh habitat is incorporated as a component of the proposed project to compensate and potentially improve biological habitat values within and adjacent to the project area. The proposed capacity improvements along Las Vegas and San Pedro Creek would address inadequacies in conveying 25-year flood velocity and volumes, and would minimize flooding impacts. Therefore, no impacts on land use relative to project consistency with city of Goleta Policy CE 1.6 Protection of ESHAs would result.

The proposed project would be consistent with the following Airport Industrial Area Specific Plan Zone (SP-6), Sub-Areas 3 and 4 policies:

Policy V4: *Create a pattern of development that ties in with and complements future redevelopment of Old Town Goleta with consideration of the Goleta Community Plan, UCSB's Long Range Development Plan, and the Airport Land Use Plan.*

Flood control capacity improvements would not result in any new land use development. It would provide existing and future development downstream of the project area within the Airport Land Use Plan, and Goleta Community Plan/Local Coastal Plan areas increased protection against periodic flooding activity.

Policy F1*: Any development in the Specific Plan area shall be carried out in compliance with Flood Control regulations.*

Proposed creek capacity improvements are designed to comply with County Flood Control District regulations.

Policy B2: *Outside the Coastal Zone, new development shall not occur within 100 feet of U.S. Army Corps of Engineers jurisdictional wetlands without a demonstration that encroachment is necessary for the project, that wetlands within the Coastal Zone will not be affected, and that wetland functions and values shall not be impaired without mitigation. Existing facilities in the buffer outside the Coastal Zone may be retained and maintained in a normal fashion. Only compatible land uses shall be allowed within the setback.*

In any wetland or creek buffer, native vegetation shall be planted and maintained in the setback wherever feasible.

Proposed project disturbances to Southern Willow Scrub habitat within Las Vegas and San Pedro Creek would be replanted and mitigated on a 3:1 basis.

Policy SW1: *Encourage recycling, reuse, and reduction of solid waste.*

Action SW1.1: New construction and major remodeling project shall develop and implement a solid waste management plan, subject to review and approval by the Santa Barbara County Public Works Department Solid Waste Division. Landscaping shall minimize excessive trimming and generation of organic waste through plant selection and design.

Demolition and disposal of existing concrete culverts would be a single activity, such that no on-going demand on landfill capacity would occur. The proposed project would not have any long-term solid waste generation.

Therefore, the project would have no impacts on local land use policy consistency.

Cumulative Impacts:

The implementation of the project is not anticipated to result in any substantial change to the site's conformance with environmentally protective policies and standards. Thus, the project would not cause a cumulatively considerable effect on land use.

Mitigation Measures:

No impacts on land use are identified. Therefore, no mitigation is necessary.

Residual Impact:

No impacts on land use would result.

4.12 NOISE

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Long-term exposure of people to noise levels exceeding County thresholds (e.g. locating noise sensitive uses next to an airport)?				✓	
b. Short-term exposure of people to noise levels exceeding County thresholds?		✓			
c. Project-generated substantial increase in the ambient noise levels for adjoining areas (either day or night)?				✓	

The following assessment is based on a *Noise Study Report* (Dudek, August 2009). The report is available for review at Santa Barbara Flood Control District offices.

Environmental Setting

Characteristics of Noise

Noise is generally defined as unwanted or objectionable sound which is measured on a logarithmic scale and expressed in decibels (dB). To approximate the response of the human ear, sound levels are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of dBA) can be computed based on this information. The duration of noise and the time period at which it occurs are important values in determining impacts on noise-sensitive land uses. The Community Noise Equivalent Level (CNEL) and Day-Night Average Level (L_{dn}) are noise indices which account for differences in intrusiveness between day- and night-time uses. Noise experienced during the night are generally more perceptible to the human ear, given that other daytime sources like road traffic are diminished. For example, CNEL is the A-weighted sound level occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m., and a 5-dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

Doubling sound energy results in a 3-dB increase in sound. The trained, healthy human ear is able to discern 1-dB changes in sound levels. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy that would result in a 3-dB increase in sound would generally be perceived as barely detectable.

The intensity of sound diminishes as the distance from the source increases. Generally speaking, the noise level will drop 6 dB with doubling of the distance from the source. A barrier that breaks the line of sight between a noise source and a receptor (someone hearing the noise) will typically result in at least 5 dB of noise reduction. Taller barriers provide increased noise reduction. Vegetation between the source and receiver is rarely effective in reducing noise because it does not create a solid barrier.

"Sensitive receptors" are defined as those individuals occupying noise-sensitive land uses including: residential dwellings; transient lodging; hospitals and other long-term care facilities; public or private educational facilities; libraries, churches; and places of public assembly.

Project Setting

The closest sensitive receptors to the Project A site area (north of Route 101) include residential neighborhoods north of Calle Real. Single family residential backyards are located as close as 25 feet to San Pedro Creek culvert construction located areas, and as close as 250 feet to the construction staging area and 400 feet to proposed pile driving on Las Vegas Creek. Existing noise levels in these areas are within the 65 dBA CNEL noise contour (City of Goleta 2006).

Sensitive receptors adjacent to Project B site area (UPRR bridges south of Route 101 and north of the Twin Lakes Golf Course, and improvements to Las Vegas and San Pedro Creeks south of Route 101) include golfers on the course, as close as 50 feet away). Existing noise levels extending for 600 feet south of the proposed construction activity under Subproject B are estimated at 65 dBA CNEL, and 60 dBA CNEL within the remaining golf course area (City of Goleta 2006).

The closest sensitive land uses to the Project C (down-stream of the UPRR at Las Vegas and San Pedro Creeks) include patrons of the Twin Lakes Golf Course adjacent to both Las Vegas Creek and San Pedro Creek improvement areas, and to the north and east. Hollister Avenue is located adjacent to the southernmost portion of the construction area, and the Super 8 Hotel on Hollister Avenue, approximately 800 feet east from the southernmost construction within the Santa Barbara Airport parking lot. Existing noise levels within the Twin Lakes Golf Course are 60 dBA CNEL (City of Goleta 2006). Existing noise levels at the Super 8 Hotel are 60 dBA CNEL, but are separated from the project area by Hollister Avenue that carries traffic generating noise of between 65 and 70 dBA CNEL (City of Goleta 2006).

County Threshold: County noise thresholds are: 1) increases in noise experienced by sensitive receptors in exterior areas exceeding 65 dB(A) CNEL; and 2) increases in noise experienced by sensitive receptors in interior areas exceeding CNEL 45 dB(A).

Impact Discussion:

a, c. The proposed project would not result in long-term operational changes in existing land uses within the project area. ***No long-term impacts on noise would result.***

b. Construction noise would differ among the various phases of construction, depending on the particular activities and equipment used. Construction of Projects A, B, and C would employ various equipment including air compressors, cranes, dozers, graders, loaders, pile drivers, and haul and pump trucks. Pile drivers generate the highest noise levels, typically perceived at 101 dBA 50 feet from the source. As construction activity would involve pile driving periodically over several months, associated noise is considered the maximum noise level generated during construction. Pile driving equipment would not be operated continuously throughout the entire construction process, and it is unlikely that it would be in operation 8-hours a day for each day of use. Regardless, sensitive receptors within 1,600 feet of pile driving would be subject to short-term, periodic noise levels between approximately 101 and 71 dBA. According to project design, nighttime construction would occur within Caltrans ROW as well as within the City of Goleta ROW, on Calle Real.

Residential sensitive receptors in Project A closest to Las Vegas Creek would be exposed to maximum noise levels of 83 dBA during project construction. Pile driving would not be required for excavation of the San Pedro Creek channel. Therefore, residential sensitive receptors in Project A closest to San Pedro Creek would be exposed to noise levels of up to 89 dBA.

Golfers on the Twin Lakes Golf Course would be subject to pile driving noise of up to 101 dBA within 50 feet. The short-term construction noise could potentially create a 40 percent increase in noise above ambient levels between 60 and 65 dBA CNEL.

The sensitive receptor at the Super 8 Hotel, located approximately 1,000 feet to the east of the source, would be exposed to maximum noise levels of 76 dBA during operation of pile drivers, an increase from the 60 dBA CNEL ambient level.

The short-term construction noise levels exceeding 65 dBA and affecting noise sensitive residential receptors north of Calle Real, golfers on the Twin Lakes Golf Course, and guests at the Super 8 Motel would be potentially significant.

The temporary closure of the Route 101/Fairview Avenue northbound on ramp for a period of 18 months would result in traffic diversions on Calle Real westbound to the Los Carneros Road/Route 101 ramps. According to the project transportation study (Dowling Associates 7/16/2010; available for review at CFCD offices), traffic diversions would result in an increase of approximately 320 peak hour trips, equivalent to approximately 3,200 average daily trips. According to the City of Goleta General Plan/Coastal Land Use Plan (Figure 9-1), sensitive receptors located north of Calle Real are exposed to noise levels exceeding 70 dBA CNEL. This noise is a function of Route 101 vehicular activity. The most recent Caltrans data available for vehicular traffic on Route 101 collected in 2009 (http://traffic-counts.dot.ca.gov/2009all/docs/2009truckpublication.pdf) indicates that between 55,000 and 78,000 average daily trips occur on the freeway between SR 217 and Los Carneros Road. The temporary increase in ADT along Calle Real resulting from project activity would be less than 6 percent of the vehicles currently travelling on Route 101 that generate noise experienced by sensitive receptors on Calle Real. Therefore, the short-term increase in noise resulting from traffic diversions during the 18-month closure of the Route 101/Fairview Avenue northbound on ramp would have a negligible increase on noise levels. ***Short-term impacts on noise levels along Calle Real would be less than significant.***

Cumulative Impacts:
The implementation of the project is not anticipated to result in any substantial long-term noise effects. Therefore, the project would not contribute in a cumulatively considerable manner to noise impacts.

Mitigation and Residual Impact:

The City of Goleta General Plan/Coastal Land Use Plan Noise Element Policy NE 6.6 requires that noise-generating construction activities for projects near or adjacent to residential buildings and neighborhoods or other sensitive receptors shall be limited to Monday through Friday, 8:00 a.m. to 5:00 p.m. Construction in nonresidential areas away from sensitive receivers shall be limited to Monday through Friday, 7:00 a.m. to 4:00 p.m. Construction shall generally not be allowed on weekends and state holidays. Exceptions to these restrictions may be made in extenuating circumstances (in the event of an emergency, for example) on a case by case basis at the discretion of the Director of Planning and Environmental Services.

The City of Santa Barbara General Plan Noise Ordinance (Chapter 9.16 of the Santa Barbara Municipal Code) limits construction hours, including demolition, excavation, and altering or repairing of buildings or structures, to between the hours of 7:00 a.m. and 8:00 p.m. Monday through Sunday.

The following mitigation measures include a restatement of activities that represent compliance with the City of Goleta Noise Element and City of Santa Barbara General Plan Noise Ordinance would reduce the project's noise effects to a less than significant level:

NOI-1 Construction activity and construction equipment maintenance shall be limited to 8:00 a.m. and 5:00 p.m., Monday through Friday. Construction shall generally not be allowed on weekends and state holidays. Short-term exceptions to these restrictions shall be made in extenuating circumstances (in the event of an emergency, for example) on a case-by-case basis, and shall be approved by the City of Goleta Community Services Department, or City of Santa Barbara Community Development Department, respectively, if occurring in that jurisdiction. No pile driving activities, however, shall occur outside of normally scheduled construction hours. All construction sites subject to these restrictions shall post the allowed hours of operation near the entrance to the site, so that workers on site are aware of this limitation. City staff shall closely monitor compliance with restrictions on construction hours, and shall promptly investigate and respond to all noncompliance complaints. . Non-noise generating construction activities such as interior painting are not subject to these restrictions.

Plan Requirements: Signs stating these restrictions shall be provided by the construction contractor and posted on site. **Timing:** Signs shall be in place prior to beginning of and throughout grading and construction activities.

MONITORING: Environmental monitors shall spot check and respond to complaints.

NOI-2 All construction equipment powered by internal combustion engines shall have properly maintained sound-control devices, and no equipment shall have an unmuffled exhaust system. All diesel equipment shall be operated with closed engine doors and shall be equipped with factory recommended mufflers. Unnecessary idling of internal combustion engines shall be prohibited. Stockpiling and vehicle staging areas shall be located as far as practical from sensitive noise receptors. The construction contractors shall use equipment with best available noise control technology in regard to mufflers, acoustically treated components, etc. When feasible, noisy operations and equipment shall be located away from noise-sensitive land uses.

Plan Requirements: These conditions shall be included as notes on the grading plan submitted to the permitting agency for review prior to start of construction.

MONITORING: The environmental monitor shall site inspect prior to the commencement of, and as needed during all, grading and construction activities.

NOI-3 Off-site accommodation for residents within 100 feet of pile driving activities shall be offered during maximum noise-generating pile driving activities (at or exceeding 95 dB(A) at the source). The applicant shall notify residents of properties located within 100 feet of pile driving activities

a minimum of 14 days prior to the commencement of activities. The applicant shall provide a notice to residents within 100 feet of pile driving activities that off-site accommodation will be provided during maximum noise-generating pile driving activities, and shall provide accommodation as requested.

Plan Requirements and Timing: A copy of the resident notice shall be provided to the permitting agency. Notices shall include specific written notification of the responsible name, location, and telephone number of the individual responsible for coordinating accommodations. The name and phone number of the Project Environmental Coordinator (PEC) or Resident Engineer who can answer questions and provide additional information or address problems that may arise associated with construction noise shall also be provided.

MONITORING: Permitting agency staff shall document and review notices and shall respond to complaints.

Plan Requirements: These conditions shall be included as notes on the grading plan submitted to the permitting agency for review. Caltrans Resident Engineer shall document and review notices and shall respond to complaints.

MONITORING: The permitting agency environmental monitor, construction inspector, or Resident Engineer shall site inspect prior to the commencement of, and as needed during all, grading and construction activities.

With the incorporation of these measures, residual impacts would be less than significant.

4.13 PUBLIC FACILITIES

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. A need for new or altered police protection and/or health care services?				✓	
b. Student generation exceeding school capacity?				✓	
c. Significant amounts of solid waste or breach any national, state, or local standards or thresholds relating to solid waste disposal and generation (including recycling facilities and existing landfill capacity)?				✓	
d. A need for new or altered sewer system facilities (sewer lines, lift-stations, etc.)?				✓	
e. The construction of new storm water drainage or water quality control facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			✓		

The analysis below is based on the *San Pedro and Las Vegas Creeks Capacity Improvement Project Location Hydraulic Study and Summary Floodplain Encroachment Report,* July 2008, prepared by HDR Engineering for the CFCD. The report is available for review at CFCD offices.

Impact Discussion:

a –d. The proposed project would not result in the increase of any new residential, commercial, or industrial uses within the area. Therefore, the flood control capacity improvements would have no impact on existing police protection or health care services. Demolition and disposal of existing

concrete culverts would be a single activity, such that no on-going demand on landfill capacity would occur. Therefore, the proposed project would not generate solid waste in excess of County thresholds. The flood control capacity improvements would not generate any new wastewater requiring treatment. Therefore, no impacts on Goleta Sanitary District (GSD) capacity would result. All proposed construction and requirements for modifications to GSD infrastructure have been coordinated with the GSD. ***The proposed project would not create any new impervious surfaces***; ***therefore, no impacts on groundwater percolation would result***.

e. Proposed drainage improvements would increase the flood control capacity of Las Vegas and San Pedro Creeks from a 10-year to 25-year storm event. Under existing conditions, a large portion of natural flow in San Pedro Creek is diverted to Las Vegas Creek upstream of Calle Real because of the lack of capacity in the existing culverts. The proposed project would increase conveyance and bridge capacity in San Pedro Creek and reduce the amount of flow diverted to Las Vegas Creek. Project design. The proposed berm and floodwall on the west side of San Pedro Creek, constructed as Project C, would address accommodate any increases in water surface elevation or inundation of adjacent properties. ***The increased floodwater capacity on Las Vegas and San Pedro Creeks would be a less than significant impact on public facilities.***

Mitigation and Residual Impact:

As no impacts on public services would result, no mitigation is necessary.

4.14 RECREATION

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Conflict with established recreational uses of the area?			✓		
b. Conflict with biking, equestrian and hiking trails?				✓	
c. Substantial impact on the quality or quantity of existing recreational opportunities (e.g., overuse of an area with constraints on numbers of people, vehicles, animals, etc. which might safely use the area)?				✓	

Impact Discussion:

Environmental Setting

Portions of Las Vegas and San Pedro Creeks on which flood control capacity improvements would be constructed traverse the public Twin Lakes Golf Course, on the Santa Barbara Airport property. Las Vegas Creek improvements would occur on the longest hole of the course, Hole 8. The creek is located just before the No. 8 green. Golfers cross the creek to the green on an existing dirt path on top of a culvert adjacent but south of the proposed creek improvements. During previous maintenance activity along Las Vegas Creek, a temporary Hole No. 8 green has been established to the west of Las Vegas Creek, outside the proposed creek construction area (personal communication, Jim Ley, Twin Lakes Golf Course Professional, 2010).

Impact Discussion:

a. The proposed construction on Las Vegas Creek would temporarily encroach with play at Hole No. 8, and golfing access across the creek to the No. 8 green. A temporary green has been established and maintained by Twin Lakes Golf Course west and outside of the construction and staging area. The bridge crossing Las Vegas Creek and providing access to Hole No. 9 is south of the project construction and staging area, and would not be impacted. Improvements on San Pedro Creek would all occur outside the Hole No. 7 and Hole

No. 8 playing areas. Therefore, as previously established temporary golf play opportunities would be provided, no substantial impacts on recreational uses of the Twin Lakes Golf Course would result. ***Impacts on recreation would be less than significant.***

The Las Vegas Creek capacity improvements (see Figure 2) would not encroach within the permanent existing Hole No. 8 green. Therefore, no long-term impacts on recreational use of the Twin Lakes Golf Course would occur.

b. Project implementation would not result in any conflicts with established biking, equestrian or hiking trails. ***No impacts on recreation would result.***

c. The proposed project would not result in any population increase, such that no additional demands on recreational facilities in the vicinity would result. ***No impacts on recreation would result.***

Cumulative Impacts:

Since the project would not affect recreational resources, it would not have a cumulatively considerable effect on recreational resources within the County.

Mitigation and Residual Impact:

As impacts on recreation would be less than significant, no mitigation measures would be required. Residual impacts would be less than significant.

4.15 TRANSPORTATION/CIRCULATION

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Generation of substantial additional vehicular movement (daily, peak-hour, etc.) in relation to existing traffic load and capacity of the street system?		✓			
b. A need for private or public road maintenance, or need for new road(s)?				✓	
c. Effects on existing parking facilities, or demand for new parking?				✓	
d. Substantial impact upon existing transit systems (e.g. bus service) or alteration of present patterns of circulation or movement of people and/or goods?		✓			
e. Alteration to waterborne, rail or air traffic?		✓			
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians (including short-term construction and long-term operational)?		✓			
g. Inadequate sight distance?				✓	
ingress/egress?				✓	
general road capacity?			✓		
emergency access?				✓	
h. Impacts to Congestion Management Plan system?				✓	

The analysis below is based on the Los Carneros Road Ramp Closure Traffic Analysis prepared by Dowling Associates, Inc., July 16, 2010, for the City of Goleta. It is available for review at CFCD offices.

Environmental Setting

Congestion hotspots resulting from the Las Vegas/San Pedro Culvert Project construction are projected to occur at two intersections.

Los Carneros Road/Calle Real Intersection: The Los Carneros Road/Calle Real intersection is a three-way, stop-signed, controlled "T" intersection that currently operates at a LOS C (HCM).

Los Carneros Road/Route 101 SB Ramps Intersection: The Los Carneros Road/Route 101 Southbound Ramp intersection currently operates at a LOS C (ICU).

Three roadways are within the study area.

Calle Real is a two-lane collector that runs east-west within the study area adjacent to the north side of Route 101, between Patterson Avenue and Los Carneros Road.

Hollister Avenue is a two to four-lane arterial extending east-west, and is located south and parallel to Route 101.

Cathedral Oaks is a two-lane collector that runs generally east-west north of and parallel to Calle Real.

Thresholds:

According to the County's Environmental Thresholds and Guidelines Manual, a significant traffic impact would occur when:

a. The addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by the value provided below, or sends at least 15, 10 or 5 trips to an intersection operating at LOS D, E or F.

LEVEL OF SERVICE (including project)	**INCREASE IN VOLUME/CAPACITY GREATER THAN**
A	**0.20**
B	**0.15**
C	**0.10**
	Or the addition of:
D	**15 trips**
E	**10 trips**
F	**5 trips**

b. Project access to a major road or arterial road would require a driveway that would create an unsafe situation, or would require a new traffic signal or major revisions to an existing traffic signal.

c. Project adds traffic to a roadway that has design features (e.g., narrow width, road side ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (e.g. rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use, etc.) that will become potential safety problems with the addition of project or cumulative traffic. Exceeding the roadway capacity designated in the Circulation Element may indicate the potential for the occurrence of the above impacts.

d. Project traffic would utilize a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D (V/C 0.81) or lower. Substantial is defined as a minimum change of 0.03 for intersections which would operate from 0.80 to 0.85 and a change of 0.02 for

intersections which would operate from 0.86 to 0.90, and 0.01 for intersections operating at anything lower.

Impact Discussion:

a. Project A construction activities would temporarily impact traffic flow on local roadways and intersections including Route 101, Fairview Avenue, Los Carneros Road, Hollister Avenue, Calle Real, and Cathedral Oaks Road over a 21-month period.

Los Carneros Road/Calle Real Intersection: Proposed construction activities would result in short-term impacts, a 12- to 18-month period during which the Route 101/Fairview Avenue Northbound on-ramp would be closed. During this time, traffic normally using the Fairview Avenue Overpass would be directed to the Los Carneros Road/Calle Real intersection. As a result of the redirected traffic, the operation of the stop-sign controlled intersection is projected to degrade from LOS C to E/F (HCM) during the AM and PM peak hours. This degradation in level of service is due to greater volumes on the stop-sign controlled westbound Calle Real/ Los Carneros Road approach. The projected 95th percentile queues for the Calle Real approach would extend back 631 feet from the Los Carneros Road intersection, thereby blocking several driveways, but falling approximately three car lengths (70 feet) shy of blocking the California Highway Patrol (CHP) Office driveway. ***This short-term degradation in LOS from C to E/F would be a significant impact on transportation/circulation.***

Los Carneros Road/Route 101 SB Ramps Intersection: The operation of this intersection is projected to degrade to LOS C to D (ICU) as a result of the short-term, 6-month period during when the Route 101/Fairview Avenue Southbound off-ramp would be closed. **This short-term degradation in LOS from C to D would be a significant impact on transportation/circulation.**

b-c. The proposed flood control improvements would not result in any need for maintenance of private or public road maintenance, or need for new roads. As no new land use development is proposed there would be no effects on existing parking facilities, or demand for new parking. All construction equipment would park within designated temporary staging areas. ***No impacts on transportation/circulation would result.***

d. The Metropolitan Transit District (MTD) Route 9, Calle Real/Old Town Shuttle, providing service between Calle Real and Hollister Avenue via the Fairview Avenue Overpass, would be potentially impacted by interruptions during the 6-month construction of the Route 101/Fairview Avenue Overpass. Construction activity would possibly result in delays to this regular bus service route. ***This is considered a potentially significant impact upon existing transit systems.***

e. Removal and reconstruction of UPRR bridges at Las Vegas Creek and San Pedro Creek would result in two temporarily suspensions of service. The bridge pilings would be installed within a period of 4 to 6 hours when rail service would be temporarily suspended. Demolition and replacement of the bridges would occur during a maximum 48-hour suspension of train service. Though short-term, these temporary interruptions would result in potentially substantial alterations to rail traffic, including Amtrak passenger trains. ***This is considered a potentially significant impact on existing transit systems.***

f. Short-term construction would result in temporary Route 101 lane closures, as well as the complete closure of the Route 101/ Fairview Avenue Southbound off-ramp for 6 months. Short-term rerouted traffic on the local roadways and delays in intersection operation would potentially increase traffic hazards affecting motor vehicles, bicyclists, and pedestrians on Hollister Avenue, Fairview Avenue, and Calle Real. ***This is considered a potentially significant impact on transportation/circulation.***

g. The proposed project would not introduce roadway improvements including unsafe driveways or short-term ingress and egress. Caltrans and the Flood Control District would prepare standard construction transportation routing plans that would be coordinated with the City of Goleta Community Services Department and City of Santa Barbara Airport District such that pedestrian, bicycle, or transit access would not be impeded or rendered unsafe, and no interference with emergency response plans would occur. ***No impacts on transportation/circulation would result.***

Vehicular volumes on Calle Real and Hollister Avenue are projected to temporarily increase by as much as 320 Peak Hour Trips (PHT) during construction. Corresponding volumes on Cathedral Oaks are projected to increase by approximately 60 Peak Hour Trips. These short-term increases in traffic would not exceed the allowable roadway capacities as defined in the City of Goleta General Plan. ***Short-term construction impacts on transportation/circulation would be less than significant.***

h. The flood control improvements would not result in any long-term increases in land use and associated traffic on the adjacent road network. ***Therefore, no impacts on Congestion Management Plan system would result.***

Cumulative Impacts:

The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project would not contribute any long-term increases to local traffic. Therefore, the project's contribution to the regionally significant traffic congestion is not considerable, and is less than significant.

Mitigation Measures:

The following measures would be required to address short-term significant impacts on transportation/circulation during construction.

TR-1 Caltrans and CFCD shall develop a Construction Traffic Management Plan (CTMP) for review and approval by the appropriate reviewing agency, prepared in consultation with City of Goleta Community Services Department and the Santa Barbara Airport. The CTMP shall include the following:

a. install a temporary traffic signal at the Calle Real/Los Carneros Road intersection;
b. temporarily restripe the southbound Route 101/Los Carneros Road Off-Ramp to allow a double left-turn movement to northbound Los Carneros Road;
c. potential temporary adjustments to signal timing along Calle Real between Patterson Avenue and Los Carneros Road, along Hollister Avenue, and along Cathedral Oaks Road;
d. construction equipment and personnel traffic routes, signage and possible website, including ingress and egress off of Hollister Avenue and Route 101;
e. location and timing of any lane and/or road closures with minimum 5-days' notice;
f. contingency plan including emergency notification plan and emergency detour plan.

Plan Requirements and Timing: The contractor shall submit the Construction Transportation Management Plan (TMP) for review and approval by the permitting agency prior to start of construction.

MONITORING: The traffic engineer shall periodically review the implementation of TMP specifications in the field.

TR-2 Caltrans and CFCD shall coordinate through a Memorandum of Understanding (MOU) or equivalent mechanism with the UPRR, Amtrak, and MTD to ensure that short-term interruptions of rail and bus service are minimized and that all construction detours and temporary lane/road closures are properly anticipated. Advance notification of interruptions to normal operations shall be provided as requested by these agencies.

Plan Requirements and Timing: The CFCD contractor shall submit the MOU with UPRR and MTD for review and approval by the permitting agency prior to start of construction. Caltrans shall prepare a Traffic Management Plan (TMP).

MONITORING: The permitting agency shall receive the MOU or equivalent mechanism with the UPRR and MTD prior to start of construction.

Residual Impacts

Implementation of mitigation measure TR-1 would reduce the temporary operation during construction at the Los Carneros Road/Calle Real Intersection to LOS C or better (ICU and HCM). With signalization, the projected 95th percentile queues for the approach to Calle Real would extend back 343 feet, which is not anticipated to block any driveways. Re-striping the Route 101/Los Carneros Road Southbound Off-Ramp to allow a double left-turn movement to northbound Los Carneros Road would ensure that operation of the intersection would remain at LOS C or better.

With the incorporation of these measures, residual impacts would be less than significant.

4.16 WATER RESOURCES/FLOODING

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters?				✓	
b. Changes in percolation rates, drainage patterns or the rate and amount of surface water runoff?				✓	
c. Change in the amount of surface water in any water body?				✓	
d. Discharge, directly or through a storm drain system, into surface waters (including but not limited to wetlands, riparian areas, ponds, springs, creeks, streams, rivers, lakes, estuaries, tidal areas, bays, ocean, etc) or alteration of surface water quality, including but not limited to temperature, dissolved oxygen, turbidity, or thermal water pollution?		✓			
e. Alterations to the course or flow of flood water or need for private or public flood control projects?				✓	
f. Exposure of people or property to water related hazards such as flooding (placement of project in 100 year flood plain), accelerated runoff or tsunamis, sea level rise, or seawater intrusion?			✓		
g. Alteration of the direction or rate of flow of groundwater?				✓	
h. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or recharge interference?				✓	
i. Overdraft or over-commitment of any groundwater basin? Or, a significant increase in the existing overdraft or over-commitment of any groundwater basin?				✓	
j. The substantial degradation of groundwater quality including saltwater intrusion?				✓	
k. Substantial reduction in the amount of water otherwise available for public water supplies?				✓	
l. Introduction of storm water pollutants (e.g., oil, grease, pesticides, nutrients, sediments, pathogens, etc.) into groundwater or surface water?		✓			

The following assessment is based in part on the project Water Quality Assessment technical report prepared by Dudek (November 2009). This report is available for review at Santa Barbara County Flood Control offices.

Environmental Setting:

Currently, the Las Vegas Creek culverts under Route 101 and under the UPRR facility have the hydraulic capacity to carry peak flows of less than a ten-year event, while San Pedro Creek under Calle Real, Route 101 and the UPRR has the hydraulic capacity to carry peak flows of no greater than a ten-year event. As a result, the existing hydraulic capacities of the Las Vegas and San Pedro Creeks under Calle Real, Route 101 and UPRR result in overtopping of the roadway surface at Calle Real and Route 101 during heavy rains. In 1995, 1998, and 2000 flooding of Calle Real and Route 101 occurred. These flooding events resulted in closures of both Calle Real and Route 101.

Impact Discussion:

Water Quality Thresholds:

A significant water quality impact is presumed to occur if the project:

- Is located within an urbanized area of the county and the project construction or redevelopment individually or as a part of a larger common plan of development or sale would disturb one (1) or more acres of land;
- Increases the amount of impervious surfaces on a site by 25% or more;
- Results in channelization or relocation of a natural drainage channel;
- Results in removal or reduction of riparian vegetation or other vegetation (excluding non-native vegetation removed for restoration projects) from the buffer zone of any streams, creeks or wetlands;
- Is an industrial facility that falls under one or more of categories of industrial activity regulated under the NPDES Phase I industrial storm water regulations (facilities with effluent limitation; manufacturing; mineral, metal, oil and gas, hazardous waste, treatment or disposal facilities; landfills; recycling facilities; steam electric plants; transportation facilities; treatment works; and light industrial activity);
- Discharges pollutants that exceed the water quality standards set forth in the applicable NPDES permit, the Regional Water Quality Control Board's (RWQCB) Basin Plan or otherwise impairs the beneficial uses[6] of a receiving water body;
- Results in a discharge of pollutants into an "impaired" water body that has been designated as such by the State Water Resources Control Board or the RWQCB under Section 303 (d) of the Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act); or
- Results in a discharge of pollutants of concern to a receiving water body, as identified by the RWQCB.

a, c. The flood control capacity improvements project would not result in a change in currents or the course or direction of water movements in fresh waters travelling in Las Vegas and San Pedro Creeks. Capacity improvements would occur entirely within and on the banks of existing water

[6] Beneficial uses for Santa Barbara County are identified by the Regional Water Quality Control Board in the Water Quality Control Plan for the Central Coastal Basin, or Basin Plan, and include (among others) recreation, agricultural supply, groundwater recharge, fresh water habitat, estuarine habitat, support for rare, threatened or endangered species, preservation of biological habitats of special significance.

courses. No change in the amounts of surface waters entering downstream water bodies such as the Goleta Slough would occur. ***No impacts on water resources would result.***

b, e-f. Under existing conditions, a large portion of natural flow in San Pedro Creek is diverted to Las Vegas Creek upstream of Calle Real because of the lack of capacity in the existing culverts. The proposed project would increase conveyance and bridge capacity in San Pedro Creek and reduce the amount of flow diverted to Las Vegas Creek. This would potentially increase flood elevations between the UPRR and Hollister Avenue along San Pedro Creek, though the changes in the rates of surface water flows and runoff would be minimal. The proposed project design includes a berm (approximately 2.5 feet high or less) in the Santa Barbara Airport Long-Term overflow parking lot upstream of Hollister Avenue that would protect adjacent properties from inundation or water surface elevation increases up to the 25-year event. The proposed floodwall (approximately 4 to 5 feet high) on the west side of San Pedro Creek between the UPRR and Hollister Avenue would provide protection for up to a 100-year event (these are illustrated in Figure 9). Therefore, the berm and floodwall are designed to accommodate the minimal increases in surface water runoff, flow of flood waters, and surface elevation inundation of adjacent properties. ***Impacts associated with flooding would be less than significant.***

Predictions about the long-term effects of global climate change include rising sea levels due to melting of glaciers and thermal expansion. Rising sea levels could increase the incidence of flooding in coastal areas with altitudes at or near sea-level. Although the exact rate of future sea level rise is unknown, the Intergovernmental Panel on Climate Change has estimated that sea levels may rise between 50 and 90 centimeters (approximately 1.6- to 3-feet) by the year 2100.[7] Although the project does involve lands near sea level, the area proposed for development is situated at a minimum altitude of 30 feet above current sea level. Therefore, even if these rates of sea level rise are realized, the development area would remain well above sea level within that planning horizon.

d, l. Short-term water quality impacts could occur during construction activities. Potential construction impacts include, but are not limited to, the following:

- Discharge of disturbed soil areas to drainage ditches and areas outside of right-of-way.
- Tracking of sediment or construction related materials and wastes offsite and deposited on private or public paved roads by construction vehicles and equipment.
- Dewatering depending on the time of year that construction occurs.
- Debris from saw cutting, grinding, drilling, and concrete or mortar demolition.
- Stockpiles of soil, construction related materials, and/or wastes.

Potential impact on surface water could result from the erosion and transport of loose soil generated during excavation, grading, and/or filling activities. Site preparation and construction activities can result in the potential for increased erosion of soils that could affect surface and ground water quality. Grading and site construction phases of future development projects would involve earth movement and the use of heavy machinery, which routinely also includes the handling of hazardous substances such as petroleum products. Construction materials, such as concrete and surface coatings, can also be released to the environment during construction, resulting in adverse water quality impacts.

Short-term water quality impacts could result from the improper management of asphalt concrete, Portland concrete cement wastes, or spilled or leaking hazardous materials, etc. These potential pollution sources could increase total suspended solids (TSS), total dissolved solids (TDS), or organic pollutants in surface waters.

[7] The Intergovernmental Panel on Climate Change is a scientific intergovernmental body set up by the World Meteorological Organization (WMO) and by the United Nations Environment Programme (UNEP).

Potential water quality pollutants in stormwater runoff potentially generated during construction activities would include:

- Total Suspended Solids – total suspended solids (TSS) are typically sediment produced when soil particles are eroded from the land and transported to surface waters. Erosion of native or vegetated ground usually occurs slower due to soil anchoring by root structures. Exposed soils could increase the rate of erosion, quickly entraining and transporting sediment in runoff from rain events. Suspended sediment can prevent sunlight from reaching aquatic plants, clog fish gills, choke other organisms, and bury aquatic spawning and nursery areas.

- Oil and Grease - Oil and grease could be potentially leaked from construction equipment car and truck engines operating within and in the vicinity of the creeks, spilled at fueling stations within staging areas, and/or improperly discarded directly onto ground surfaces instead of being taken to recycling stations. Stormwater runoff would potentially transport these pollutants directly to creek surface waters.

- Aerially Deposited Lead (ADL) – ADL-laden soils identified in surface soils adjacent to Route 101 could potentially enter surface waters from erosion and transport by stormwater. Once contaminated sediment is entrained within the water column or deposited within the receiving water, lead would potentially desorb or become available to aquatic organisms.

As total project site disturbance is greater than 1.0 acre, a comprehensive Storm Water Pollution Prevention Plan (SWPPP) that regulates construction activity is required to be prepared and submitted to the City of Goleta, City of Santa Barbara, and Santa Barbara County Project Clean Water. For the part of the project that is in Caltrans right of way, a SWPPP would be prepared as per Caltrans standards, using the Caltrans SWPPP/ WPCP Preparation Manual, and submitted to Caltrans for review and approval prior to the commencement of any activities that have the potential to cause or contribute to water pollution.

The Storm Water Pollution Prevention Plan (SWPPP) required for this project would incorporate applicable temporary construction site Best Management Practices (BMP's) within the project limits, which also mitigate potential water quality impacts. For the Caltrans portion of this project, every temporary construction site BMP that is needed would be broken out as an individual bid item in the contract. The temporary construction site implementation strategy would be documented in the project's Stormwater Data Report (SWDR) and would be subject to the concurrence of the Caltrans Construction Stormwater Coordinator prior to final design completion. General Categories for permanent and temporary BMP's to be included in the SWPPP would include:

- Permanent Erosion Control (Construction Site BMP Manual);
- Soil Stabilization BMP's;
- Sediment Control BMP's;
- Tracking Control BMP's;
- Wind Erosion Controls:
- Non-Storm Water Management; and
- Waste Management and Materials Pollution Control BMP's.

There is potential to significantly impact water resources but the above measures would substantially reduce and mitigate for those impacts.

g-k. Proposed flood control capacity improvements would not result in any long-term demand on additional groundwater supplies, or interference with groundwater hydrology. The water demand associated with irrigation of landscaping for biological restoration and landscaping would be short-

term until the plantings were established. Replacement Route 101 median planting would require a minor amount of permanent irrigation. As the landscaping would be drought-tolerant and/or native, this demand would be minute and insubstantial. ***No impacts on water resources would result.***

Cumulative Impacts:

The County's Environmental Thresholds were developed, in part, to define the point at which a project's contribution to a regionally significant impact constitutes a significant effect at the project level. In this instance, the project has been found not to exceed the threshold of significance for water resources. Therefore, the project's contribution to the regionally significant issues of water supplies and water quality is not considerable, and is less than significant.

Mitigation and Residual Impact:

The following mitigation measures and Mitigation Measure BIO-2 would reduce the project's water resource impacts to a less than significant level:

WR-1 Project contractors shall submit an Erosion and Sediment Control Plan or, if greater than 1.0 acre, a comprehensive Storm Water Pollution Prevention Plan (SWPPP) may be submitted in lieu of an Erosion and Sediment Control Plan. The Plan shall include the following:

a. Methods such as geotextile fabrics, erosion control blankets, retention basins, drainage diversion structures, siltation basins and spot grading shall be used to reduce erosion and siltation into adjacent water bodies or storm drains during grading and construction activities.

b. All entrances/exits to the construction site shall be stabilized (e.g., using rumble plates, gravel beds or other best available technology) to reduce transport of sediment off site. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods.

c. Storm drain inlets shall be protected from sediment-laden waters by the use of inlet protection devices such as gravel bag barriers, filter fabric fences, block and gravel filters, and excavated inlet sediment traps.

d. Graded areas shall be revegetated as soon as feasible after the completion of grading activities with deep rooted, native, 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.

e. Grading on slopes steeper than 5:1 shall be designed to minimize surface water runoff.

Plan Requirements: The temporary construction entrances/exits and stock pile locations shall be located and detailed on project grading and drainage plans. Temporary and Permanent Erosion Control quantities and locations shall be detailed on the plans. **Timing:** The plans shall be submitted to the permitting agency for review and approval prior to start of construction. The stabilized entrances/exits shall be installed prior to initiation of grading and maintained for the duration of the grading period and until graded areas have been stabilized by structures, long-term erosion control measures or landscaping.

MONITORING: The environmental monitor or Caltrans Construction Engineer/Resident Engineer (RE) shall ensure that plan requirements are enforced during construction.

WR-2 The applicant shall limit excavation and grading to the dry season of the year (i.e., April 15 to November 30) unless an approved erosion and sediment control plan is in place and all measures therein are in effect. All exposed graded surfaces shall be covered with a layer of mulch or other equivalent sediment control and maintained until restoration plantings are completed to minimize erosion.

Plan Requirements and Timing: The erosion and sediment control plans shall be submitted to the permitting agency for review and approval prior to start of construction.

MONITORING: The environmental or Caltrans Construction Engineer/Resident Engineer (RE) shall ensure that plan requirements are enforced during construction.

WR-3 To prevent sediment from being tracked off of the construction site, stabilized construction entrances/exits shall be installed. Stabilizing measures may include but are not limited to use of gravel pads, steel rumble plates, temporary paving, etc. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using street sweeping and vacuuming.

Plan Requirements: The stabilized construction entrances/exits and stock pile locations shall be located and detailed on the grading and drainage plan. Street sweeping and vacuuming shall be included in the project specifications and included on grading and drainage plans. **Timing:** The plans shall be submitted to the permitting agency for review and approval prior to start of construction. The stabilized entrances/exits shall be installed prior to initiation of grading and maintained for the duration of the grading period and until graded areas have been stabilized by structures, long-term erosion control measures or landscaping.

MONITORING: The environmental monitor or Caltrans Construction Engineer/Resident Engineer (RE) shall ensure that plan requirements are enforced during construction.

WR-4 To prevent storm water contamination during roadwork or pavement construction, concrete, asphalt, and seal coat shall be applied during dry weather. Storm drains and manholes within the construction area shall be covered when paving or applying seal coat, slurry, fog seal, etc.

Plan Requirements and Timing: The project plans shall include provisions to address the timing of the application of concrete, asphalt, and seal coat. It shall also include plans and provisions for storm drain inlet protection. These requirements shall be specified on the grading and building plans submitted to the permitting agency for review and approval prior to start of construction.

MONITORING: The environmental monitor or Caltrans Construction Engineer/Resident Engineer (RE) shall site inspect as needed during construction.

WR-5 Any material storage and stockpile areas within construction areas that could contribute pollutants and waste such as paint, mortar, concrete slurry, fuels, etc. shall be stored, handled, and disposed of in a manner which minimizes the potential for storm water contamination. The following measures are required.

a. Materials with the potential to contaminate storm water must either be either: placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or protected by a secondary containment structure such as berm, dike, or curb and covered with a roof or awning.

b. The storage area shall be paved and sufficiently impervious to contain leaks and spill or otherwise be designed to prevent discharge of leaks or spills into the storm water conveyance system.

c. All drainage in demolition material storage container areas must be diverted from adjoining pervious surfaces.

d. Demolition material storage container areas shall be protected and regularly maintained to prevent off site transport of trash

Plan Requirements and Timing: Storage and stock pile areas and provisions included to address construction site management and the handling of contaminated materials shall be shown on the grading plans submitted to the permitting agency for review and approval prior to start of construction.

MONITORING: The environmental monitor or Caltrans Construction Engineer/Resident Engineer (RE) shall site inspect to ensure measures are constructed in accordance with the approved plan and periodically thereafter to ensure proper maintenance.

Specific permit requirements or mitigation measures such as Regional Water Quality Control Board (RWQCB) 401 Certification, U.S. Army Corps of Engineers 404 permit and approval by California Department of Fish and Game may be included in contract documents.

With the incorporation of these measures, residual impacts would be less than significant.

5.0 INFORMATION SOURCES

5.1 County Departments Consulted (underline):

Police, Fire, Public Works, Flood Control, Parks, Environmental Health, Special Districts, Regional Programs, Other: City of Goleta Community Services Department, City of Santa Barbara Airport District.

5.2 Comprehensive Plan *(check those sources used):*

X	Seismic Safety/Safety Element	X	Conservation Element
X	Open Space Element	X	Noise Element
	Coastal Plan and Maps		Circulation Element
	ERME	X	City of Goleta General Plan/Coastal Land Use Plan (2006)
		X	Santa Barbara Airport Industrial Area Specific Plan

5.3 Other Sources *(check those sources used:*

X	Field work		Ag Preserve maps
X	Calculations	X	Flood Control maps
X	Project plans	X	Other technical references (reports, survey, etc.)
X	Traffic studies	X	Planning files, maps, reports
X	Records	X	Zoning maps
X	Grading plans	X	Soils maps/reports
X	Elevation, architectural renderings	X	Plant maps
X	Published geological map/reports	X	Archaeological maps and reports
	Topographical maps	X	Other
		X	Jim Ley, Twin Lakes Golf Course
		X	City of Goleta General Plan/Coastal Land Use Plan EIR (2006)
		X	City of Santa Barbara General Plan

6.0 PROJECT SPECIFIC *(short- and long-term)* AND CUMULATIVE IMPACT SUMMARY

Short-term, significant but feasibly mitigated impacts related to proposed construction activities on: aesthetics/visual resources; biological resources; cultural resources; geologic hazards; hazardous materials; noise, transportation/circulation; and water quality.

7.0 MANDATORY FINDINGS OF SIGNIFICANCE

Will the proposal result in:	Poten. Signif.	Less than Signif. with Mitigation	Less Than Signif.	No Impact	Reviewed Under Previous Document
1. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, contribute significantly to greenhouse gas emissions or significantly increase energy consumption, or eliminate important examples of the major periods of California history or prehistory?		✓			
2. Does the project have the potential to achieve short-term to the disadvantage of long-term environmental goals?				✓	
3. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects and the effects of probable future projects.)			✓		
4. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				✓	
5. Is there disagreement supported by facts, reasonable assumptions predicated upon facts and/or expert opinion supported by facts over the significance of an effect which would warrant investigation in an EIR?				✓	

1) As discussed in Sections 4.4 and 4.5 of this Initial Study, the proposed project has the potential to substantially degrade the quality of the environment. ***However, mitigation measures proposed in these sections would reduce project impacts to levels of less than significance.***

With incorporation of the mitigation measures identified in this Initial Study into the project description, the project would not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, contribute significantly to greenhouse gas emissions or significantly increase energy consumption, or eliminate important examples of the major periods of California history or prehistory.

3) The project would not have impacts that are cumulatively considerable. As the proposed project would implement standard conditions and Best Management Practices maintained by the County of Santa Barbara and Caltrans, as well as additional measures identified in this Initial Study, ***the project would not have impacts that are cumulatively considerable.***

All potentially significant impacts resulting from short-term construction of proposed flood control capacity improvement projects would be feasibly mitigated to less than significant, including those on: aesthetics/visual resources; biological resources; cultural resources; geologic hazards; hazardous materials; noise, transportation/circulation; and water quality.

8.0 PROJECT ALTERNATIVES

No project alternatives are required, as no unavoidable significant impacts would result.

9.0 INITIAL REVIEW OF PROJECT CONSISTENCY WITH APPLICABLE SUBDIVISION, ZONING AND COMPREHENSIVE PLAN REQUIREMENTS

City of Goleta General Plan/Local Coastal Plan Policy CE 1.6, Protection of ESHAs.

City of Santa Barbara Airport Industrial Area Specific Plan Zone (SP-6), Sub-Areas 3 and 4 Policies Policy V4, Policy F1, Policy B2, and Policy SW1.

10.0 RECOMMENDATION BY P&D STAFF

On the basis of the Initial Study, the staff of Planning and Development:

____ Finds that the proposed project WILL NOT have a significant effect on the environment and, therefore, recommends that a Negative Declaration (ND) be prepared.

__X__ Finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures incorporated into the REVISED PROJECT DESCRIPTION would successfully mitigate the potentially significant impacts. Staff recommends the preparation of an ND. The ND finding is based on the assumption that mitigation measures will be acceptable to the applicant; if not acceptable a revised Initial Study finding for the preparation of an EIR may result.

____ Finds that the proposed project MAY have a significant effect on the environment, and recommends that an EIR be prepared.

____ Finds that from existing documents (previous EIRs, etc.) that a subsequent document (containing updated and site-specific information, etc.) pursuant to CEQA Sections 15162/15163/15164 should be prepared.

Potentially significant unavoidable adverse impact areas:

_____ With Public Hearing _____ Without Public Hearing

PREVIOUS DOCUMENT:

PROJECT EVALUATOR: **David Stone, Dudek** **DATE:** 4/13/11

11.0 DETERMINATION BY ENVIRONMENTAL HEARING OFFICER

✓ I agree with staff conclusions. Preparation of the appropriate document may proceed.
____ I DO NOT agree with staff conclusions. The following actions will be taken:
____ I require consultation and further information prior to making my determination.

SIGNATURE: _____ **INITIAL STUDY DATE:** 4/15/11

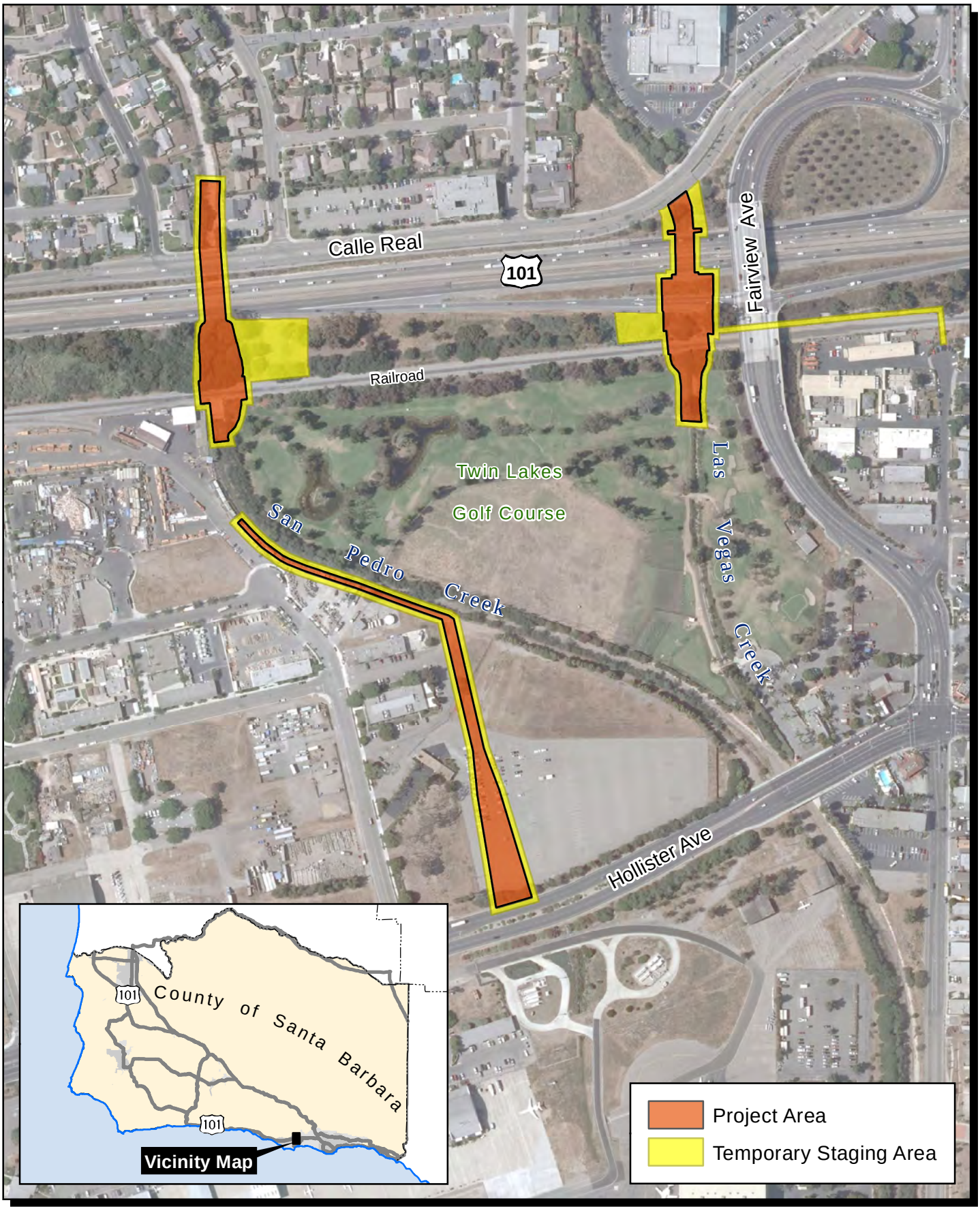
SIGNATURE: _____ **NEGATIVE DECLARATION DATE:** 4/15/11

SIGNATURE: _____ **REVISION DATE:** _____

SIGNATURE: _____ **FINAL NEGATIVE DECLARATION DATE:** _____

12.0 ATTACHMENTS

1. Regional Vicinity Map
2. Las Vegas Creek Improvements
3. Existing and Proposed Structures for Las Vegas and San Pedro Creeks at Route 101
4. Cross Section of Proposed Structure for Las Vegas Creek at Route 101 Southbound Off-ramp
5. UPRR Bridge at Las Vegas Creek
6. UPRR Bridge at San Pedro Creek
7. San Pedro Creek Improvements
8. San Pedro Creek Floodwall Berm
9. Staging Areas for Projects A and B
10. Staging Areas for Project C
11. Existing Vegetation Communities and Impact Areas
12. Tree Protection/Removal Plan
13. Conceptual Biological and Tree Planting Plan



DUDEK

0 100 200 400 Feet

Las Vegas and San Pedro Creek Capacity Improvement Project

Project Vicinity

FIGURE 1

DUDEK

0 Feet 200

Las Vegas and San Pedro Creek Capacity Improvement Project

Las Vegas Creek Capacity Improvements

FIGURE 2

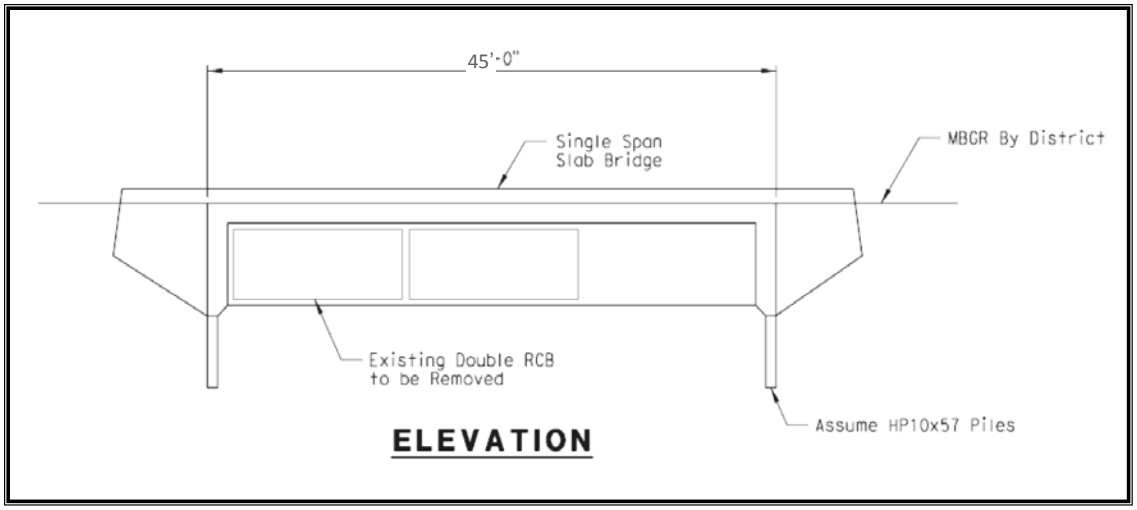


Figure 3. Existing and Proposed Structures for Las Vegas and San Pedro Creeks at SR 101

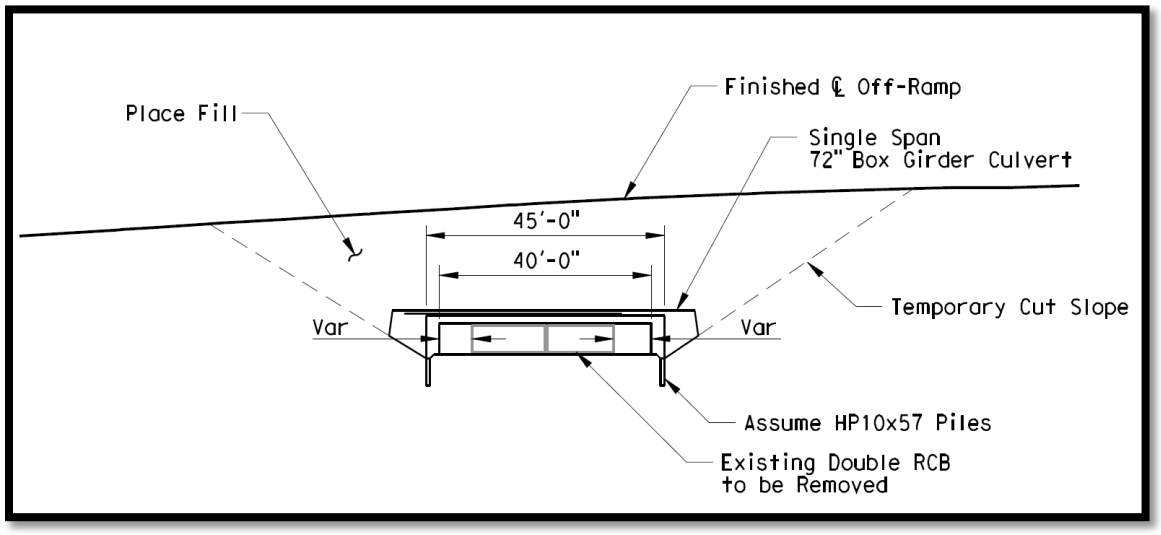


Figure 4. Cross Section of Proposed Structure for Las Vegas Creek at SR 101 Southbound Off Ramp

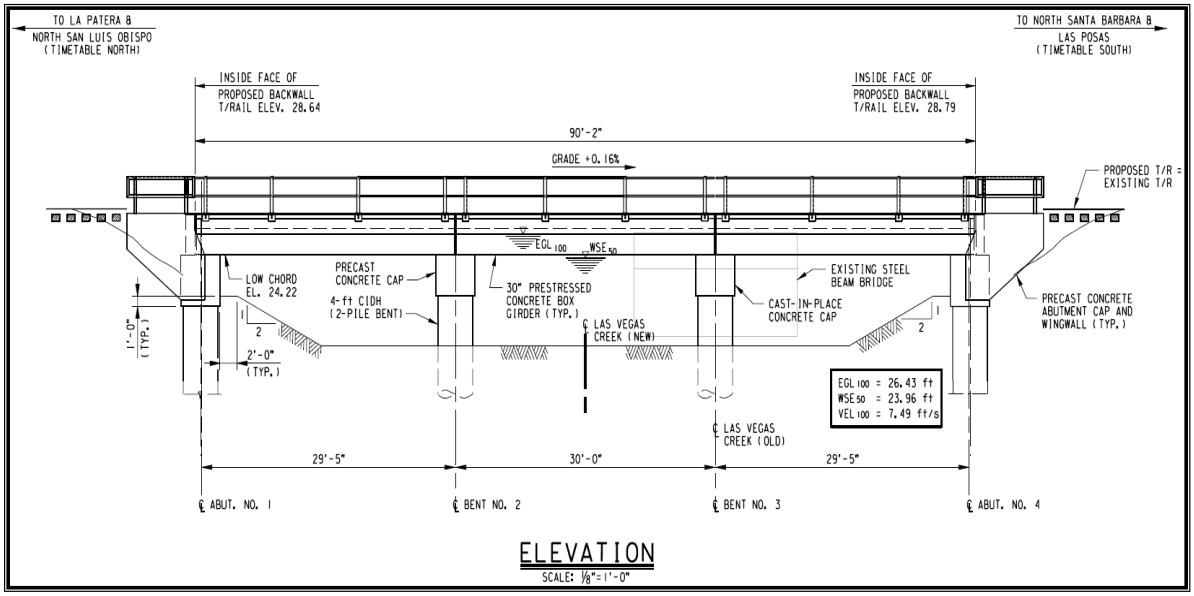


Figure 5. UPRR Bridge at Las Vegas Creek

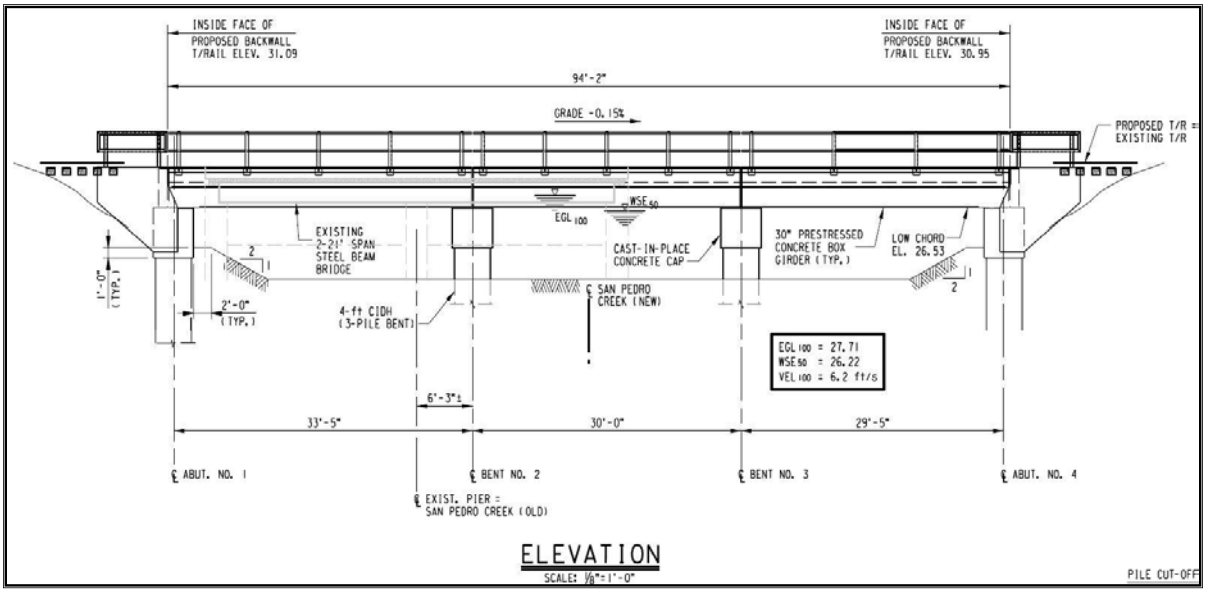
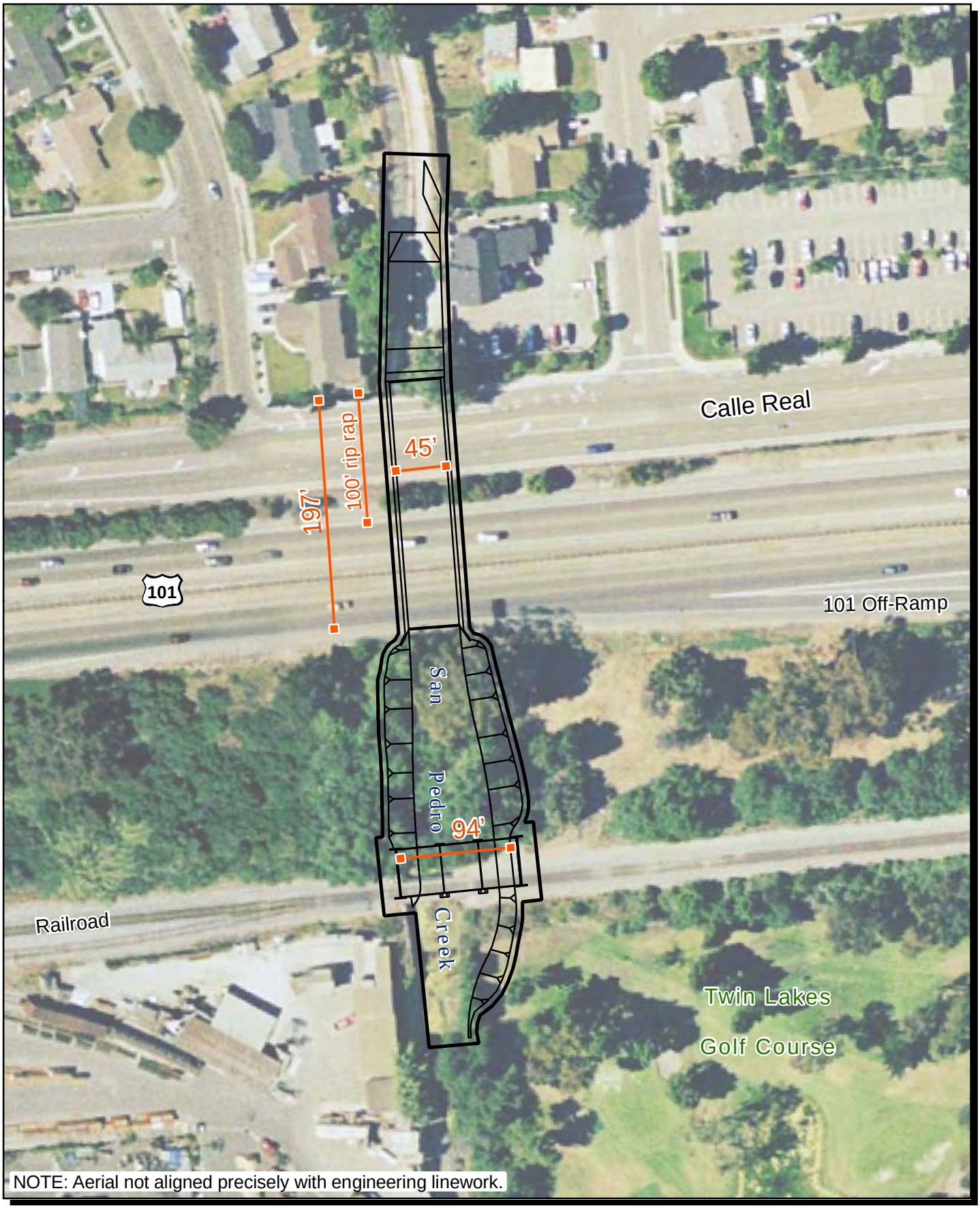


Figure 6. UPRR Bridge at San Pedro Creek



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Las Vegas and San Pedro Creek Capacity Improvement Project

San Pedro Creek Capacity Improvements

FIGURE 7

DUDEK 0 200 Feet

Las Vegas and San Pedro Creek Capacity Improvement Project

San Pedro Creek Proposed Floodwall Berm

FIGURE 8

DUDEK

0 100 200 400 Feet

Las Vegas and San Pedro Creek Capacity Improvement Project
Staging Areas for Project A and B

FIGURE 9

DUDEK

0 100 200 400 Feet

Las Vegas and San Pedro Creek Capacity Improvement Project
Staging Areas for Project C

FIGURE 10

	Project Impact Area	Veg Code	Acres
A	Permanent Impact Area	AGL	0.28
		DEV	0.52
		OC_A	0.09
		ORN	0.04
		SWS_A	0.03
		SWS_C	0.02
	Temporary Staging Area	AGL	0.41
		DEV	0.42
		EUC	0.00
		OC_A	0.00
		ORN	0.09
		SWS_A	0.00
		SWS_C	0.06
		TOTAL:	*1.95*
B	Permanent Impact Area	AGL	0.04
		DEV	0.46
		OC	0.07
		OC_A	0.16
		ORN	0.06
		OW	0.05
		SWS	0.07
		SWS_A	0.17
		SWS_C	0.25
	Temporary Staging Area	AD	0.00
		AGL	0.37
		DEV	0.47
		EUC	0.00
		OC	0.02
		OC_A	0.01
		ORN	0.08
		OW	0.00
		SWS	0.01
		SWS_C	0.25
		TOTAL:	*2.54*
C	Permanent Impact Area	DEV	1.14
		OC	0.00
		SWS_C	0.00
	Temporary Staging Area	DEV	0.85
		OC	0.09
		SWS_C	0.09
		TOTAL:	*2.17*

Project Areas
- Project A
- Project B
- Project C
- Caltrans ROW

Impact Areas
- Permanent Impact Area (3.44 Acres)
- Temporary Staging Area (3.22 Acres)

Vegetation Communities
- AD - Arundo
- AGL - Annual Grassland
- EUC - Eucalyptus
- ORN - Ornamental
- SWS - Southern Willow Scrub
- OC - Open Channel
- OW - Open Water
- riprap
- DEV - Developed

A = ACOE, CDFG, RWBCB
C = CDFG Only

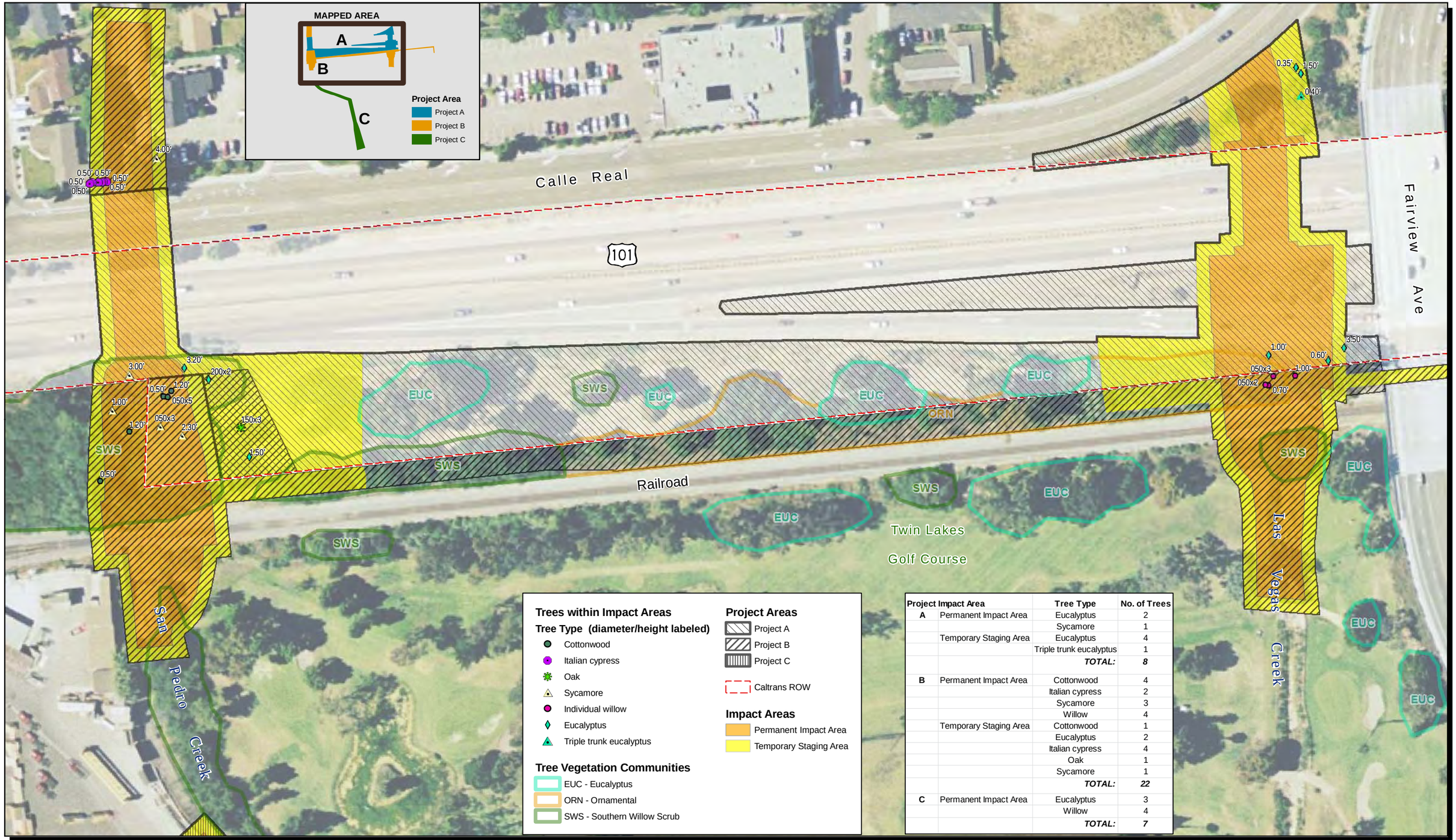
DUDEK

0 Feet 500

Las Vegas and San Pedro Creek Capacity Improvement Project

Existing Vegetation Communities and Impact Areas

FIGURE 11



Trees within Impact Areas

Tree Type (diameter/height labeled)

- Cottonwood
- Italian cypress
- Oak
- Sycamore
- Individual willow
- Eucalyptus
- Triple trunk eucalyptus

Tree Vegetation Communities

- EUC - Eucalyptus
- ORN - Ornamental
- SWS - Southern Willow Scrub

Project Areas

- Project A
- Project B
- Project C
- Caltrans ROW

Impact Areas

- Permanent Impact Area
- Temporary Staging Area

Project	Impact Area	Tree Type	No. of Trees
A	Permanent Impact Area	Eucalyptus	2
		Sycamore	1
	Temporary Staging Area	Eucalyptus	4
		Triple trunk eucalyptus	1
		TOTAL:	***8***
B	Permanent Impact Area	Cottonwood	4
		Italian cypress	2
		Sycamore	3
		Willow	4
	Temporary Staging Area	Cottonwood	1
		Eucalyptus	2
		Italian cypress	4
		Oak	1
		Sycamore	1
		TOTAL:	***22***
C	Permanent Impact Area	Eucalyptus	3
		Willow	4
		TOTAL:	***7***

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0 500 Feet

Las Vegas and San Pedro Creek Capacity Improvement Project

Tree Protection/Removal Plan

FIGURE 12

Project Areas

- Project A
- Project B
- Project C
- Caltrans ROW
- Temporary Impact Area
- Permanent Impact Area

Vegetation Communities

- AD - Arundo
- AGL - Annual Grassland
- EUC - Eucalyptus
- ORN - Ornamental
- SWS - Southern Willow Scrub
- OC - Open Channel
- OW - Open Water
- riprap
- DEV - Developed

A = ACOE, CDFG, RWBCB
C = CDFG Only

- Potential Southern Willow Scrub (SWS) Replanting Area (1.44 Acres)
- Potential Southern Willow Scrub (SWS) Restoration Area (1.27 Acres)
- Potential Tree Replanting Area (2.28 Acres)

Project	Type	Acres
A	Potential Southern Willow Scrub (SWS) Replanting Area	0.89
	Potential Southern Willow Scrub (SWS) Restoration Area	0.07
	Potential Tree Replanting Area	1.74
	TOTAL:	**2.70**
B	Potential Southern Willow Scrub (SWS) Replanting Area	0.54
	Potential Southern Willow Scrub (SWS) Restoration Area	0.70
	Potential Tree Replanting Area	0.54
	TOTAL:	**1.79**

DUDEK

0 Feet 500

Las Vegas and San Pedro Creek Capacity Improvement Project

Conceptual Biological and Tree Planting Plan

FIGURE 13