

*Attachment*  
**3**

*Stormwater Flood Management Grant Proposal*  
*Santa Barbara County Flood and Water Conservation District*  
*Work Plan*

Attachment 3 consists of the following items:

- ✓ **Work Plan.** Attachment 3 contains detailed information regarding the tasks that were and will be performed for the proposed project.
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## Introduction

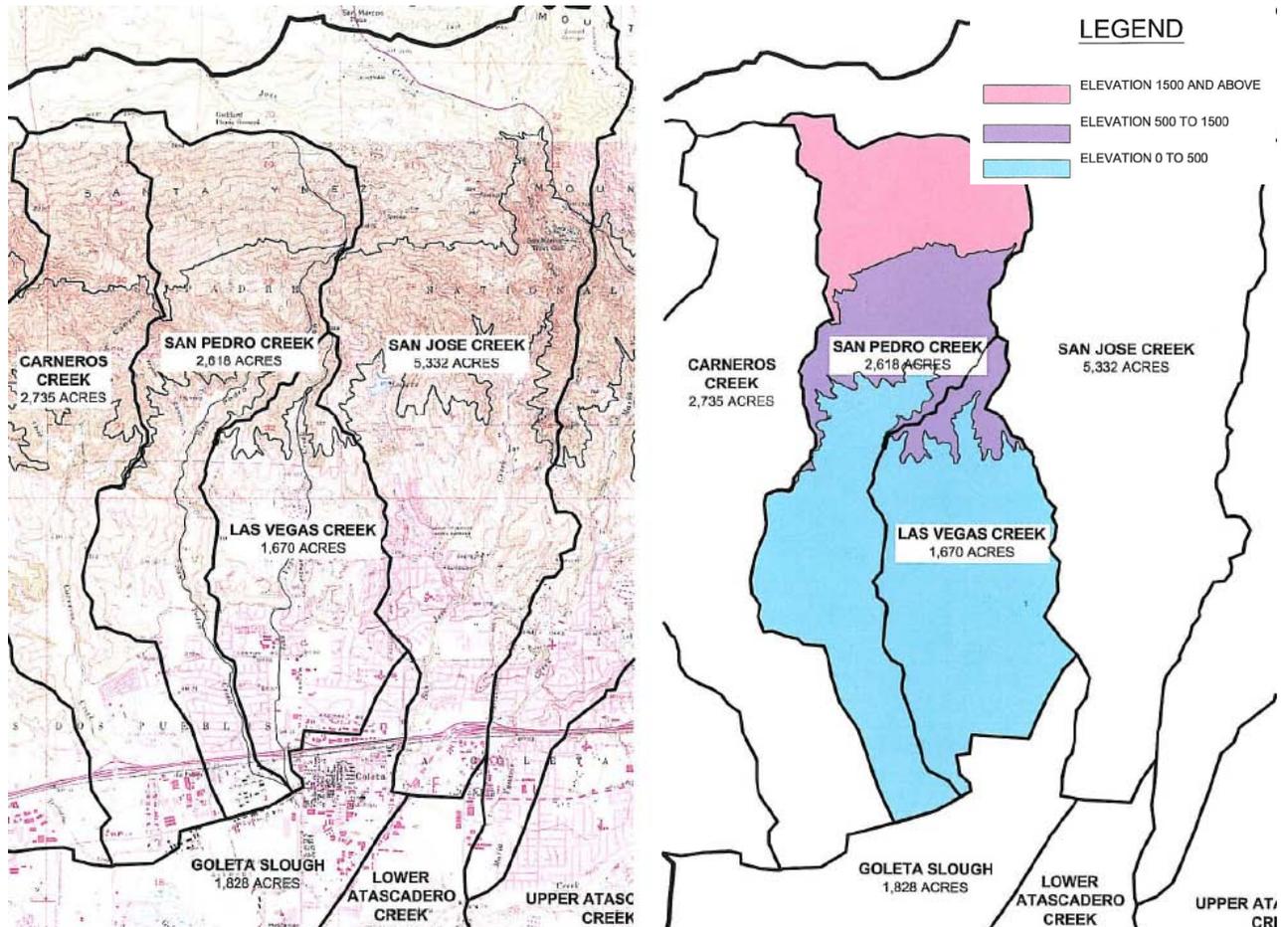
### Description

The Las Vegas and San Pedro Creeks Union Pacific Railroad Bridge Replacement Project (UPRR Bridge Project) is the subject of this application submitted by the Santa Barbara County Flood Control and Water Conservation District (District). The UPRR Bridge Project is part of the San Pedro and Las Vegas Creeks Capacity Improvement Project.

The project site is located in the Goleta Valley, in the cities of Goleta and Santa Barbara north of Hollister Avenue between Fairview Avenue and Los Carneros Road. The Goleta Valley is 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 as illustrated in **Figure 3-1**.

Both Las Vegas and San Pedro creeks originate in the Santa Ynez Mountains which rise steeply to elevations of about 3,000 ft. The creeks run north to south and pass under the Calle Real, State Route 101, and the UPRR. Las Vegas Creek runs 2.8 miles before it joins up with San Pedro Creek. From this confluence, San Pedro Creek continues another mile before discharging into the Goleta Slough adjacent to the Pacific Ocean. Overall, San Pedro Creek runs approximately 6.3 miles before joining the Pacific Ocean. Because of the steep terrain, and the flash-flood nature of the creeks, transport of debris and sediment from the mountains to the channels that traverse through the area is an ongoing concern. Flooding occurs during late season rains as the ground becomes saturated, and the creeks swell and become overladen with sediment and debris. This concern is exacerbated as undersized culverts can become blocked.

**Figure 3-1: San Pedro and Las Vegas Creeks Watershed Overview**



As mentioned, the UPRR Bridge Project is part of the San Pedro and Las Vegas Creeks Capacity Improvement Project which consists of three smaller projects:

- Project A: Replacement of the Calle Real and State Highway 101 culverts to increase flood control capacity on San Pedro and Las Vegas Creeks, and construction of the fish transition structure within San Pedro Creek upstream of Calle Real. This project will be completed by Caltrans and is needed along with Project B to achieve project benefits.
- Project B: Replacement of the UPRR bridges on San Pedro and Las Vegas Creeks, including channel grading downstream of the bridge structures.
- Project C: 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 to compensate for potential water surface elevation increases from 10 cfs (for a 25-year event) up to 190 cfs (for a 100-year event) resulting from upstream capacity improvements. Project C is not required to increase the hydraulic capacity of the creeks or achieve full project benefits.

Project A and Project B will increase the hydraulic capacity of Las Vegas Creek and San Pedro Creek to a 25-year storm event from a 10-year storm event. Caltrans is the agency responsible for Project A. The District is the responsible agency for Project B and Union Pacific Railroad (UPRR) is performing the construction. Project B will upgrade the hydraulic capacity to a 100-year storm per UPRR standards. However, because Project A increases to 25-year capacity, the overall San Pedro and Las Vegas Creeks Capacity Improvement Project is limited to a 25-year storm event. **Figure 3-2** provides an illustration of the location of Projects A (State Route 101 Culverts) and Project B (UPRR Bridge Number).

**Figure 3-2: UPRR Bridge Project Location - San Pedro and Las Vegas Creeks**



Source: Draft UPRR Bridge Replacement Hydrology and Hydraulic Analysis Report; HDR Engineering, Jan. 2013 (pg 2)

This grant application is seeking funding for Project B, also known as the UPRR Bridge Project.

The UPRR Bridge Project is composed of two areas:

- UPRR Bridge Project - Las Vegas Creek:

The UPRR Bridge Project will replace the UPRR bridge over the Las Vegas Creek. This will improve Las Vegas Creek hydraulic capacity to a 25-year storm event from a 10-year storm event. The existing 21-foot bridge will be replaced with three, thirty-foot long spans that will be placed end-to-end to create a new bridge with the length of 90-feet. Stream flow capacity below the Las Vegas Creek bridge will be increased to 2,200cfs from 1,400 cfs by replacing the existing bridge, by removing the concrete understructure, and by sloping the creek banks back to match the span of the new bridge. Las Vegas Creek is typically a natural channel. It will be re-graded and restructured to enhance the natural stream bed for a distance of approximately 240 feet.

- UPRR Bridge Project- San Pedro Creek:

The UPRR Bridge Project will replace the UPRR bridge over San Pedro Creek. This will improve San Pedro Creek hydraulic capacity to a 25-year storm event from a 10-year storm event. The existing 43-foot long bridge will be replaced with a 94-foot long bridge. Stream flow capacity will be increased to 2,000cfs from 1,100 cfs by grading back the stream banks to match the span of the new bridge, and by removing the 5-foot high concrete drop structure underneath the bridge. Within the vicinity of the project, the San Pedro Creek will be re-graded and restructured as a natural stream bed, opening up approximately 600 creek feet of fish habitat for federally endangered anadromous steelhead trout.

The UPRR Bridge Project will increase the hydraulic capacity of Las Vegas and San Pedro Creeks, reduce flood cost damages and preserve an ephemeral stream habitat.

## Project Partners

The District will act as lead implementing agency for the UPRR Bridge Project. Caltrans, UPRR, the City of Goleta and the City of Santa Barbara are cooperating partners. UPRR is responsible for the construction of the bridge replacements.

## Goals and Objectives

### Goals and Objectives of the Proposal

The UPRR Bridge Project goals include the following: 1) increase flood flow conveyance of Las Vegas and San Pedro creeks to reduce flood damage to adjacent communities; 2) improve public safety during storm events by reduction in bank overflow; and 3) improve natural habitat. Project objectives, as they relate to Project goals, are outlined in **Table 3-1** below.

**Table 3-1: Project Goals and Objectives**

UPRR Bridge Project	Project Goals	Project Objectives
<b>Las Vegas Creek</b>	Increase flood flow conveyance capacity	Replace UPRR bridge that, along with Project A (replace State Highway crossing), will allow greater flood flow. This is the Caltrans project as described above.
	Improve public safety during storm events	Increase the conveyance capacity of the UPRR bridge to a 25-year storm event
	Improve natural habitat	Increase in natural vegetated riparian habitat by re-grading and restructuring the creek as a natural stream bed.
<b>San Pedro Creek</b>	Increase flood flow conveyance capacity	Replace UPRR bridge that, along with Project A (replace State Highway crossing), will allow greater flood flow
	Improve public safety during storm events	Increase the conveyance capacity of the UPRR bridge to a 25-year storm event
	Improve natural habitat	Increase in natural vegetated riparian habitat with re-grading and restructuring of the creek as a natural stream bed with minor ponded water element. Also, increase in federally endangered Steelhead trout population.

**Project Goals and Objectives as Related to IRWM Plan Objectives**

The District is a participant in the Santa Barbara County Integrated Regional Water Management (IRWM) process, member of the Cooperating Partners (the IRWM Regional Water Management Group), and a member of the Cooperating Partners Steering Committee. The UPRR Bridge Project is one of the identified priority projects from the IRWM Plan that will aid in meeting the IRWM Regional Objectives. The UPRR Bridge Project is part of the District’s Capital Improvement Project which is designed to minimize flood hazards and damage during high rainfall events.

The IRWM Plan identifies regional priorities. There are several priorities listed in the IRWM Plan that demonstrate how the UPRR Bridge Project relates to and supports the IRWM Plan. Those regional priorities include:

- Protect public safety by reducing the potential for flooding in strategic areas through infrastructure improvements such as levee reinforcement, channel modifications, floodplain restoration, and increasing reservoir storage capacity.

- Protect, restore, and enhance ecological processes in aquatic areas through water quality improvements; public education; restoration efforts, including removal of invasive species; and improved steelhead passage on strategic creeks.

The IWRM Plan identifies water management strategies that are to be employed in projects that implement the IRWM Plan. The UPRR Bridge Project utilizes two of those strategies including:

- Environmental and habitat protection and improvement
- Flood management

The UPRR Bridge Project is consistent with four of the Santa Barbara County IRWM Plan objectives. **Table 3-2** highlights Santa Barbara County’s IRWM Plan objectives as they relate to the UPRR Bridge Project objectives.

**Table 3-2: Santa Barbara County IRWM Plan Objectives and UPRR Bridge Project**

IRWM Plan Objective	Primary IRWM Plan Objectives Implemented by Project Objectives		
	Objective 1: Replace Bridge	Objective 2: Increase Conveyance Capacity	Objective 3: Create Natural Streambed
 Protect, restore, and enhance natural processes and habitats			✓
 Implement flood control measures	✓	✓	
 Maintain and enhance water and wastewater infrastructure efficiency and reliability.	✓	✓	
 Improve the quality of urban runoff, storm water, and wastewater			✓

## Purpose and Need

The UPRR Bridge Project is needed to reduce flood cost damages to utilities and streets, protect property, provide increase public safety, and restore a native habitat conservation area. With implementation of the project, increased flood protection will reduce the risk of damage to utilities, highways and streets, and private property and open the creek channels to the migration of the federally endangered anadromous Steelhead fish shown in **Figure 3-3**.

The purpose of the UPRR Bridge Project is to provide flood protection by increasing conveyance capacity of the Las Vegas Creek and the San Pedro Creek under the UPRR bridges to a 25-year storm event from a 10-year storm event. Additionally, the project will provide riparian habitat restoration.

### **Flood Protection**

During heavy rains, the Las Vegas Creek and the San Pedro Creek overflow the roadways (and the rail line in extreme events) causing severe flooding, damage to property, prolonged closure of roads and highways, public health risks, and economic loss. In 1995, 1998, and 2000 severe flooding occurred causing significant damage to businesses and residences and resulting in the closures of both Calle Real and State Route 101. Photographs of the 1995 and 1998 storm are shown in **Figure 3-4**.

The UPRR Bridge Project will improve the hydraulic capacity of Las Vegas Creek and San Pedro Creek through the UPRR right-of-way up to a 25-year storm event. **Figure 3-5** and **Figure 3-6** show existing and post-project completion inundation maps upstream of the UPRR Bridge Project. Note, the 10-year storm event area is not illustrated in the post-project map in order to show containment of the 25-year event flows.

### **Habitat Restoration**

The UPRR Bridge Project will remove the sections of existing concrete channel and replacement sections with a natural stream bed. Additionally, the UPRR Bridge Project - San Pedro Creek will remove a five-foot high grade concrete control structure, lower the channel, and replace the concrete with a soft, natural surface to promote fish passage. This will open up approximately 600 creek feet along San Pedro Creek of fish habitat for the federally endangered anadromous Steelhead trout.

**Figure 3-3: Federally Endangered Anadromous Steelhead Fish**



**Figure 3-4: 1995 and 1998 Flood Photographs**



**Figure 3-5: Existing Inundation Map (upstream of UPRR)**



**Figure 3-6: Post Project Inundation Map (upstream of UPRR)**

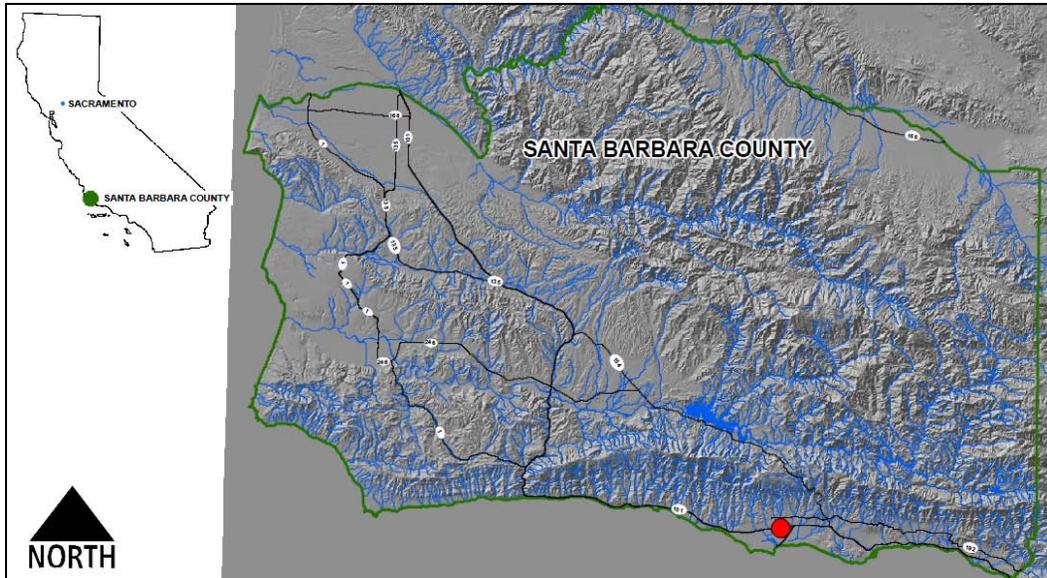


## Project Specifics

### Regional Map

The project area, illustrated in **Figures 3-7** and **3-8**, is in the cities of Goleta and Santa Barbara north of Hollister Avenue between Fairview Avenue and Los Carneros Road. The San Pedro Creek is west of the Las Vegas Creek.

**Figure 3-7: Regional Map**



### Location Map

**Figure 3-8: Location Map**



## UPRR Bridge Project - Las Vegas Creek

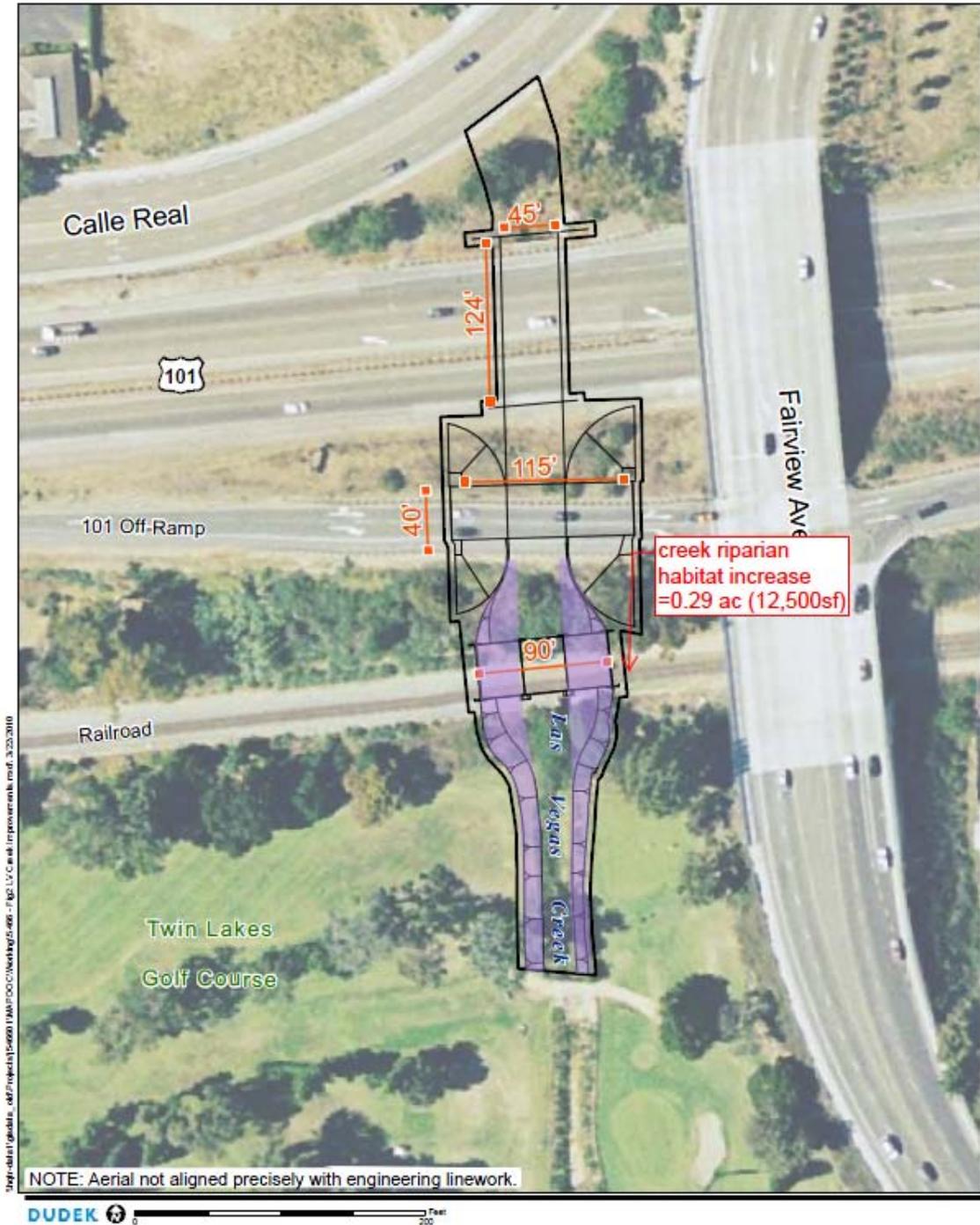
**Table 3-3** provides an abstract, project specifics, the current status of the project, implementing agencies, the site location, and the project’s relation to the State Plan of Flood Control.

**Table 3-3: UPRR Bridge Project - Las Vegas Creek, Specifics**

UPRR Bridge Project	Description	
<b>Las Vegas Creek</b>	<i>Abstract:</i>	<p>The project, when combined with the aforementioned Project A (Calle Real – State Route 101 culverts/bridges scheduled to be completed in March 2013), will improve flood protection within the Las Vegas Creek Watershed by replacing the UPRR bridge to allow increased flood protection. By replacing the existing bridge, the opening through which storm flow can pass will be increased by 20%. The project will additionally provide environmental benefits as it will re-grade and restructure a section of the creek as a natural stream bed. Capacity of Las Vegas Creek will be increased by 800 cfs to contain the flows of a 25-year storm event of 2,000 cfs over the 10-year storm event of 1,100 cfs as indicated in the “San Pedro and Las Vegas Creeks Capacity Improvement Project Final Hydrology and Hydraulic Analysis Report” (HDR Engineering, April 2008). <b>Figure 3-9</b>, from the MND, shows an overview detail of the UPRR Bridge Project crossing the Las Vegas Creek.</p>
	<i>Project Specifics</i>	<p>The following structural components will be included:</p> <ul style="list-style-type: none"> <li>• The existing 21-foot steel I-beam will be replaced with three, thirty foot long spans.</li> <li>• Prestressed/precast concrete box girders on precast concrete bents supported by steel pilings, wide enough to accommodate two tracks.</li> <li>• The Las Vegas Creek will be re-graded and restructured as a natural stream bed.</li> <li>• Additionally, riprap grade control sills are proposed immediately downstream of the UPRR bridges to mitigate long term scour migration. These sills will be buried two feet below the proposed channel invert (Draft UPRR Bridge Replacement Hydrology and Hydraulic Analysis Report; HDR Engineering, January 2013, pg 12).</li> </ul>
	<i>Status:</i>	<p>60% design was completed on January 22, 2013. The design profile of the UPRR Bridge on Las Vegas Creek is shown in <b>Figure 3-10</b>.</p>

UPRR Bridge Project	Description	
	<i>Implementing Agencies:</i>	Santa Barbara County Flood Control and Water Conservation District – Lead Implementing Agency <i>Other Partner Agencies:</i> Union Pacific Railroad (UPRR) – Coordination of the UPRR crossing and construction phasing
	<i>Location:</i>	The project is located in the City of Goleta between Fairview Avenue and Los Carneros Road and north of Hollister Avenue. The Las Vegas Creek run north to south and travels under Calle Real, State Route 101, and the UPRR (Bridge No. UPRR MP 358.73). The Las Vegas Creek UPRR Bridge Project extends from the Caltrans right-of-way south of State Route 101 to the southern UPRR right-of-way.
	<i>State Plan of Flood Control</i>	The project is located outside the Central Sacramento – San Joaquin Valley watersheds and therefore is not part of the State Plan Flood Control.

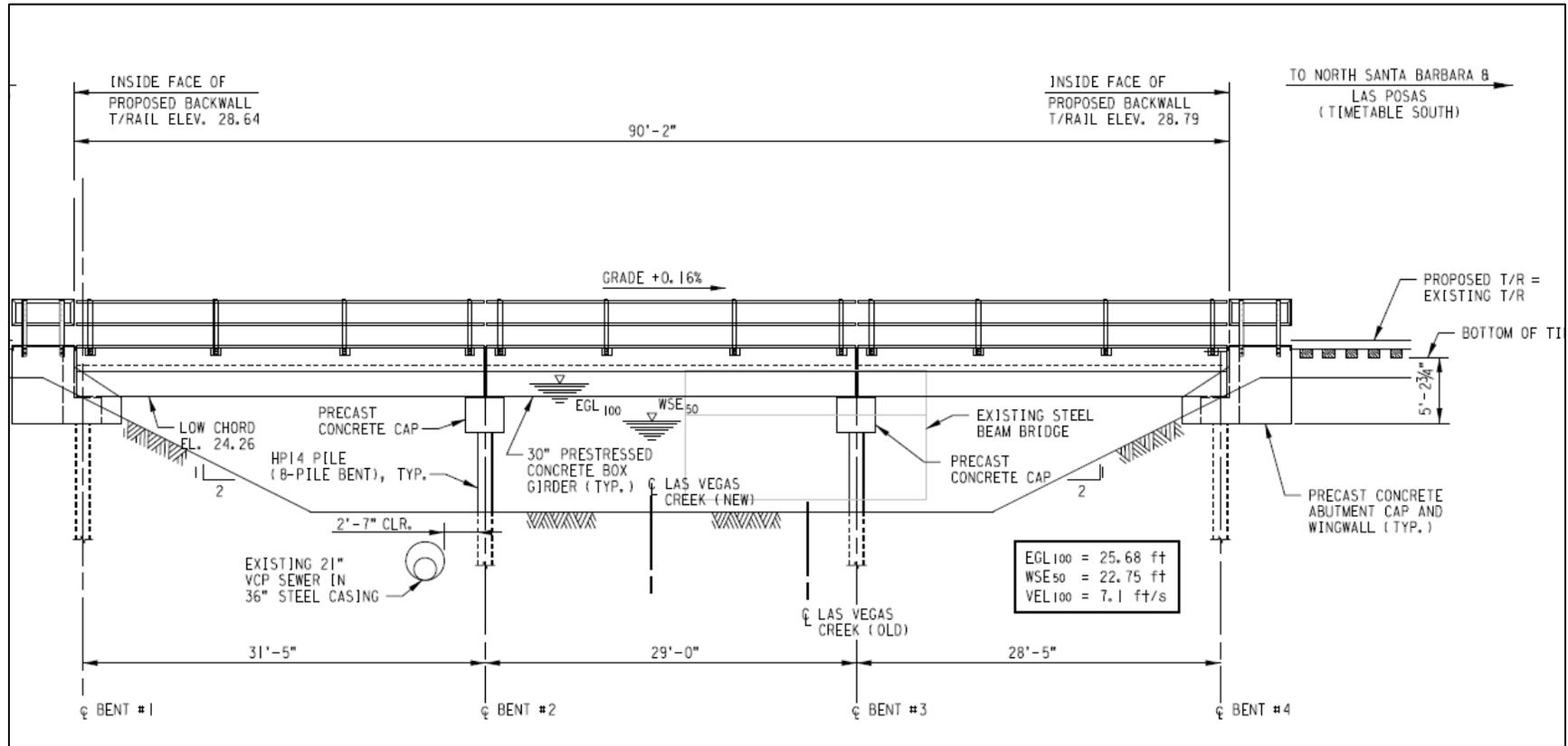
Figure 3-9: UPRR Bridge Project - Las Vegas Creek, Detail



Source:

Final CEQA Mitigated Negative Declaration, Dudek September 2011 (Figure 2)

**Figure 3-10: Proposed Las Vegas Creek Railroad Bridge**



Source: 60% Completed Plans, Sh. S010; HDR Engineering, January 2013

**UPRR Bridge Project - San Pedro Creek**

**Table 3-4** provides an abstract, project specifics, the current status of the project, implementing agencies, the site location, and the project’s relation to the State Plan Flood Control.

**Table 3-4: UPRR Bridge Project - San Pedro Creek, Project Specifics**

UPRR Bridge Project	Description	
<b>San Pedro Creek</b>	<i>Abstract:</i>	The project, when combined with Project A (Calle Real – State Route 101 culverts/bridges scheduled to be completed in March 2013), will provide flood protection by expanding stormwater flow passage under the UPRR to accommodate a 25-year storm event as well as open up approximately 600 creek feet of fish habitat for anadromous steelhead trout. The channel bottom will be a soft, natural surface and a 5 foot drop structure barrier will be removed to allow fish passage. Capacity of San Pedro Creek will be increased by 900 cfs per the “San Pedro and Las Vegas Creeks Capacity Improvement Project Final Hydrology and Hydraulic Analysis Report” (HDR Engineering, April 2008). <b>Figure 3-11</b> , from the MND, shows an overview detail of the UPRR Bridge Project crossing the San Pedro Creek.
	<i>Project Specifics</i>	<p>The following structural components will be included:</p> <ul style="list-style-type: none"> <li>• The existing 43-foot (two 21.5 feet steel I-beam spans) bridge will be replaced with a 94-foot long bridge.</li> <li>• Prestressed/precast concrete box girders on precast concrete bents supported by steel pilings</li> <li>• Standard UPRR bridge structure type</li> <li>• Remove the concrete drop structure and lower the creek bottom. The creek will be re-graded and restructured as a natural stream bed conducive to anadromous fish passage.</li> <li>• Additionally, riprap grade control sills are proposed immediately downstream of the UPRR bridges to mitigate long term scour migration. These sills will be buried two feet below the proposed channel invert (Draft UPRR Bridge Replacement Hydrology and Hydraulic Analysis Report; HDR Engineering, January 2013, pg 12).</li> </ul>
	<i>Status:</i>	60% design was completed on January 20, 2013. The design profile of the UPRR Bridge on San Pedro Creek is shown in <b>Figure 3-12</b> .

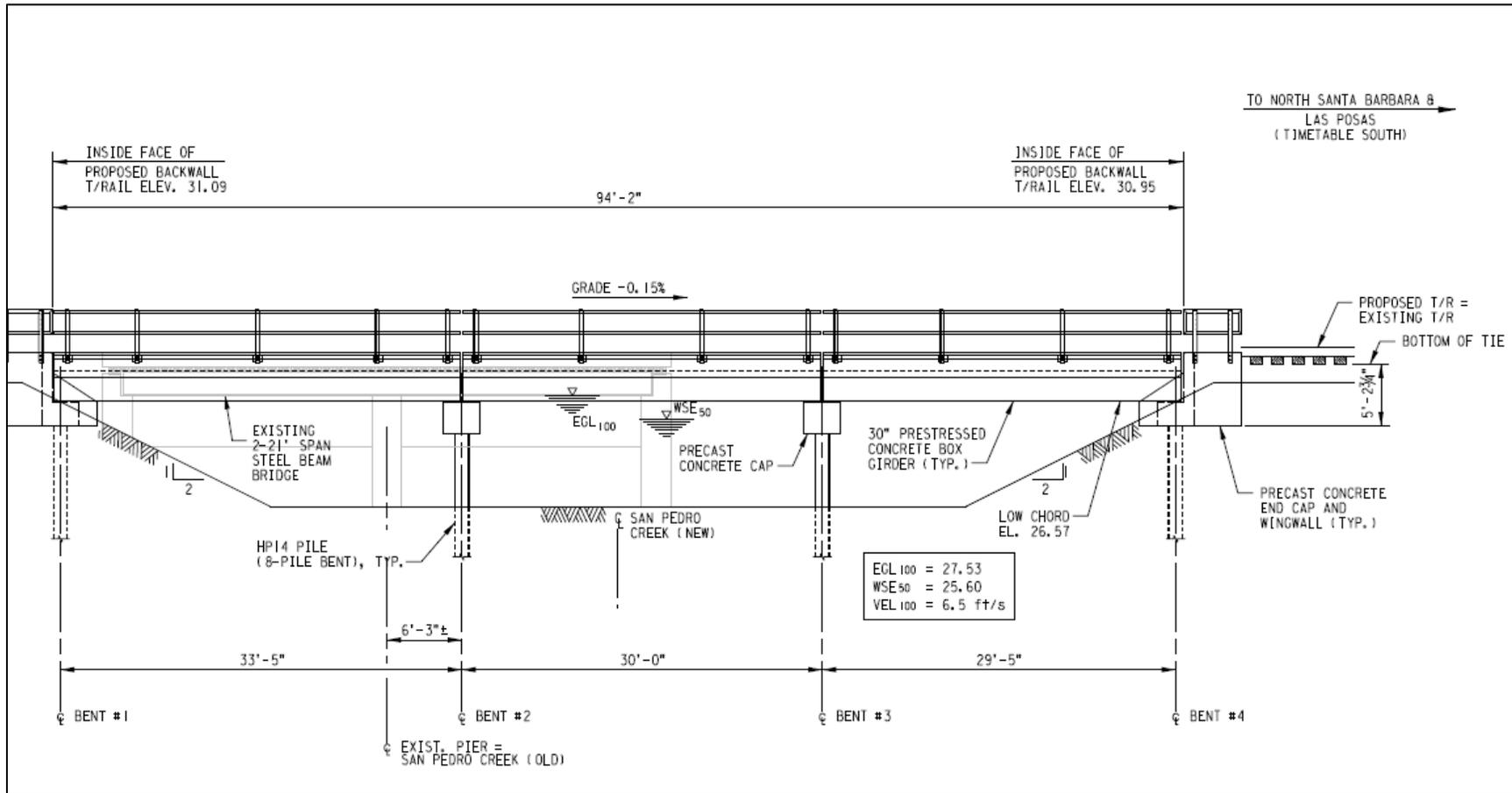
UPRR Bridge Project	Description	
	<i>Implementing Agencies:</i>	<p>Santa Barbara County Flood Control and Water Conservation District – Lead Implementing Agency</p> <p><i>Other Partner Agencies:</i></p> <p>Union Pacific Railroad (UPRR) – Coordination of the UPRR crossing and construction phasing</p>
	<i>Location:</i>	<p>The project is located in the City of Goleta between Fairview Avenue and Los Carneros Road and north of Hollister Avenue. The San Pedro Creek run north to south and travels under Calle Real, State Route 101, and the UPRR (Bridge No. UPRR MP 358.48). The UPRR bridge is located south of State Route 101 and west of Las Vegas Creek.</p>
	<i>State Plan of Flood Control</i>	<p>The project is located outside the Central Sacramento – San Joaquin Valley watersheds and therefore, is not part of the State Plan Flood Control.</p>

**Figure 3-11: UPRR Bridge Project – San Pedro Creek, Detail**



Source: Final CEQA Mitigated Negative Declaration, Dudek September 2011 (Figure 7)

Figure 3-12: Proposed San Pedro Creek Railroad Bridge



Source: 60% Completed Plans, Sh. S010; HDR Engineering, January 2013

## Integrated Elements of Project

Since Santa Barbara County adopted its IRWM Plan in 2006, the region has prioritized flood control as an IRWM Plan Regional Objective. The IRWM Plan identifies flooding along Las Vegas Creek as an IRWM Regional Issue and top priority project.

Other project partners for this project include the California Department of Transportation (Caltrans), the City of Goleta, the Union Pacific Railroad, and the City of Santa Barbara. Throughout the project planning and development phases, the project partners have collaborated on project goals and objectives, project design, environmental compliance, funding, construction strategies, and phasing. For example, the District has worked with Caltrans and the City of Goleta to schedule the different phases of the project. The District has worked with the UPRR on how to execute construction while minimizing disruption to rail traffic.

The District is a participating member of the Cooperating Partners, the regional water management group that guides the IRWM program in the region, and serves on the Steering Committee of the Cooperating Partners. The UPRR Bridge Project is part of the District's Capital Improvement Projects (CIP). The CIP projects are integrated with other CIP projects – all designed to minimize flood hazards and damage during high rainfall events throughout the County.

The UPRR Bridge Project provides synergy and linkage with the overall San Pedro and Las Vegas Creeks Capacity Improvement Project, highlighted in the IRWM Plan as one of the most important multi-benefit flood control project in the region. The UPRR Bridge Project provides synergy and linkage to other projects located in the south coast area of the region. Those projects include the Lower Mission Creek Project (District project located in the City of Santa Barbara, Proposition 50 funded), San Jose Creek Flood Control Improvement Project (City of Goleta, funded in Proposition 84 Round 1), and the Old Mission Creek Storm Water and Restoration Project (a high priority on the IRWM Plan project list). These projects are synergistic as they provide flood control, restore stream beds and passages, and restore habitat for federally endangered anadromous fish. All projects are found in the Santa Barbara County Floodplain Management Task Force recommendations. The project provides synergy between fish recovery projects along the south coast that seek to reestablish the Central California Coast Steelhead. The recovery program is outlined in the 2007 Federal Recovery Outline for the Distinct Population Segment of the South-Central Coast Steelhead, National Marine Fisheries Service, September 2007.

The UPRR Bridge Project integrates multiple benefits including resource stewardship, flood control, emergency preparedness, and infrastructure enhancement and maintenance. The UPRR Bridge Project integrates several IRWM Plan objectives including:

- Protect, restore, and enhance natural processes and habitats
- Implement flood control measures
- Maintain and enhance water and wastewater infrastructure efficiency and reliability.

## Completed Work

Environmental documents such as CEQA/NEPA documentation, regulatory permits and a Mitigated Negative Declaration have been completed for this project. Work that has been completed or is expected to be completed prior to the grant award date is listed in the following table.

**Table 3-5: Completed or Expected to be Completed Work before August 15, 2013**

Completed or Expected to be Completed Work	Outcome or Determination	Date of Completion	
		Completed	Expected to Completed
<b>Assessment and Evaluation (Task 4)</b>			
Draft UPRR Bridge Replacement Hydrology and Hydraulic Analysis Report (HDR Engineering, Inc.)	Determined the proposed design meets the design criteria for the UPRR. Additionally, hydraulic modeling has been prepared to facilitate analysis of the fish ladder in San Pedro Creek, future improvements to San Pedro Creek downstream of the UPRR Bridge, and FEMA map revisions.	January 2013	
Draft Geotechnical Report for the UPRR Bridges (Fugro Consultants)	Findings, conclusions and recommendations for geotechnical design, seismic considerations and construction considerations.	January 2013	
HDR cost estimate	Refined cost details for each UPRR bridge replacement.	January 2013	
60 percent design plans	Design plans are more than 50 percent completed. The 90 percent design plans are being developed.	January 2013	
Caltrans' Draft Project Study Report (Caltrans)	Determined environmental documents, plans, specifications, and cost estimates.	October 2010	
Final Hydrology and Hydraulic Analysis Report, Parts 1 and 2 (HDR Engineering)	Determined the proposed design meets the design criteria for Projects A, B and C. Additionally, determined that the change in flow distribution with the proposed structures will not have a significant impact on flood elevations in the downstream area at the critical locations. The proposed Project C	April 2008	

Completed or Expected to be Completed Work	Outcome or Determination	Date of Completion	
		Completed	Expected to Completed
	berm/floodwall will mitigate increases in water surface elevation and floodplain impacts on the west side of San Pedro Creek and does not significantly affect flood elevations for the 100-year flood.		
San Pedro and Las Vegas Creek Capacity Improvement Project, Railroad Bridge Replacement Concept Study Report (HDR Engineering)	Determined a rough estimate of probable construction cost for two alternatives to replace the bridges within UPRR right-of-way.	May 2006	
<b>Environmental Documentation (Task 6)</b>			
Final CEQA Mitigated Negative Declaration	Evaluation all three project locations (Project A, B and C).	September 2011	
NEPA Categorical Exemption	Determined that the UPRR Bridge Project did not have a significant impact on the environment as defined by NEPA and is excluded from EA or EIS requirements.	January 26, 2012	
<b>Permitting Documentation (Task 7)</b>			
Department of Fish and Game. Master Streambed Alteration Agreement No. 1600-2012-0155-R5, 2012	Department of Fish and Game and Caltrans agreement for construction and mitigation activities for the Caltrans and District projects. Caltrans accepted terms and conditions from DFG, including measure to protect fish and wildlife.	November 19, 2012	
Water Quality 401 Certification #34212WQ05, Regional Water Quality Control Board, Central Coast Region	Standard Letter of Certification issued with mitigation measures described. No additional requirements anticipated based on County application.	December 7, 2012	
Department of the Army Nationwide Permit (Permits 3 and 43 – Maintenance and	Authorized to discharge fill onto water of the US in association with the Caltrans District 5 and the District.	December 13, 2012	

Completed or Expected to be Completed Work	Outcome or Determination	Date of Completion	
		Completed	Expected to Completed
Stormwater Control Facilities)			
Memorandum of Understanding with UPRR	Agreement with UPRR regarding distribution of responsibilities, timeline and design standards.		March 2013

### Existing Data and Studies

Since 2000, several studies have been undertaken for the San Pedro and Las Vegas Creeks Capacity Improvement Project detailing the proposed project benefits of increased creek capacity and introduction of fish passage elements. The most recent reports and data include the following:

Existing Data and Studies	Discussion of Study	Pages References
Draft UPRR Bridge Replacement Hydrology and Hydraulic Analysis Report (HDR Engineering, Inc., January 2013)	Hydrologic analysis and reporting of HEC-RAS computer model results as it pertains to the section of creeks spanned by the railroad.	all
Draft Geotechnical Report for the UPRR Bridges (Fugro Consultants, January 2013)	Comprehensive investigation of site conditions of the subsurface soil, rock and groundwater. Includes design and construction recommendations.	all
Caltrans' Draft Project Study Report, Caltrans (October 2010)	Describes the transportation problem, identifies the scope of viable alternatives, and provides an estimate of the project development support resources with emphasis on the Caltrans project. Includes approved environmental document, plans, specifications, and estimates.	PSR Pages 4, 5, 9, 10. Attachment L – Cost Estimate
Final Hydrology and Hydraulic Analysis Report, Parts 1 and 2 (HDR Engineering, April 2008)	Comprehensive study of Las Vegas and San Pedro Creek hydrology and hydraulics. Review of previous studies and hydrologic assumptions, and reanalyzing refined assumptions through the HEC-HMS hydrology computer model and the HEC-RAS hydraulic	all

Existing Data and Studies	Discussion of Study	Pages References
	computer model. Also includes report of design considerations.	
San Pedro and Las Vegas Creek Capacity Improvement Project, Railroad Bridge Replacement Concept Study Report (HDR Engineering , May 2006)	The County retained HDR Engineering, Inc. (HDR) to perform an initial study to determine a rough estimate of probable construction cost for two alternatives to replace the bridges within UPRR right-of-way.	all
FEMA Flood Insurance Rate Map, City of Goleta	Limits of 100-year flood zone at Las Vegas and San Pedro Creeks	Map # 0607712329A

## Project Timing and Phasing

The UPRR Bridge Project (also known as Project B) is part of the overall San Pedro and Las Vegas Creeks Capacity Improvement Project. The timing and phasing of these project areas is as follows:

- Project A: Replacement of the Calle Real and State Highway 101 culverts. This project is scheduled to begin construction in March 2014 and be completed in November 2015. The project lead agency is Caltrans in cooperation with the District, and the City of Goleta. This project will be constructed whether or not the District is successful in securing Prop 1E Round 2 funding through this application. Caltrans has secured Project A funding as indicated in their 2012 State Highway Operation and Protection Program budget, which is developed in accordance with Government Code Section 14526.5 as approved by the California Transportation Commission. The document and budget can be reviewed at [http://www.dot.ca.gov/hq/transprog/SHOPP/2012\\_SHOPP\\_as\\_approved\\_by\\_the\\_CTC.pdf](http://www.dot.ca.gov/hq/transprog/SHOPP/2012_SHOPP_as_approved_by_the_CTC.pdf). Project A is listed on page 134.
- Project B (UPRR Bridge Project): Replacement of the UPRR bridges. This project is scheduled to begin construction in February of 2014 and be completed by September of 2014. The project lead is the District in cooperation with UPRR who will construct this project. As of January 2013, 60 percent design plans have been completed. This project is being proposed for funding in this application.
- Project C: Installation of the San Pedro Creek floodwall. This project will be constructed by the District during the construction of Projects A and B. Project C will construct a floodwall to protect this property from the potential additional flow associated with restoring the capacity of San Pedro Creek. Project C is not required to realize the full benefits of the UPRR Bridge Project.

Project A and Project B of the San Pedro and Las Vegas Creeks Capacity Improvement Project both need to be constructed for Las Vegas Creek and San Pedro Creek to convey a 25-year storm event. By increasing the capacity at the Calle Real and Route 101 (Project A), the debris blockage will occur at the existing UPRR bridges and cause flooding to the surrounding streets, residences and businesses. By upsizing the two UPRR bridges (UPRR Bridge Project, also known as Project B), the flooding will be alleviated. While Project A and Project B on its own provides benefits, it is through their linkage and synergies that the benefits are optimized to meet the UPRR Bridge Project goals and objectives.

The UPRR Bridge Project is the only project included in this proposal. The UPRR Bridge Project has multiple components that satisfy the program eligibility requirements of the Proposition 1E grant and will meet the goals discussed previously.

## Proposed Work

The following sections discuss work items necessary for implementation of the UPRR Bridge Project. The work items are divided into each of the six primary budget categories and associated tasks as shown on Table 4, page 29, of the Proposition 1E, Round 2 Stormwater Flood Management Grant PSP. Work is divided into tasks completed before the grant award date (before August 15, 2013) and after the grant award date (after August 15, 2013).

### **(a) Direct Project Administration**

#### **Task 1: Project Administration**

Project administration will be performed by District staff and include project management efforts such as planning and design oversight, budget coordination with County administration, preparation of invoices and progress reports, and grant-related documentation for DWR. Project administration also includes coordination between various project partnering agencies and consultants through meetings and design review as well as the development of a Memorandum of Understanding with UPRR.

Task 1 also includes development of financing which involves developing the project-specific Capital Improvement Plan once per year and reviewing allocation of costs to consultants, design, construction and administration costs for past fiscal years then projecting distribution of costs for future fiscal years.

Development of data management will also be coordinated under Task 1. The District will collect data for hydrologic and biologic observations and generate records and reports for distribution to environmental regulatory agencies and to DWR. Formats of reports will be Microsoft Word docx and/or Adobe PDF files. Information through formal request, previously authorized protocol or MOU will be emailed or placed on the District's file sharing website, or sent by post.

Project Administration Activities or Deliverables	Completion Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Project Administration	Monthly and quarterly, after contract execution	ongoing	✓	✓
Development of Financing	April 2012 to December 2014	ongoing	✓	✓
Development of Data Management	April 2012 to December 2014	ongoing	✓	✓
UPRR Memorandum of Understanding	March 2013	Not yet completed	✓	
Project Management Plan	September 2013	Not yet completed		✓

**Task 2: Labor Compliance Program**

The County of Santa Barbara will contract with a Third Party Labor Compliance Program Administrator to submit an application to the Department of Industrial Relations for a project-specific Labor Compliance Program (LCP). The Third-Party LCP Administrator will assist the District in oversight of contractor compliance with the Code of Federal Regulations. The District has contracted with CS & Associates for assistance with LCP program administration for previous flood control work, and will do the same with this project if awarded the Proposition 1E grant. Labor compliance will include, but not be limited to:

- Ensure that all project legal notices contain the proper LCP notifications to bidders; and statement of payment of prevailing wage requirements as stated in Labor Code Section 1771.8 for entities receiving funds from DWR's Stormwater Flood Management (SWFM) Grant, funded by Proposition 1E.
- Provide direction and guidance to bidders in their queries regarding compliance with the LCP, including payment of prevailing wages, identification of labor classifications, and proper completion and submission of forms and notices.
- Collect and record the receipt of weekly Certified Payroll Records Pursuant to Labor Code Sections 1771.5(4), 1776, and California Code of Regulations 16401, 16402, 16403 as well as any applicable Federal statutes.
- Conduct random audits of Certified Payroll Records.
- Conduct periodic and routine site visits to physically monitor the Project. Note the number of workers on the site and interview a sufficient number to ensure that they are receiving the proper prevailing wage rate for the duties performed.

- Investigate all allegations of failure to pay prevailing wage rates and/or worker complaints per project.
- Attend and participate in on-site meetings, or other meetings, as requested by Santa Barbara County Flood Control District.
- Engage in all such duties required for those entities receiving funds from the DWR's Stormwater Flood Management (SWFM) Grant, funded by Proposition 1E.

Labor Compliance Program Activities or Deliverables	Completion Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Development of Labor Compliance Program and Third-party Labor Compliance Program Administrator	February 2013 to September 2013	Not yet begun		✓
Compliance Monitoring Unit	September 2013	Not yet begun		✓

**Task 3: Reporting**

The District will assign a Project Manager to develop and submit the State-required, quarterly, annual and final reports. The progress reports will describe activities undertaken and accomplishments of each task when milestones are achieved and when any problems are encountered in the performance of the work. A final project report will be prepared per grant requirements and submitted to the DWR once the project is completed.

The reports will include final design plans and specifications, before and after site photographs, project status updates, copies of contracts with third-party consultants (LCP, construction management and inspection, construction surveyor and geotechnical materials testing), invoices for completed construction services, updates to environmental documentation, and post-construction District-generated regulatory agency reports.

Reporting Activities or Deliverables	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Submittal of Quarterly Progress Report	Quarterly after August 2013	Not yet begun		✓
Submittal of Annual Reports	September 2013 September 2014	Not yet begun		✓
Submittal of Final Report	December 2014	Not yet begun		✓
Post Completion Report <sup>1</sup>	Annually for 10 years (2015 to 2025)	Not yet begun		✓

1. Per Table 4, page 29, of the PSP Guidelines. The post completion report is not included in the budget (Attachment 4, per PSP Guidelines) and is not shown in the schedule (Attachment 5).

**(b) Land Purchase Easement (if applicable)**

**Land Purchase Easement**

Not applicable. The project is located within Union Pacific Railroad right-of-ways.

**(c) Planning / Design / Engineering / Environmental Documentation**

**Task 4: Assessment and Evaluation**

All preliminary project assessment and hydrology/hydraulic reports have been completed.

Assessment and Evaluation Activities or Deliverables	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
UPRR Bridge Replacement Hydrology and Hydraulic Analysis Report (HDR Engineering)	January 2013	Completed	✓	
Geotechnical Report	January 2013	Completed	✓	
Draft Project Report (Caltrans)	October 2010	Completed	✓	
Final Hydrology and Hydraulic Analysis Report, Parts 1 and 2 (HDR Engineering)	April 2008	Completed	✓	
San Pedro and Las Vegas Creek Capacity Improvement Project, Railroad Bridge Replacement Concept Study Report (HDR Engineering)	May 2006	Completed	✓	

### Task 5: Final Design

The Project is currently in the design phase which is 60% completed as of January 2013. Design includes civil, structural and hydrologic disciplines.

The District will review the 60% Plans, Specifications and Estimate (PS&E) and generate engineering-related and constructability-related comments to HDR's design and specifications under Task 1. HDR will incorporate the District's comments into the 90% PS&E submittal and resubmit to the District for final review.

Project Design Activities or Deliverables	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
60% PS&E Design (HDR Engineering; Plans, specifications and estimate, all pages)	October 2012 to January 2013	Completed	✓	
90% PS&E Design (HDR Engineering)	February 2013 to September 2013	Not yet begun		✓
100% (Final) PS&E Design	September 2013 to November 2013	Not yet begun		✓

**Task 6: Environmental Documentation**

Environmental documents that have been prepared and completed include approved and adopted CEQA/NEPA documentation (categorical exclusion) and the Mitigated Negative Declaration. Additional costs may be required by District biologists to update regulatory agencies with project timing, and in submitting reports.

Environmental Documentation Activity or Deliverable	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Final Mitigated Negative Declaration, Las Vegas San Pedro Creeks Capacity Improvement Project	September 2011	Completed	✓	
NEPA Determination, categorical exclusion	January 2012	Completed	✓	

**Task 7: Permitting**

The following environmental and regulatory permitting has been completed:

- Section 401 RWQCB Water Quality Certification No. 34212WQ05: Standard Letter of Certification issued with mitigation measures described. No additional requirements anticipated based on County application.

- Section 1600 DFG Streambed Alteration Agreement No. 1600-2012-0155-R5: Department of Fish and Game and Caltrans agreement for Phase 1 of construction and mitigation activities. Caltrans accepted terms and conditions from DFG, including measure to protect fish and wildlife.
- Army Corps of Engineers Nationwide Permits 6 and 43: Authorized to discharge fill onto water of the US in association with the Caltrans District 5 and the District.

Permitting Activities or Deliverables	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Section 401 RWQCB Water Quality Certification No. 34212WQ05	December 2012	Completed	✓	
Section 1600 DFG Streambed Alteration Agreement No. 1600-2012-0155-R5	November 2012	Completed	✓	
Army Corps of Engineers Nationwide Permits 6 and 43	December 2012	Completed	✓	

**(d) Construction / Implementation**

UPRR will construct the bridges using a combination of their workforces and subcontractors. The District will reimburse UPRR 100% of these costs. UPRR specializes in railroad bridge construction and by agreeing to construct these two bridges, the District saved the expense of constructing a shoofly track (a bypass track). Because UPRR will be constructing the bridges and minimizing the track outages, they will not be constructing a shoofly track. If private third parties construct, they require the shoofly track. A shoofly track would add million(s) of dollars to project costs.

**Task 8: Construction Contracting**

The tasks required to be completed prior to the beginning of construction include organizing and administering contract documents for UPRR. Award of the project will be authorized by UPRR. UPRR will administer pre-bid site visit, bid opening, and -construction meetings, and handling of any requests for information. Requests for information as they relate to structural aspects of the plans will be redirected to the District and HDR for clarification.

Construction Contracting Activity or Deliverables	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Preparation of Bid Packages	December 2013	Not yet begun		✓
Advertise, Bid and Award Project	January to February 2014	Not yet begun		✓

**Task 9: Construction**

Construction of the project includes all work necessary to construct the UPRR Bridge Project as detailed in subtasks 9.1, 9.2 and 9.3 below.

**Subtask Descriptions:**

***Subtask 9.1 Mobilization and Site Preparation:***

Includes contractor’s mobilization of equipment and materials to the site, and any other work required to begin construction. Mobilization efforts will include relocation of fiber optic cables, relocation of existing storm drain, submittal and authorization of the Stormwater Pollution Prevention Program, and coordination of UPRR flagging and weekend outage busing.

***Subtask 9.2 Project Construction:***

Construction includes all items necessary to complete work, including excavation, grading, removal of railroad tracks and bridge, support of railroad signal system, installation of precast concrete wing walls, caps, box girders reinforcement and piles. After mobilization and site preparation, the Contractor will begin construction activities. Vegetation in conflict with the project limits will be removed and a dewatering system will be installed to divert any creek flows around the project site. Equipment will start removal of the existing railroad tracks and break-up and removal of existing concrete structures. During this time, grading will also occur. Grading includes excavation within the creek and side slopes. Piles will be driven to support the new bridge, and the concrete box girders will be brought in and placed. Next, the concrete bridge supports (wing walls, end caps and other structural pieces) will be placed. Concrete slope protection will be installed to provide protection against scour, and the creek will be reshaped and backfilled with native materials.

***Subtask 9.3 Performance Testing and Demobilization:***

Performance testing will be controlled and management by UPRR. A geotechnical firm will perform materials testing on compacted backfill, concrete strength, and reinforcement. They will pull and document concrete certificates and analyze concrete cylinders for strength

qualities. Demobilization efforts include removal of all materials and equipment from the job site.

Construction Activity or Deliverables	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Subtask 9.1 Mobilization and Site Preparation				
Mobilization	February 2014 to March 2014	Not yet begun		✓
Construction Survey	February 2014 to March 2014	Not yet begun		✓
Subtask 9.2 Project Construction				
Construction	March 2014 to September 2014	Not yet begun		✓
Subtask 9.3 Performance Testing and Demobilization				
Geotechnical Materials Testing	September 2014	Not yet begun		✓
Demobilization	September 2014	Not yet begun		✓

**(e) Environmental Compliance / Mitigation / Enhancement**

**Task 10: Environmental Compliance / Mitigation / Enhancement**

Environmental documents such as CEQA/NEPA documentation, regulatory permits and a Mitigated Negative Declaration have been completed for this project (under Task 6). As discussed in the Mitigated Negative Declaration, the District will oversee the replanting by qualified biologists.

The District will implement a performance measures plan (Attachment 6) and continue to refine the project performance measures as the project continues to be developed. The District will implement the following measurement tools and methods:

- Install a stream gage and record downstream flow measurements of each creek
- Compare records of historic flood and future events and damage reports and claims with each future storm
- Monitoring of vegetation and habitat renewal with visual and photogrammetric tools

Environmental Compliance / Mitigation / Enhancement Activity or Deliverables	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Environmental Compliance	September to December 2014	Not yet begun		✓
Development of Performance Measures and Monitoring Plan	February 2014	Not yet begun		✓

**(f) Construction Administration**

**Task 11: Construction Administration (Management)**

Construction administration will be performed by a District-contracted construction management firm to perform review of contractor submittals, management of construction schedules and generation of required weekly status reports. Construction management will also perform construction inspection and report back to the District. The District and HDR will provide additional information for any queries in the field.

Constructing Contracting Activity or Deliverables	Schedule	Status	Completion	
			Before Aug 2013	After Aug 2013
Quarterly Construction Reports (includes contractors monthly progress reports and invoices)	December 2013 to September 2014	Not yet begun		✓
Final Construction Report	December 2014	Not yet begun		✓

**(g) Other Costs**

There are no additional activities and cost.

**Discussion of Standards**

The following standards will be used for the implementation of the Project:

- Construction Design Standards include the latest editions of the California Department of Transportation Standard Specifications and Standard Plans, American Public Works Association standard Specifications for Public Works Construction
- UPRR Guidelines for Temporary Shoring
- UPRR Guidelines for Railroad Grade Separation Projects
- UPRR Fiber Optic Engineering, Construction and Maintenance Standards