

ATTACHMENT 3:

Work Plan

SANTA CLARA VALLEY WATER DISTRICT

**Proposition 1E Round 2
Stormwater Flood Management Grant Program
Berryessa Creek Flood Protection Proposal**

This attachment includes a summary description of the proposed Berryessa Creek Flood Protection Project (Project) and the tasks required to complete the project. In accordance with Proposal Solicitation Package (PSP) requirements, **Attachment 3** consists of the following items:

- ✓ An **Introduction** section that provides a summary of the proposed Project, including a description of its goals and objectives as well as the purpose and need for the Project. This section discusses project timing/phases and linkages and synergies with other projects. Relevant maps showing the project location are provided. This section also describes work already completed and provides discusses existing data and studies supporting the project’s feasibility.
- ✓ A **Proposed Work** section that provides a detailed description of the tasks required to complete this Project and the expected deliverables to DWR for assessing progress. This section also discusses coordination procedures, applicable standards, performance measures and monitoring plans. The section also describes the status of land acquisition, permitting, and environmental compliance efforts.
- ✓ **Appendices** which provide supporting documentation for this Project:
 - **Appendix 3-1 – Component 1 (Lower Berryessa) Technical Documents**
 - **Appendix 3-2 – Component 2 (Lower Penitencia) Technical Documents**
 - **Appendix 3-3 – Component 3 (Upper Berryessa) Technical Documents**
 - **Appendix 3-4 – Other**

Contents

INTRODUCTION.....	2
Project List.....	2
Project Summary.....	3
Component 1 – Lower Berryessa Creek Improvements.....	7
Component 2 – Lower Penitencia Creek Improvements.....	10
Component 3 – Upper Berryessa Creek Improvements.....	10
Regional Maps and Project Specifics.....	14
Purpose and Need.....	17
Project Driver: Flood Protection.....	17
Project Driver: Reduce Sedimentation and Erosion.....	17
Project Driver: Improve Water Quality.....	17
Project Driver: Habitat Protection and Restoration.....	18
Project Driver: Improved Maintenance.....	18

Project Driver: Expanded Trail/Recreation Opportunities.....	18
Goals and Objectives	19
Contribution to IRWMP Goals and Objectives.....	19
Project Specific Goals and Objectives.....	22
Integrated Elements of Project.....	23
Local Synergies and Partnerships	23
Synergies with Greater Coyote Creek Watershed.....	24
Synergies with Greater Bay Area	24
Project Timing and Phasing	24
Completed Work.....	26
Existing Data and Studies	31
PROPOSED WORK.....	32
A. Direct Project Administration Tasks	32
B. Land Purchase/Easement Tasks	34
C. Planning/Design/Engineering/Environmental Documentation Tasks	38
D. Construction/Implementation Tasks	44
E. Environmental Compliance/Mitigation/Enhancement Tasks.....	51
F. Construction Administration Tasks.....	56
Other Project Information Requested by PSP.....	57
APPENDIX 3-1: Component 1 (Lower Berryessa) Technical Documents.....	58
APPENDIX 3-2: Component 2 (Lower Penitencia) Technical Documents	59
APPENDIX 3-3: Component 3 (Upper Berryessa) Technical Documents.....	60
APPENDIX 3-4: Other Technical Documents	61

INTRODUCTION

This section provides a detailed description of the Berryessa Creek Flood Protection Project and is organized according to the specific requirements set forth in Exhibit A of the PSP.

Project List

Table 3-1 provides an abstract of the Project, the current status of the project in terms of percent completion of design, implementing agencies (as applicable), the site-specific geographic location, and the project's function in relation to the larger flood control system for the region.

Table 3-1. Proposed Project in Stormwater Flood Management Grant Proposal

Project	Description	
Berryessa Creek Flood Protection Project	<i>Abstract:</i>	<p>The Berryessa Creek Flood Protection Project will provide 100-year flood protection to 2,463 homes, schools and businesses – including several high-tech Silicon Valley industries – which reside within the 22-square mile watershed. In addition to reducing flood damage and costs, the Project will improve water quality through the reduction of sedimentation and instream erosion, and increase public access.</p> <p>The Project will consist of three components: 1) Lower Berryessa improvements; 2) Lower Penitencia improvements; and 3) Upper Berryessa improvements. The downstream reaches (Components 1 and 2) need to be constructed first in order to accommodate increased flows expected from the Upper Berryessa improvements (Component 3)</p>
	<i>Status:</i>	<p><i>Component 1 – Lower Berryessa:</i> Preliminary Design and Environmental Documentation are complete. Final design is scheduled to be completed in April 2013. Construction is scheduled to begin in August 2013.</p> <p><i>Component 2 – Lower Penitencia:</i> In planning phase.</p> <p><i>Component 3 – Upper Berryessa:</i> In planning phase.</p>
	<i>Implementing Agencies:</i>	<p>Santa Clara Valley Water District US Army Corps of Engineers (Component 3 only)</p>
	<i>Other Project Partners</i>	<p>City of Milpitas County of Santa Clara Valley Transportation Authority City of San Jose</p>
	<i>Location:</i>	<p><i>Component 1 – Lower Berryessa:</i> In Milpitas. Reach extends from Calaveras Blvd to confluence with Lower Penitencia Creek.</p> <p><i>Component 2 – Lower Penitencia:</i> In Milpitas. Reach extends from Lower Berryessa Creek to Coyote Creek.</p> <p><i>Component 3 – Upper Berryessa:</i> In Santa Clara County (including Milpitas and San Jose). Reach extends from Calaveras Blvd to Interstate 680.</p>
	<i>Storm water Conveyance:</i>	<p>Increase stormwater conveyance capacity of Berryessa and Penitencia Creeks, from Interstate 680 to Coyote Creek, to provide 100-year flood protection.</p>
	<i>State Plan for Flood Control:</i>	<p>The Project is NOT part of the State Plan of Flood Control.</p>

Project Summary

The Santa Clara Valley Water District (District) is the primary water resources agency for Santa Clara County (County). The District serves as the County’s water wholesaler and provides stream stewardship and flood protection for Santa Clara Valley residents, businesses, and transportation networks. As such, the District is charged with local flood protection in the 322 square mile of the Coyote Watershed, the largest of the County’s five watersheds. This watershed extends from the urbanized valley floor upward to the vast natural areas of the Diablo Range. Sixteen major creeks drain the Coyote Watershed, including Coyote Creek as its main waterway and the creeks associated with the proposed Berryessa Creek Project (Project): Upper Berryessa Creek, Lower Berryessa Creek, and Lower Penitencia Creek.

Berryessa Creek system has a drainage area of approximately 22 square miles, draining a large area of the City of Milpitas and a portion of the City of San José. Upper Berryessa Creek originates in the Los Buellis Hills of the Diablo Range, between Ed R. Levin County Park and Alum Rock Park, east of the City of San José. It flows westerly to Interstate 680 (I-680), then northward through the City of Milpitas to its confluence with Lower Penitencia Creek. Lower Penitencia Creek flows northward to Coyote Creek and ultimately drains into San Francisco Bay.

The Project falls mainly within the City of Milpitas city limits, generally within the area bounded by East Calaveras Boulevard to the south, I-880 to the west, Dixon Landing Road to the north, and within 1,000 feet of I-680 to the east. Surrounding land uses include the Milpitas Town Center, low and medium density, single-family homes, office parks, school campuses, and open space. The Union Pacific Railroad (UPRR) tracks run in a north-south direction in the western portion of the program area and cross program reaches in two locations. The San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy Aqueduct also runs in a north-south direction through the program vicinity and crosses Berryessa Creek just north (downstream) of North Hillview Drive.

One of the Project's goals is to provide 100-year flood protection to 2,463 homes and businesses from flood damages and reduction in channel bank failures along close to 6 miles of creeks, from confluence of Coyote Creek to I680.

Flooding within the Berryessa Creek watershed and vicinity has occurred often during the past decades. Stormwater flooding inundating streets and yards is estimated to occur on an average of at least once every four years. Overflow channel flooding, causing damage to structures, infrastructure, etc., is estimated to occur along Berryessa Creek on the average of once every 10 to 20 years.

Images from the 1983 flood event are shown in **Figure 3-2**.

Figure 3-2. Images from Berryessa Creek Flooding (1983)



The most recent flood in 1998 resulted in significant damage to homes and automobiles. During high tide in San Francisco Bay, water from Berryessa Creek backed up into Calera Creek and overflowed through a low point in the levee adjacent to the Union Pacific Railroad tracks. Water from this levee breach and a coincident failure of a stormwater pump station caused flooding of up to four feet in the California Landing area of Milpitas. **Figure 3-3** displays an image from the 1998 flood event.

Figure 3-3. Images from Berryessa Creek Flooding (1998)



In addition to flood protection, other Project goals include enhanced habitat and vegetation, including wetlands, improve water quality, and new recreation amenities for City of Milpitas and the northern portions of the City of San Jose, such as pedestrian bridges and multiple-use trails. The Project will also reduce maintenance requirements such as sediment removal and erosion repair work caused by bank failures, and trash and graffiti removal caused by existing blight conditions.

The existing creek is currently filled with sediments and does not have capacity for a one percent flood flow. Existing creek habitat consists of non-native vegetation, and is very sparse. The proposed Project would widen the creek to increase capacity and reduce erosion on banks, create a proper bankfull channel to transport sediments, and create new depressed floodplain benches for native vegetation plantings. A correctly sized bankfull channel with a depressed floodplain benches constructed in the proper elevation will also reduce maintenance activities in the channel in the long-term. The existing levee on one bank will be raised while the levee on another bank will be replaced with a floodwall to facilitate a wider channel for flow conveyance and additional vegetation plantings. A continuous maintenance road on top of the levee to provide opportunity for a recreation trail will be constructed.

To better understand the Project activities, needs, and implementation schedule effectively, the Project is divided into three components, as described below.

- **Component 1 – Lower Berryessa Creek Improvements**
- **Component 2 – Lower Penitencia Creek Improvements**
- **Component 3 – Upper Berryessa Creek Improvements**

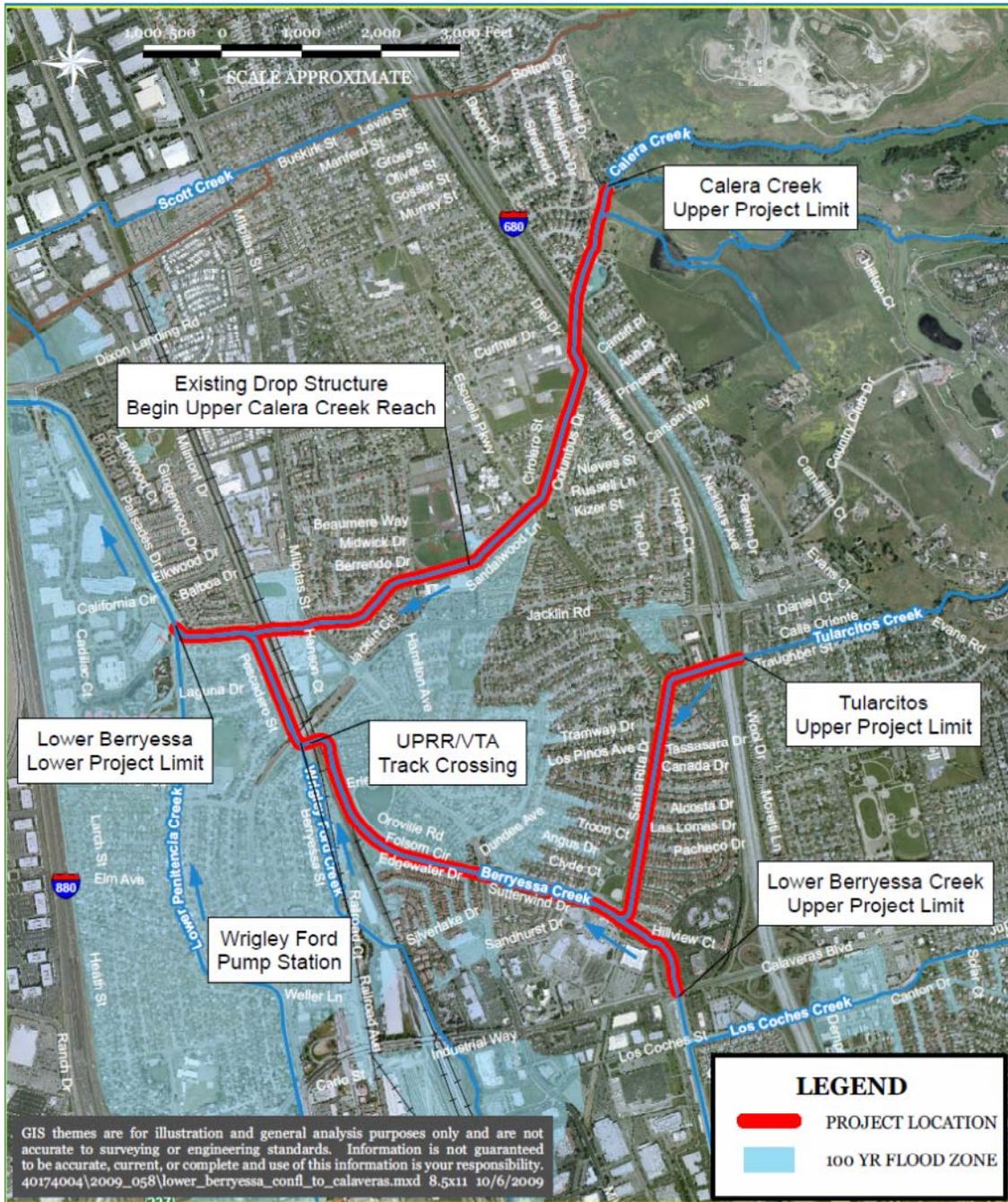
Component 1 – Lower Berryessa Creek Improvements

Lower Berryessa Creek begins at the confluence of Lower Penitencia and Berryessa Creeks and extends upstream approximately 8,700 feet to the downstream face of the bridge crossing at Calaveras Boulevard. Existing levees on both sides of the creek, originally constructed in 1976, provide flood protection. The heights of these levees were increased by up to 1.5 feet in 1997 to provide design flood protection based on hydrology and hydraulics available at the time. However, subsequent studies, including the 2010 Lower Berryessa Creek Planning Study Report (which is included as **Appendix 3-1.A**), identified several issues with Lower Berryessa Creek and its tributaries:

- *Lower Berryessa Creek.* Lower Berryessa Creek cannot contain design flows that take into account future upstream channel improvements. It currently does not have adequate capacity to convey the design flow with appropriate freeboard. Also, the existing levees on both sides of the creek are structurally stable, but are constructed with highly plastic clay that shrinks and swells, causing erosion and cracking along portions of the levees. Without on-going and costly maintenance, the flood protection would be compromised by the cracking and slope erosion of expansive soils that would undermine the stability of the existing levees.
- *Calera Creek.* A portion of Calera Creek extending about 3,000 feet upstream of its confluence with Berryessa Creek is subject to a backwater effect from flows in Lower Berryessa Creek. Hydraulic modeling indicates that the peak design flow of 880 cubic feet per second (cfs) cannot be contained within the existing channel that is currently confined within limited right of way constraints.
- *Tularcitos Creek.* Flows in Lower Berryessa Creek also have a backwater effect on most of Tularcitos Creek. Hydraulic modeling indicates that the peak design flow of 845 cfs cannot be contained within the existing channel that is currently confined within limited right of way constraints.
- Maintenance access roads do not meet District requirements.
- The levees have not been fully integrated into the City of Milpitas trail system.

Component 1 of the Berryessa Creek Flood Protection Project involves the construction of various improvements to Lower Berryessa Creek and its tributaries to address flooding and other related stream-function issues. **Figure 3-4** shows the proposed project and the Federal Emergency Management Agency (FEMA) 100-year flood zone.

Figure 3-4. Component 1 – Lower Berryessa Creek Improvements



Component 1 of the Berryessa Creek Flood Protection Project involves modifications to approximately 8,700 feet of Lower Berryessa Creek (from Calaveras Boulevard to the confluence with Lower Penitencia Creek), as well as 4,000 linear feet of Tularcitos Creek and 3,000 linear feet of Lower Calera Creek. The following improvements would allow Lower Berryessa Creek and its tributaries to adequately convey a 100-year design storm:

- Raising existing levees;

- Widening the channel by removing the existing levee from one side of the existing channel with floodwalls;
- Constructing a stormwater pump station;
- Improving maintenance access;
- Removing sediment and vegetation; and
- Constructing re-vegetated floodplains.

The images below depict the current conditions of Lower Berryessa Creek and what it is envisioned to look like following completion of the Project.



Current View Looking Upstream from Milpitas Blvd.



Post-Construction rendering showing a floodwall/levee with continuous corridor and terraced floodplain.

Component 2 – Lower Penitencia Creek Improvements

Component 2 of the Berryessa Creek Flood Protection project involves the construction of various improvements to Lower Penitencia Creek. The Berryessa Creek Watershed Hydrology Report, completed in 2006 (and provided as Appendix B to the Lower Berryessa Planning Study Report, which is **Appendix 3.1.A** to this Attachment), revealed that upstream improvements to Berryessa Creek will deliver increased flows from a 100-year storm event downstream to Lower Penitencia Creek. Hydraulic modeling indicates that, based on current channel conditions, there is inadequate capacity to convey this increased flow and levees will be overtopped.

Component 2 of the Berryessa Creek Flood Protection Project, shown in **Figure 3-5**, involves implementing various improvements to address the aforementioned flooding and capacity issues. It includes modifications to approximately 1 mile of Lower Penitencia Creek (from Coyote Creek to the confluence with Berryessa Creek). The following improvements would allow Lower Penitencia Creek to adequately convey the higher storm flows predicted from upstream improvements to Berryessa Creek:

- Removing sediment and vegetation;
- Partial widening of channel; and
- Improving maintenance access.

Component 3 – Upper Berryessa Creek Improvements

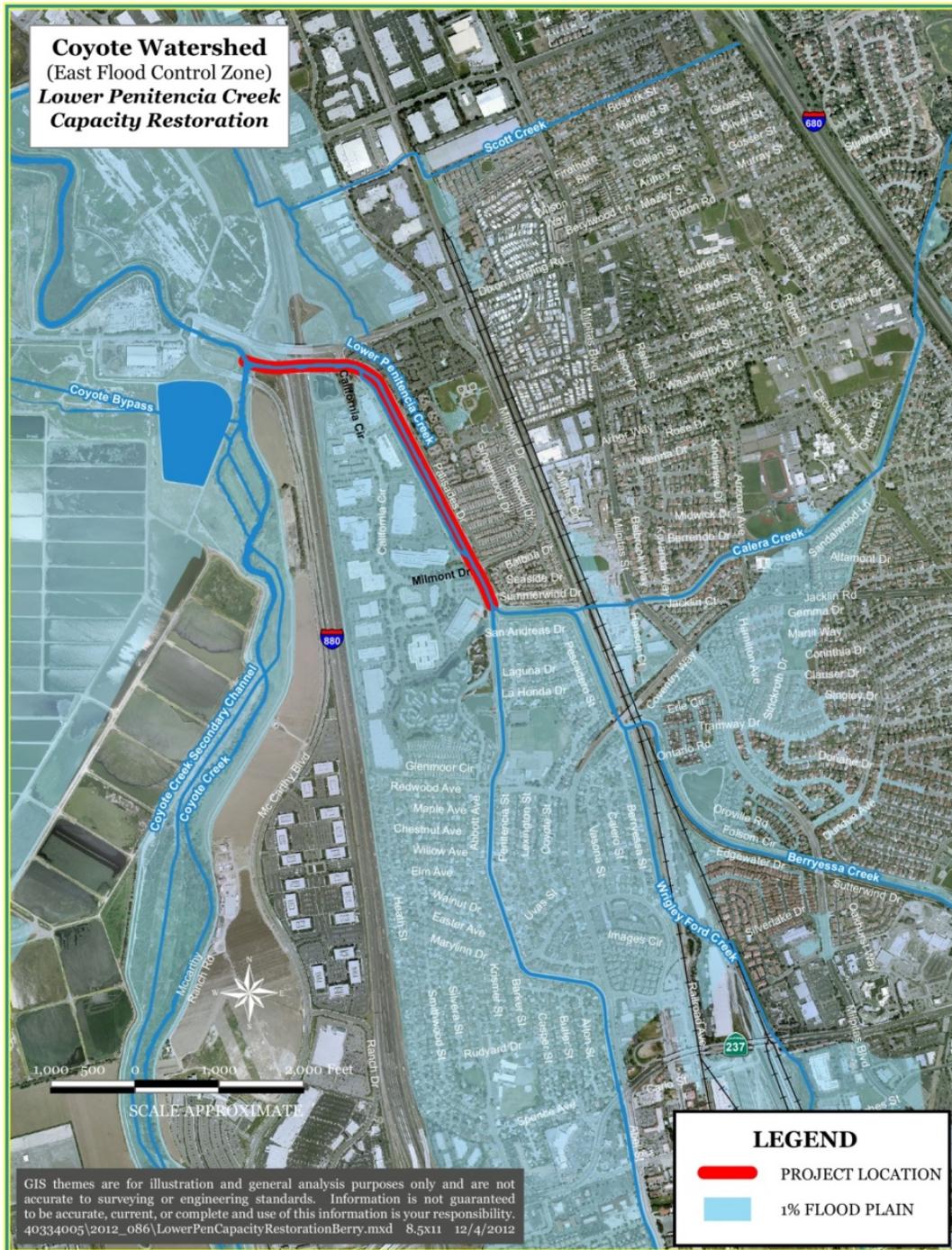
Component 3 of the Berryessa Creek Flood Protection project involves the construction of various improvements to Upper Berryessa Creek and its tributaries to address flooding and other related stream-function issues.

Detailed reports on flooding and flood related damages in Santa Clara County from 1982 to present were obtained from the District. Reports on flooding prior to 1982 were not available although other references identify historical flooding in Santa Clara County in 1899, 1911, 1931, 1937, 1940, 1941, 1950, 1952, 1955, 1958, 1962, 1963, 1968, 1973, and 1980. Later flooding in 1982, 1983, 1986, 1995, 1997, and 1998 is documented in District flood reports. Prepared immediately following each flood event, these flood reports provide flood maps, damage estimates, rainfall and streamflow data from gages on streams affected by flooding.

A review of these flood reports indicates that flooding along Berryessa Creek occurred in 1982, 1983, and 1998. No flooding was reported on Berryessa Creek during the 1986, 1995, and 1997 floods that occurred elsewhere in Santa Clara County.

- Flooding on Berryessa Creek in 1982 was minimal, affecting only a small area about 1,000 feet upstream of Calaveras Boulevard and causing no damage. Yet, widespread flooding did occur immediately downstream of Berryessa Creek on both Lower Penitencia Creek and Coyote Creek.
- Flooding on Berryessa Creek in 1983 was much more damaging and widespread. The creek levees were overtopped at multiple locations, including upstream of Old Piedmont Road, upstream and downstream of Montague Expressway, and at the confluence of Berryessa Creek with both Piedmont Creek and Arroyo de Los Coches. Extensive flooding also occurred on Lower Penitencia Creek both upstream and downstream of the Berryessa Creek confluence.
- Flooding in 1998 occurred at the confluence of Berryessa Creek with Calera Creek. Flood damage was reported on several streets north of the confluence.

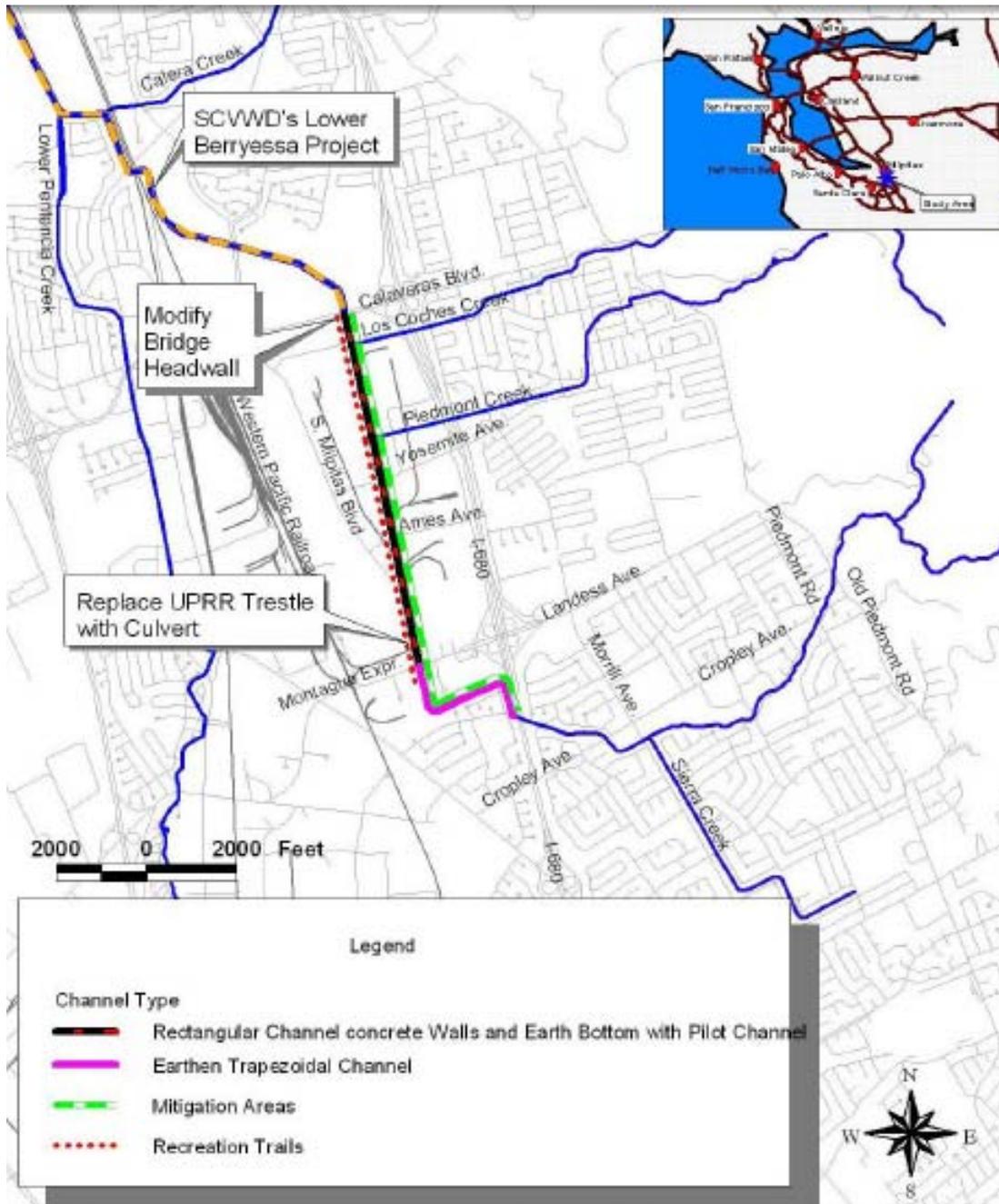
Figure 3-5. Component 2 – Lower Penitencia Creek Improvements



The District has been working in partnership with the US Army Corps of Engineers (USACE) to develop solutions to the flooding issues along Upper Berryessa Creek. Component 3 of the Berryessa Creek Flood Protection Project, shown in **Figure 3-6**, involves implementing various improvements to address the aforementioned flooding and capacity issues. It includes modifications to approximately 4.5 miles of Upper Berryessa Creek (from Calaveras Blvd to Interstate 680). The following improvements would allow Upper Berryessa Creek and its tributaries to provide 100-year flood protection to 2,463 nearby homes, businesses and schools:

- Channel widening;
- Low-flood channel construction;
- Traffic bridge replacements;
- Utility relocations;
- Floodwall construction;
- Maintenance road re-construction;
- Montague Expressway culvert replacement; and
- Vegetation plantings.

Figure 3-6. Component 3 – Upper Berryessa Creek Improvements (Calaveras Blvd to I-680)



Regional Maps and Project Specifics

The following maps show the major project facilities, regional and local drainage systems, flood control level of protection, major water bodies and streams, flood management infrastructure, and the project location in relation to the SPFC.

Figure 3-7. Project Location and Setting

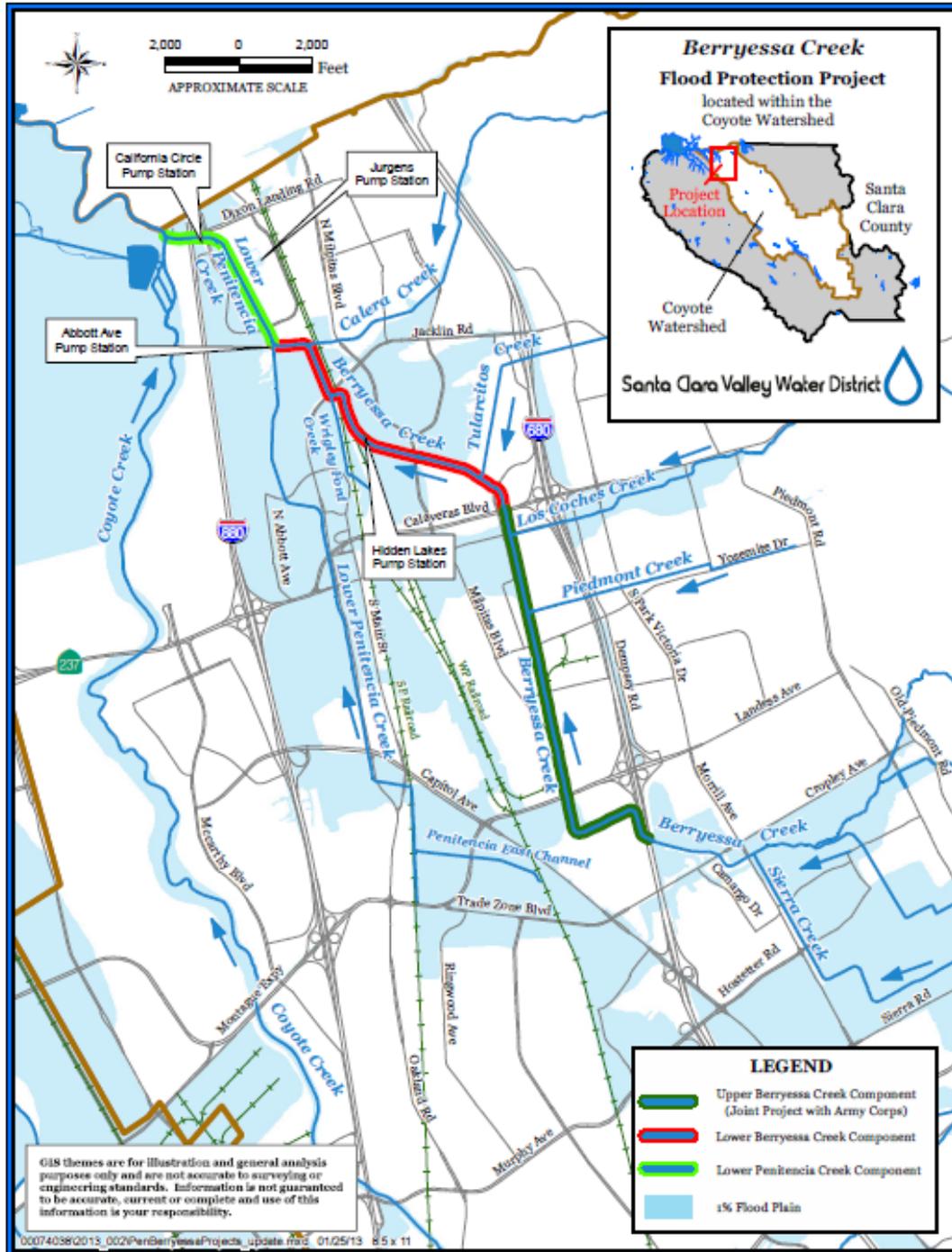


Figure 3-8. 0.2 Percent 0.2 Percent Exceedance Probability Event Floodplain

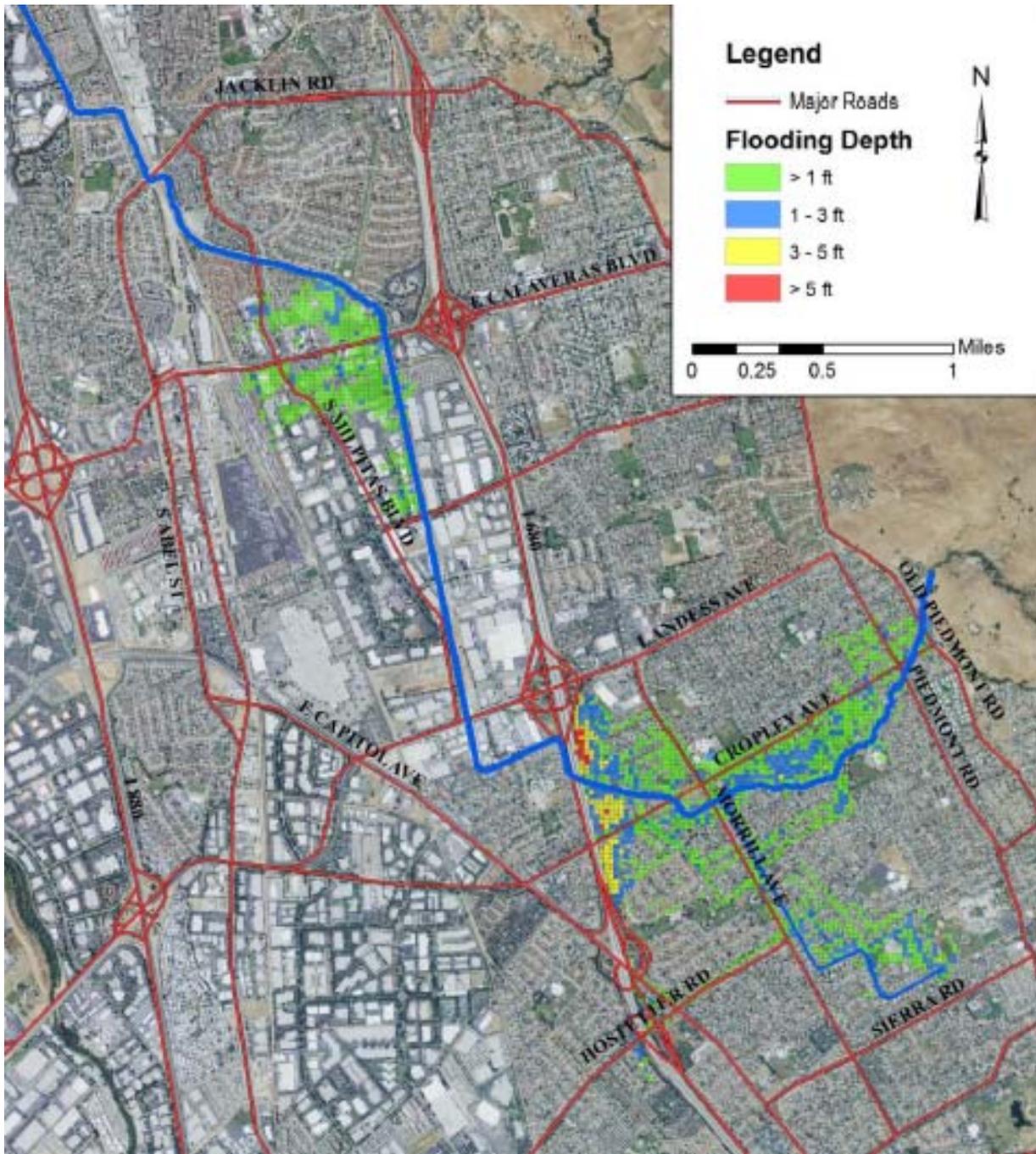
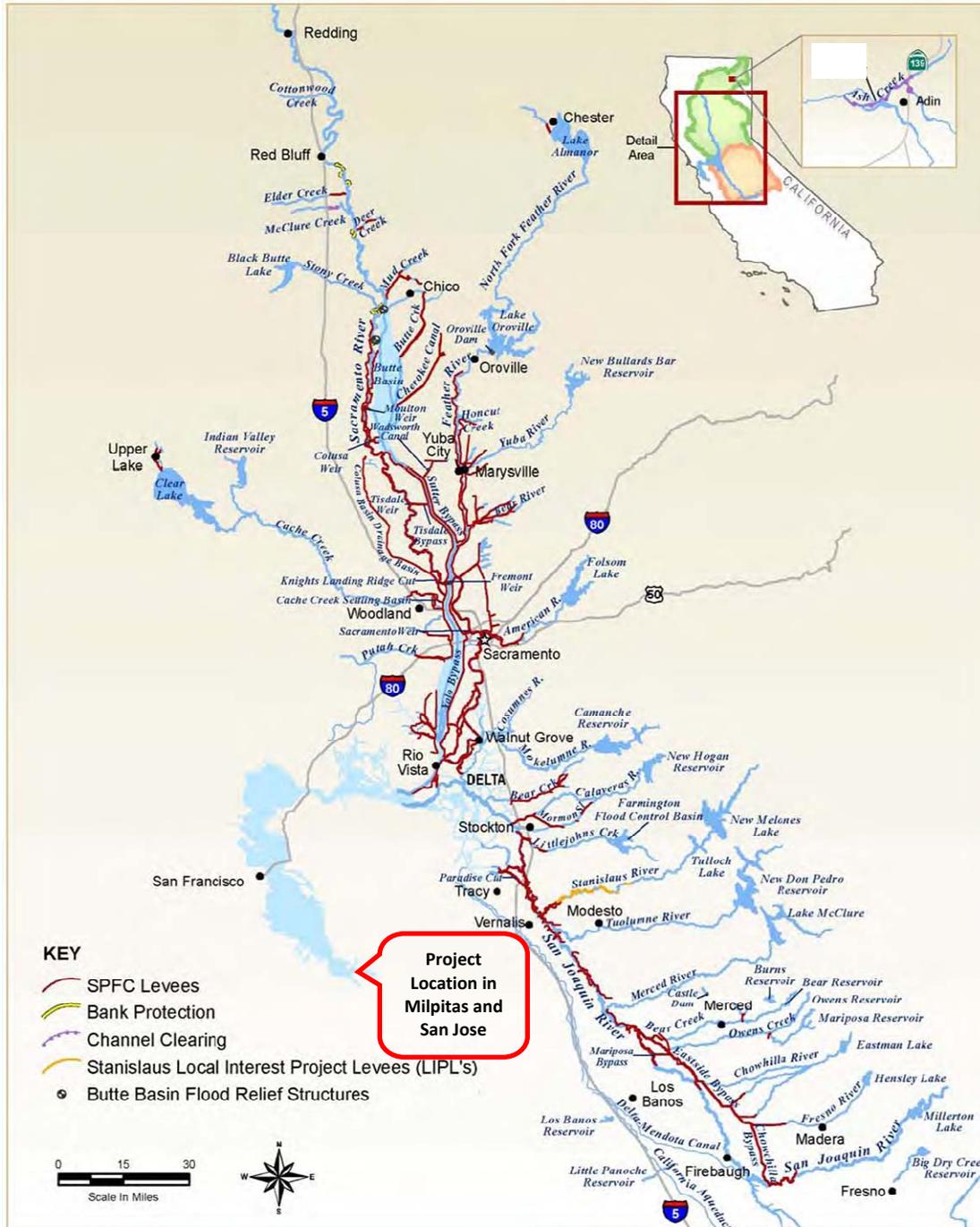


Figure 3-9 shows the location of the Berryessa Creek Flood Protection Project in relation to the State Plan of Flood Control facilities. Berryessa Creek is not part of the Sacramento River or San Joaquin River Flood Control system. It is a tributary to the largest watershed in Santa Clara County, the Coyote Creek Watershed, and drains 22 square miles of the City of Milpitas and portions of the City of San Jose.

Figure 3-9. Project Location in Relation to the SPFC



Purpose and Need

The primary purpose of the Berryessa Creek Flood Protection Project is to provide 100-year flood protection to 2,463 homes, schools and businesses - including several high-tech Silicon Valley industries - which reside within the 22 square-mile watershed that includes the City of Milpitas and portions of the City of San Jose. Implementation of this project also provides an opportunity to address other watershed issues and provide a multiple benefits. The following provides a more detailed discussion of the need for the project, organized by specific project drivers.

Project Driver: Flood Protection

The Berryessa Creek Flood Protection Project is required to reduce flooding frequency affecting 2,463 properties during heavy rains, to improve hydraulics along Berryessa Creek and its tributaries, to reduce channel bank failures and to reduce flood damage costs to the region.

Lower Berryessa Creek Improvements (Component 1). Upstream improvements to Upper Berryessa Creek will increase flows to Lower Berryessa Creek, thus exacerbating any flooding risks in the downstream project area. The Lower Berryessa Creek PSR (2010) determined that the existing channel cannot contain the design peak flow of 7,200 cfs from improvements to be accomplished from the Upper Berryessa Creek Project. In addition, although the levees for this portion of the creek were raised by up to 1.5 feet in 1997 to provide 100-year flood protection based on hydrology and hydraulics available at that time, large sections of the levees are constructed with highly plastic clays that are subject to excessive shrinkage and swelling, which has caused erosion, sloughing and cracking to occur along significant portions of the levees. Continued cracking and slope erosion can undermine levee stability, eventually causing a major failure on some sections of the levees. To achieve long-term stability, the levee slopes should be flattened, or the unsuitable soil removed and the levees rebuilt. Without this Project, the area will continue to be at risk for flooding and associated damages, and public health and safety will continue to be endangered.

Lower Penitencia Creek Improvements (Component 2). Upstream improvements to Upper Berryessa Creek will increase flows to Lower Penitencia Creek. Hydraulic modeling indicates that, based on current channel conditions, there is inadequate capacity to convey this increased flow and levees will be overtopped. Without this Project, the area will continue to be at risk for flooding and associated damages, and public health and safety would continue to be endangered.

Upper Berryessa Creek Improvements (Component 3). Improvements to Upper Berryessa Creek will provide immediate relief to portions of San Jose and Milpitas that experience periodic flooding conditions. (The existing creek is currently filled with sediment and does not have the capacity to convey storm flows greater than the 10-year event). Without this Project, 1,194 acres of land will continue to be at risk for flooding and associated damages, and public health and safety will continue to be endangered.

Project Driver: Reduce Sedimentation and Erosion

Erosion and sedimentation along the Berryessa Creek and its tributaries are a major issue when it comes to impeded stream flow and channel capacity, degraded water quality, and establishment of native habitat. Implementation of the Project will widen channels to reduce erosion on banks, and will create a proper bankfull channel to transport sediments.

Project Driver: Improve Water Quality

The banks of Berryessa Creek and its tributaries are currently subject to varying degrees of erosion and sedimentation, which degrades the overall water quality of the creeks. Implementation of this Project will result in reduced sedimentation and erosion and will therefore improve water quality.

Project Driver: Habitat Protection and Restoration

The Berryessa Creek habitat is currently comprised of mostly non-native vegetation. Implementation of this Project will allow for the planting of native species along the 6-mile stream corridor and will reduce the sedimentation and erosion and associated bank failures that currently limit native plant colonization.

The Project will also allow for the preservation of wetland habitat.

Project Driver: Improved Maintenance

Inadequate access makes maintenance of Berryessa Creek and its tributaries more difficult, costly and time-consuming. Additionally, these creeks frequently require sediment removal from the channel bottoms to maintain flow capacity, but this process is currently burdened by a lack of suitable access for equipment.

Implementation of this Project will provide improved access and a continuous maintenance road that will facilitate maintenance of the Creek. A properly-sized bankfull channel with a depressed benches constructed in the proper elevation will reduce maintenance activities in the channel in the long-term. In addition, the project will reduce maintenance requirements such as sediment removal and erosion repair work caused by bank failures, and trash and graffiti removal caused by existing blight conditions.

Project Driver: Expanded Trail/Recreation Opportunities

Implementation of this Project will provide new recreational amenities for City of Milpitas and the northern portions of the City of San Jose, including pedestrian bridges and multiple-use trails that will extend for up to 6 miles along the Berryessa Creek.

Goals and Objectives

This section discusses how the Berryessa Creek Flood Protection Project contributes to the overall goals and objectives of the Bay Area IRWMP. It also presents the project-specific goals and objectives.

Contribution to IRWMP Goals and Objectives

The District is a participant in the San Francisco Bay Area (Bay Area) Integrated Regional Water Management Plan (IRWMP) and the Project is one of several projects that will aid the Bay Area in meeting the 2006 IRWMP Plan goals and objectives. **Table 3-2** highlights the 2006 IRWMP Plan goals along with the respective objectives to achieve each goal.

Table 3-2. Bay Area IRWMP Plan Goals and Objectives

IRWMP Plan Goals		IRWMP Plan Objectives
A	Contribute to the promotion of economic, social, and environmental sustainability	Avoiding, minimizing, and mitigating net impacts to environment
		Maintaining and promoting economic and environmental sustainability through sound water resources management practices
		Maximizing external support and partnerships
		Maximizing ability to get outside funding
		Maximizing economies of scale and governmental efficiencies
		Providing trails and recreation opportunities
		Protecting cultural resources
		Increasing community outreach and education for watershed health
		Maximizing community involvement and stewardship
		Reducing energy use and/or use renewable resources where appropriate
		Minimizing solid waste generation/maximizing reuse
		Engaging public agencies, businesses, and the public in stormwater pollution prevention and watershed management, including decision-making
		Achieving community awareness of local flood risks, including potential risks in areas protected by existing projects
		Considering and addressing disproportionate community impacts
		Balancing needs for all beneficial uses of water
Securing funds to implement solutions		
B	Contribute to improved supply reliability	Meeting future and dry year demands
		Maximizing water use efficiency
		Minimizing vulnerability of infrastructure to catastrophes and security breaches
		Maximizing control within the Bay Area region
		Preserving highest quality supplies for highest use
		Protecting against overdraft
		Providing for groundwater recharge while maintaining groundwater resources
		Increasing opportunities for recycled water use consistent with health and safety

IRWM Plan Goals		IRWM Plan Objectives
		Maintaining a diverse portfolio of water supplies to maximize flexibility
		Securing funds to implement solutions
C	Contribute to the protection and improvement of hydrologic function	Protecting, restoring, and rehabilitating natural watershed processes
		Controlling excessive erosion and managing sedimentation
		Maintaining or improving in-stream flow conditions
		Improving floodplain connectivity
		Preserving land pervious and natural infiltration capacity
		Securing funds to implement solutions
D	Contribute to the protection and improvement of the quality of water resources	Minimizing point and non-point source pollution
		Reducing salinity-related problems
		Reducing mass loading of pollutants to surface waters
		Minimizing taste and odor problems
		Preserving natural stream buffers and floodplains to improve filtration of point and non-point source pollutants
		Maintaining health of whole watershed, upland vegetation and land cover to reduce runoff quantity and improve runoff quality
		Protecting surface and groundwater resources from pollution and degradation
		Anticipating emerging contaminants
		Eliminating non-stormwater pollutant discharges to storm drains
		Reducing pollutants in runoff to maximum extent practicable
		Periodically evaluating beneficial uses
		Continuously improving stormwater pollution prevention methods
		Securing funds to implement solutions
E	Contribute to the protection of public health, safety, and property	Providing clean, safe, reliable drinking water
		Minimizing variability for treatment
		Advancing technology through feasibility studies/demonstrations
		Meeting promulgated and expected drinking water quality standards
		Managing floodplains to reduce flood damages to homes, businesses, schools, and transportation
		Minimizing health impacts associate with polluted waterways
		Achieving effective floodplain management by encouraging wise use and management of flood-prone areas
		Maintaining performance of flood protection and stormwater facilities
		Partnering with municipalities to prepare mitigation action plans that reduce flood risks to the community
		Coordinating resources and mutual aid between agencies to enhance agency effectiveness

IRWM Plan Goals		IRWM Plan Objectives
		Securing funds to implement solutions
F	Contribute to the creation, protection, enhancement, and maintenance of environmental resources and habitats	Providing net benefits to environment
		Conserving and restoring habitat for species protection
		Acquiring, protecting and/or restoring wetlands, streams, and riparian areas
		Enhancing wildlife populations and biodiversity (species richness)
		Providing lifecycle support (shelter, reproduction, feeding)
		Protecting and recovering fisheries (natural habitat and harvesting)
		Protecting wildlife movement/wildlife corridors
		Managing pests and invasive species
		Recovering at-risk native and special status species
		Improving structural complexity (riparian and channel)
		Designing and constructing natural flood protection and stormwater facilities
		Securing funds to implement solutions

The Berryessa Creek Flood Protection Project is consistent with five of the goals included in the 2006 IRWM plan. Although it was added after adoption (refer to Attachment 1) and was therefore is not listed in the IRWM Plan, **Table 3-3** provides an overview of the 2006 Bay Area IRWM Plan goals that are expected to be directly (●) or indirectly (○) achieved through implementation of the project.

Table 3-3. Contribution to IRWM Plan Goals

Proposal Project	Contribution to IRWM Plan Goals					
	A	B	C	D	E	F
Berryessa Creek Flood Protection Project	○		●	●	●	●

● = directly related; ○ = indirectly related

The Project contributes to the IRWM Plan objectives in the following ways:

- **Objective A**—Contributes to the promotion of economic, social, and environmental sustainability, having garnered community and financial support from neighboring communities and project partners, including the US Army Corps of Engineers, City of Milpitas, and Valley Transportation Authority. Community awareness of the current flood risks to the region, combined with public access to recreational improvements, has led to stakeholder buy-in and support for implementation of the Project. The Project also contributes to this objective by providing trail and recreation opportunities and minimizing environmental impacts caused by flooding and erosion.
- **Objective C** – Contributes to the protection and improvement of hydrologic function by controlling excessive in-stream erosion and sedimentation, improving in-stream flow conditions through the provision of a low-flow channel and increased riparian vegetation, restoring native/wetland vegetation, and securing federal funds to implement solutions.
- **Objective D** – Contributes to the protection and improvement of the quality of water resources by reducing mass loading of pollutants to San Francisco Bay through the preservation, enhancement, and widening of the Berryessa Creek corridor to improve filtration of point and non-point source pollutants.

- **Objective E** – Contributes to the protection of public health, safety, and property by removing 2,463 homes, business, and schools from the 100-year flood zone of Berryessa Creek. The Project will increase the capacity of the creek channel to safely handle a 100-year flood event. Additionally, the Project will improve access to the creek channel, which in turn, will enhance maintenance activities to maintain the channel’s engineered capacity.
- **Objective F** - Contributes to the creation, protection, enhancement, and maintenance of environmental resources and habitats through the conservation and restoration of habitat for species protection by acquiring, protecting and/or restoring wetlands and riparian areas, managing pests and invasive species, and improving structural complexity (riparian and channel). The Project will enhance habitat and vegetation, including wetlands. Existing creek habitat consists of non-native vegetation, and is very sparse. The proposed Project will widen the creek to increase capacity and reduce erosion on banks, create a proper bankfull channel to transport sediments, and create new depressed floodplain benches for native vegetation plantings.

In addition, the project has been evaluated against the draft project evaluation process under development of the IRWM Plan Update. The preliminary evaluation process and scoring are provided in **Appendix 3-4**.

Project Specific Goals and Objectives

As noted in **Table 3-4**, the primary goals of the Project are to:(1) Provide 100-year flood protection to 2,463 homes, businesses and schools in the project area of Berryessa Creek and Lower Penitencia Creek from Coyote Creek to Interstate 680; (2) Incorporate watershed-related benefits; and (3) Improve maintenance effectiveness and efficiency. These goals are consistent with the District’s Board Ends Policies, which includes the following policy elements:

- Ends Policy E3.1 – Provide natural flood protection for residents, businesses and visitors
- Ends Policy E3.2 – Reduce potential for flood damages
- Ends Policy E4.3 – Improved quality of life in Santa Clara County through trails and open space

The Project would also help to achieve several objectives outlined in the District’s Flood Protection and Stream Stewardship Program, specifically:

- Homes, schools, businesses and transportation networks are protected from flooding
- There is clean, safe water in our creeks and bays
- Healthy creek and bay ecosystems are protected, enhanced or restored as determined appropriate by the District’s Board of Directors
- There are additional open spaces, trails and parks along creeks and in the watersheds when reasonable and appropriate
- The benefits of environmental quality and protection from flooding are balanced a cost effective manner.

Table 3-4. Project Goals and Objectives

Project Goals	Project Objectives
Provide flood protection benefits to existing communities within the Berryessa Creek Watershed	Construct the necessary improvements to enable the removal of 2,463 homes, businesses and schools in surrounding communities from the current 100-year flood zone for Berryessa Creek as delineated by the Federal Emergency Management Agency (FEMA).
Incorporate watershed restoration benefits	Reduce erosion and sedimentation within Berryessa Creek by constructing improvements to reduce channel bank failures and increase the sediment storage capacity that will enable plant colonization.
	Improve water quality through reduced erosion and sedimentation control and creek maintenance
	Provide opportunities to expand existing trail systems (and thus recreation) by up to 6 miles along the creek via the construction of a pedestrian bridges and maintenance roads that could serve multiple uses, including trail use.
	Promote watershed restoration through the reestablishment of natural wetlands [X acres], riparian, and upland habitats.
Improve maintenance effectiveness and efficiency	Improve access for long-term maintenance
	Reduce maintenance requirements associated with sediment removal and repair work caused by bank failures.
	Reduce maintenance requirements associated with trash and graffiti removal caused by existing blight conditions.

Integrated Elements of Project

The Berryessa Creek Flood Protection Project is an integrated, multi-purpose project that will benefit (1) local residents and businesses (including several high-tech Silicon Valley industries) within the City of Milpitas and portions of the City of San Jose; (2) the greater Coyote Creek Watershed; and (3) the greater Bay Area region.

Local Synergies and Partnerships

Implementation of the Berryessa Creek Flood Protection project will provide immediate flood protection benefits to 2,463 homes, schools and businesses within the affected portions of the City of Milpitas and City of San Jose. The Project will also provide water quality benefits, habitat protection and restoration benefits, and recreational benefits via the establishment of over 6 miles of expanded trail opportunities.

Implementation of this Project will be completed in coordination and partnership with several entities:

- *The US Army Corps of Engineers (USACE)*. The District is partnering with the USACE on the planning, design and construction of improvements from Calaveras Blvd to Interstate 680.
- *Valley Transportation Authority (VTA)*. The District established a partnership with the VTA on the design and construction of a new 5-cell culvert railroad crossing over Berryessa Creek near Abel Street Bridge. This work, which is a part of Component 1 (Lower Berryessa Creek Improvements) of the Project, was completed in 2011. The District is also partnering with the VTA on the replacement of the Montague Expressway Culvert as part of Component 3 (Upper Berryessa Creek Improvements) of the Project. The District has a cordial working relationship with VTA and

meets on a monthly basis to discuss, confer with and resolve technical and land issues pertaining to District and VTA projects, which includes the South County BART project.

- *County of Santa Clara.* The District is partnering with the County of Santa Clara to coordinate the District's planned Montague Expressway Culvert Replacement project (to be completed as part of Component 3 of the Project) with the County's planned widening of the Montague Expressway.
- *City of Milpitas.* The District is in partnership with the City of Milpitas (the location of many of the proposed improvements) to integrate the City's trail master plan with the development of the flood protection project. The District has been meeting with the City on an infrequent basis to obtain and negotiate for land acquisition for the Berryessa Creek Projects. As part of the negotiations, the City is requesting that the District address existing trail improvements that could be impacted by the flood protection project.
- *City of San Jose.* The District is in partnership with the City of Milpitas to integrate the City's trail master plan with the development of the flood project.

Synergies with Greater Coyote Creek Watershed

The Berryessa Creek Watershed is a major tributary of Coyote Creek and drains 22 square miles in the City of Milpitas and a portion of San José. The Coyote Creek Watershed is the largest watershed in Santa Clara County. Coyote Creek is a major resource for fish, such as steelhead, and wildlife habitats. Any improvements to its tributary creeks will greatly benefit and improve the existing degraded condition of the Coyote Creek. The connection between Berryessa Creek and Coyote Creek is important to note for several reasons: 1) flood protection improvements upstream are likely to positively affect the flooding situation downstream; 2) water quality improvements upstream should lead to improvements downstream; 3) improvements to the channel, including habitat restoration and renegotiation, should lead to improved fisheries habitat and fish migration downstream; and 4) improvements to the channel for reduced sedimentation should result in less sediment loading downstream. In addition to these benefits, recreational opportunities will be available, such as improved connectivity to the City of Milpitas' and City of San Jose's trail network.

Synergies with Greater Bay Area

The VTA is currently working to expand the Bay Area Rapid Transit (BART) system into Silicon Valley by extending the Fremont line south through Milpitas, to San Jose and Santa Clara. The Berryessa Extension is the first segment of this expansion and includes plans to locate a BART station near Berryessa Creek. Without the Berryessa Creek Flood Protection Project, this BART Station, which is scheduled to be constructed in 2016, will be subject to flooding. This has the potential to impact millions of daily commuters. Implementation of this Project is critical to ensure that the proposed BART station and its commuters are adequately protected from future floods.

Project Timing and Phasing

The Berryessa Creek Flood Protection Project is a stand-alone project and does not require the completion of any other projects in order to provide the aforementioned flood protection, water quality, habitat and recreation benefits.

The Berryessa Creek Flood Protection Project is comprised of three components: 1) The Lower Berryessa Creek Improvements; (2) The Lower Penitencia Creek Improvements; and (3) The Upper Berryessa Creek Improvements. All three components are part of a single project, and all three components must be constructed in order to provide adequate flood protection to the affected homes and businesses.

Construction of Component 1 (Lower Berryessa Creek Improvements) is not expected to create any negative flooding impacts to Lower Penitencia, so those improvements can move forward independently of Component 2 (Lower Penitencia Creek Improvements). However, both Component 1 (Lower

Berryessa Creek Improvements) AND Component 2 (Lower Penitencia Creek Improvements) must be constructed prior to the completion of Component 3 (Upper Berryessa Creek Improvements) or else flooding impacts will be exacerbated downstream.

Project components are currently at different stages of completion:

- *Component 1 - Lower Berryessa Creek Improvements.* This project component is at the 90% design level with an adopted Environmental Impact Report (EIR), and is currently scheduled to begin construction in August 2013. Proposition 1E Stormwater Flood Management (SWFM) grant funding is being requested for completion of this shovel-ready component.
- *Component 2 – Lower Penitencia Creek Improvements.* This project component is in the early planning stages.
- *Component 3 – Upper Berryessa Creek Improvements.* This project component is in the final planning stages with an Admin Draft Environmental Impact Report / Environmental Impact Statement (EIS/EIR) being circulated for internal review. SWFM grant funding is being requested for completion of this component.

Table 3-5 presents a summary status and schedule for each of the Project components.

Table 3-5. Project Status and Schedule

Stage	Project Component		
	Component 1 – Lower Berryessa Creek Improvements	Component 2 – Lower Penitencia Creek Improvements	Component 3 – Upper Berryessa Creek Improvements
Planning	Complete. Completed in 2010.	In Progress. A final Feasibility Report is scheduled to be completed by December 2013.	In Progress. A final Feasibility Report is scheduled to be completed by July 2013.
Design	In Progress. Final design to be completed in July 2013.	Not Started. Design is scheduled to begin in January 2014 and be completed by February 2015.	Not Started. Design is scheduled to start in December 2013 and be completed in March 2015.
Environmental Documentation	Complete. Final EIR completed in December 2013.	In Progress. A programmatic level CEQA analysis was completed for Lower Penitencia Creek as part of the Lower Berryessa FEIR. Work on the Supplemental EIR is scheduled to begin in December 2013 and be completed by December 2014.	In Progress. A final EIS/EIR is scheduled to be completed by July 2013.
Permitting	In Progress. All permits to be secured by August 2013.	Not Started. All permits are scheduled to be secured by December 2014.	Not Started. All permits are scheduled to be secured by March 2015.
Construction	Not Started. Construction scheduled to start in August 2013 and be completed by December 2015.	Not Started. Construction is scheduled to start in May 2015 and be completed by December 2017.	Not Started. Construction is scheduled to start in June 2015 and be completed by December 2017.

Completed Work

Table 3-6 presents the work that has been completed, or is expected to be completed prior to the Grant Award Date (August 15, 2013), for each component of the Berryessa Creek Flood Protection Project. **Tables 3-7** through **3-9** provide additional details for work completed on each of the Project components.

Table 3-6. Completed Work

Component	Complete as of February 1, 2013	To Be Completed Before Grant Award Date (August 15, 2013)
Component 1 – Lower Berryessa Creek Improvements	<ul style="list-style-type: none"> • Planning. All planning for this project is complete. A Planning Study Report for this project component was completed in March 2010. • 60% Design. The 60% design plans and specifications are complete. • Final EIR. A final EIR for this project component was completed in December 2011. 	<ul style="list-style-type: none"> • Final Design. Final design documents are scheduled to be completed in April 2013. • Land Easements. The District is on schedule to complete all required easement acquisitions before August 2013. • Permits. Applicable Fish & Game, RWQCB and USACE 404 permits are scheduled to be secured before August 2013. • Construction Contracting. The District intends to advertise to bid in May 2013 and award the contract in July/August 2013.
Component 2 – Lower Penitencia Creek Improvements	<ul style="list-style-type: none"> • Programmatic CEQA. The Final EIR for Lower Berryessa Creek contains a programmatic component that covers Lower Penitencia Creek. 	<ul style="list-style-type: none"> • Planning. The Lower Penitencia Creek Capacity Restoration Project Definition Report will be finalized in February 2013.
Component 3 – Upper Berryessa Creek Improvements	<ul style="list-style-type: none"> • Planning/CEQA. The Upper Berryessa Creek Project – Draft General Evaluation Report was completed in June 2012. 	<ul style="list-style-type: none"> • Final Feasibility Report. A final feasibility report for the selected alternative is scheduled to be completed by July 2013. • EIS/EIR. A draft EIS/EIR is scheduled to be completed in March 2013 and a final EIS/EIR is scheduled to be completed by July 2013.

Table 3-7. Completed Work for Component 1 – Lower Berryessa

<i>Classification</i>	<i>Sub-Class</i>	<i>Project Management</i>
PROJECT MANAGEMENT AND PLANNING PHASE FILES ARCHIVED EXCEPT THE FOLLOWING:		
PROJECT MANAGEMENT	Correspondence	1-5-00 to 8-11-06 Correspondence with Consultants
PROJECT MANAGEMENT	Correspondence	4-15-02 Correspondence with Concerned Citizens
PROJECT MANAGEMENT	Correspondence	10-16-03 Corresp with Caltrans maintenance of Los Coches Creek, Tularcitos Creek and Calera Creek culverts
PROJECT MANAGEMENT	Outreach	2003 to 2005 Outreach Public Meetings
<i>Classification</i>	<i>Sub-Class</i>	<i>Planning Documents by Chronological Date</i>
PLANNING	Data Collection	March 2000 to March 2001 Plans and Drawings Lower Berryessa Creek
PLANNING	Data Collection	5-1-2001 Milpitas Storm Drain Master Plan
PLANNING	Data Collection	June 7, 2001 FINAL Geotechnical Data Report Calera Creeek Access Bridge
PLANNING	Data Collection	July 23, 2001 DRAFT Prelim Geotech Report and Appendices Berryessa Crk Levee
PLANNING	Data Collection	August 28, 2001 FINAL Prelim Geotech Report and Appendices Berryessa Crk Levee
PLANNING	Planning StudyReport	2003 Comments on PSR
PLANNING	Data Collection	Jan 2003 to March 2006 Design Flow Rate Comparisons Berryessa Creek
PLANNING	Data Collection	3-24-03 TM Baseline Hydraulic Model Hydrology Report Aril 2003 with Addendum Oct 2006
PLANNING	Data Collection	April 2003 to Oct 2006 Berryessa Creek Hydrology Report and Addendum
PLANNING	Data Collection	9-4-03& 11-7-03 Problem Definition, Objectives, Conceptual Alternatives TM
PLANNING	Data Collection	April 2004 -2006 Environmental and Permitting Analysis of 6 Preliminary Analysis of Lower Berryessa Creek
PLANNING	Data Collection	5-20-05 TM Berryessa Creek Levees Evaluation of Preliminary Alternatives
PLANNING	Data Collection	6-16-2005 Calera and Tularcitos Draft Geotech Reports
PLANNING	Data Collection	6-28-05 TM Optional Services #4 Calera and Tularcitos Creeks Existing Conditions
PLANNING	Data Collection	Aug 2005 TM Tularcitos Creek Reach Problem Definition
PLANNING	Data Collection	Aug 2005 TM Calera Creek Reach Problem Definition
PLANNING	Data Collection	10-4-05 Geotechnical Report for Calera and Tularcitos
PLANNING	Data Collection	April 2006 to Oct 2007 Plats and Descriptions
PLANNING	Data Collection	8-10-07 Draft TM Evaluation of Alts Tularcitos

		Creek Reach
PLANNING	Data Collection	8-10-07 Draft TM Evaluation of Alts Calera Creek Reach
PLANNING	Data Collection	10-23-07 Draft TM Evaluation of Alts UPPER Calera Creek Reach
PLANNING	Data Collection	Jan 2008 Preliminary Delineation of Waters of the US for UPPER Calera Creek Reach
PLANNING	Data Collection	11-12-08 Draft TM Evaluation of Alts for UPPER Calera Reach 2
PLANNING	Data Collection	12-31-2009 Draft TM Final Hydraulic Model
PLANNING	Data Collection	1-14-2010 Recommended Alternative Report signed
PLANNING	Data Collection	March 2010 Planning to Design Transition Report Lwr Berryessa Creek and Calera Crk
PLANNING	Data Collection	Dec 2009 and Jan 2010 Planning Study Report QMS Approval Forms signed
Classification	Sub-Class	Design Documents
DESIGN	Utility Coordination	Utility Coordination General
DESIGN	Utility Coordination	Utility Mapping
PERMITS	Encroachment	Fee Title and Right of Way Permits on SCVWD Lands
ENVIRONMENTAL	CEQA/NEPA	2007 Notice of Preparation
ENVIRONMENTAL	CEQA/NEPA	2008 Scoping Report
ENVIRONMENTAL	CEQA/NEPA	2010 Notice of Exemption
ENVIRONMENTAL	CEQA/NEPA	2010 Initial Determination Memo
ENVIRONMENTAL	CEQA/NEPA	2011 EIR Filing Fee
ENVIRONMENTAL	CEQA/NEPA	June 2011 Draft EIR
Classification	Sub-Class	Real Estate Documents
REAL ESTATE	Easements	2010 VTA Grantor to UPRR Grantee Easement
REAL ESTATE	ROW Issues	
		In Shelf Below Files:
PLANNING	Data Collection	9-1-1982 Hydrology Report Berryessa Creek
PLANNING	Data Collection	5-30-1989 Specifications and Contract Docs for Construction of Wrigley Ford Creek
PLANNING	Data Collection	1-1-1990 Geotechnical Report Berryessa Flood Control Improvements
PLANNING	Data Collection	10-1-1990 Sediment Engineering Inv and Prelim Hydraulic Design Berryessa Creek
PLANNING	Data Collection	7-1-1993 CORPS Berryessa Creek Channel Junctions Hydraulic Model Investigation
PLANNING	Data Collection	9-1-1994 Site Safety and Health Plan Berryessa Creek Phase II Haz-Mat Investigation
PLANNING	Data Collection	11-18-1994 Work Plan Phase II Haz-Mat Investigation Berryessa Creek
PLANNING	Data Collection	6-16-1995 Sampling and Monitoring Plan Phase

		II Haz-Mat Investigation Berryessa Crk
PLANNING	Data Collection	10-30-1995 3rd Q Groundwater Sampling Phase II Haz-Mat Investigation Berryessa Crk
PLANNING	Data Collection	1-22-1996 4th Q Groundwater Sampling Phase II Haz-Mat Investigation Berryessa Crk
PLANNING	Data Collection	4-18-1996 1st Q Groundwater Sampling Phase II Haz-Mat Investigation Berryessa Crk
PLANNING	Data Collection	10-1-1996 Prelim Health Risk Assessment Berryessa Creek Flood Control Project
PLANNING	Data Collection	9-15-1997 Construction Residuals Management Plan
PLANNING	Data Collection	9-1-1999 Geologic and Geotechnical Engineering Study Lot 26 Tract 6956
PLANNING	Data Collection	4-1-2000 Specifications and Contract Doc Calera Creek Floodwalls
PLANNING	Data Collection	1-1-2001 Updated Geologic and Geotechnical Engineering Study Lot 26 Tract 6956
PLANNING	Data Collection	4-1-2004 Calera Creek Reconnaissance Study Berryessa Confluence to I-680
PLANNING	Data Collection	12-9-2005 Berryessa Creek Tree Survey
PLANNING	Data Collection	10-29-2008 Geotechnical Investigation Upper Calera Crk R1-2 DRAFT
With Tony Ndah as of 8-29-2011		
PLANNING	Data Collection	7-6-2007 C210 Berryessa Crk Crossings, Abel St Seismic Retrofit and UPPR Reloc 65%
PLANNING	Data Collection	7-31-2007 C210 Berryessa Crk Crossings, Abel St Seismic Retrofit and UPPR Reloc Abel St Overhead Retrofit Structural Design Calcs 65% Submittals
PLANNING	Data Collection	7-31-2007 C210 Berryessa Crk Crossings, Abel St Bridge Seismic Retrofit and UPPR Reloc Berryessa Crk UPPR Culvert Structural Design Calcs 65% Submittals
PLANNING	Data Collection	7-31-2007 C210 Berryessa Crk Crossings, Abel St Bridge Seismic Retrofit and UPPR Reloc Wrigley Creek UPPR Culvert Structural Design Calcs 65% Submittals

Table 3-8. Completed Work for Component 2 – Lower Penitencia

Planning Phase	
Document	Lower Penitencia Creek Project Proposal
Data Collection	Lower Berryessa Creek Project Planning Study Report, March 2010
Data Collection	Lower Berryessa Creek Program EIR, June 2011
Data Collection	hydraulic related
Data Collection	maps
Data Collection	1983-1989 Lower Pen as-builts
Data Collection	2010, 2012 surveys
Data Collection	Lower Penitencia Creek Planning Study Report and Negative Declaration, 1982

Data Collection	Recertification of Provisionally Accredited Levee P52 on Lower Penitencia Creek in Milpitas, Ca, July 2009
Data Collection	Geotechnical Investigation, Lower Penitencia Creek Levee Recertification, July 2009

Table 3-9. Completed Work for Component 3 – Upper Berryessa

FILE NAME		
	<i>Level 1</i>	<i>Level 2</i>
Project Management PM	Agreements	Accounting A2441
	Agreements	Cost Share Agreement A2441S on top of fiing cabinet
	Agreements	Cost Share Agreement A3441S Re-Evaluation PM Plan
	Communication	Internal Communication
	Coordination with Corp	Quarterly Progress Reports
	Correspondence	City of Milpitas
	Correspondence	City of San Jose
	Correspondence	Corps
	Correspondence	HDR
	Correspondence	NHC
	Correspondence	Regulatory Agencies
	Correspondence	Santa Clara County
	Correspondence	Swanson Hydrology
	Correspondence	Tetra Tech
	Legal Requests	Legal Opinion re: Exemption from Section 902 cost limitations
	Meetings	City of Milpitas
	Meetings	City of San Jose
	Meetings	Corps
	Meetings	Regulatory Agencies
	Meetings	VTA
Outreach	Citizen Concerns	
Outreach	Public Meetings	
	Data Collection	Hydrology / Hydraulics
	Data Collection	Maps
	Data Collection	2000 Plan Drawings
	Data Collection	2001 Storm Drain Master Plan City of Milpitas
	Data Collection	Surveys
	Data Collection Reports	2003 Draft Emergency Action Plan
	Data Collection Reports	2004 Economic Analysis
	Data Collection Reports	2004 General Re-Evaluation Report General
	Data Collection Reports	2004 Pre-liminary Draft General Re-Evaluation Report
	Data Collection Reports	2005 Maintenance Guidelines
	Data Collection Reports	2005 Value Engineering Report
	Data Collection Tech Memos	2001 Basin Geomorphology TM
	Data Collection Reports	June 15, 2012 -- Upper Berryessa Creek Project - Draft General Evaluation Report and EIS/EIR
Design	2005 August Prelim Geotech Study - Zone 4 and Engineering Drws	

DE	Design	2005 October VTA Geotechnical Study Zone 5-6
	Design	2006 April 36% Design Submittal
	Design	As-Builts
ENVIRONMENTAL		
	CEQA Process	General
	CEQA Process	2001 Justification Memo
	CEQA Process	2001 NOP
	CEQA Process	2001 Responses to NOP
	CEQA Process	2001 Draft Phase I Environmental Site Assessment
	CEQA Process	2006 Phase II Haz/Mat Materials Investigation
	CEQA Process	June 15, 2012 -- Upper Berryessa Creek Project - Draft General Evaluation Report and EIS/EIR
RE	Real Estate	2005 Feasibility Cost Estimate for LERRDs
PE		

Existing Data and Studies

Numerous studies and investigations have been completed for this Project. The pertinent studies and investigations, listed below, are included in **Appendix 3-1, 3-2, 3-3 and 3-4** to this application.

- Appendix 3-1.A: Lower Berryessa Planning Study Report, March 2010.
- Appendix 3-1.B: Lower Berryessa Creek 60% Design Documents
- Appendix 3-1.C: Lower Berryessa Creek Project EIR, December 2011.
- Appendix 3-1.D: Draft Mitigation and Monitoring Plan, Lower Berryessa Creek. December 2012.
- Appendix 3-2.A: Lower Penitencia Creek Capacity Restoration Project Definition Report (DRAFT), January 2013
- Appendix 3-2.B: Lower Penitencia Creek Planning Study. 1982
- Appendix 3-2.C FEMA Levee Recertification Report. 2009
- Appendix 3-3.A: Draft General Re-Evaluation Report and Environmental Impact Statement / Environmental Impact Report (“GRR Study”), August 2012, August 2012
- Appendix 3-4: Bay Area IRWMP Project Review Process Documents. Draft. December 2012

PROPOSED WORK

The following tasks outline the specific activities that will be performed to implement the Berryessa Creek Flood Protection Project. The work plan is consistent with all eligibility requirements outlined in the Project Solicitation Package (PSP):

- ✓ Designed to manage stormwater runoff to reduce flood damage (PRC §5096.827)
- ✓ Consistent with an adopted IRWM Plan (PRC §5096.8279(e))
- ✓ Consistent with the applicable Regional Water Quality Control Plans (Basin Plans) (PRC §5096.827)
- ✓ Not a part of the State Plan of Flood Control (SPFC) (PRC §5096.827)
- ✓ Yields multiple benefits (CWC Section 83002(a)(2)): flood protection, water quality improvements, ecosystem and restoration benefits, and reduction of in-stream erosion and sedimentation

A. Direct Project Administration Tasks

Task 1 – Project Administration:

Current Status

Project administration activities to-date have focused on coordinating the planning, design and environmental compliance work that has been completed or is on-going for the various project components.

Proposed Work

The project administration tasks include administration of grants and construction contracts, coordination of design contracts, and other administrative activities required to complete the design and construction phases. This project will be coordinated by a designated project manager and unit manager employed by the District to manage both components of the Project. The project manager will be responsible for day-to-day activities of the project, organizing project meetings, reporting to the grant agency, coordinating between parties involved in project implementation, tracking budget, and maintaining compliance with the IRWMP. Additionally, the project manager and unit manager will coordinate with various agencies regarding permit, environmental, design and construction issues.

Deliverables:

- *Meeting agendas, materials and handouts, and meeting notes*
- *Budget tracking and Schedule Updates*
- *Adjustments to contract and management documents*

Task 2 – Labor Compliance Program:

Current Status

The District works to comply with all application laws, including California Labor Code provisions. The District includes prevailing wage requirements in public works project contracts. To demonstrate compliance, the District will register with the California Department of Industrial Relation's Compliance Monitoring Unit for fee based monitoring, consistent with AB 436. Registration will occur at the time of construction contract award. Award of the construction contract for Component 1 (Lower Berryessa Creek Improvements) is currently scheduled for July 2013.

Proposed Work

Not applicable. All work relating to establishment of a Labor Compliance Program will be completed prior to the Grant Award. Program guidelines will be followed for all components of the Project.

Task 3 – Reporting:

Current Status

Project reporting activities to-date have been primarily between project partners and have been focused on the planning, design and environmental compliance work that has been completed or is on-going for the various project components.

Proposed Work

The project manager will prepare and submit quarterly progress reports and invoices for the District to be forwarded to the granting agency. The progress reports will describe activities undertaken for each task when milestones have been achieved and when any problems are encountered in performance of work.

A completion report will be prepared and submitted once the project is complete. Grant requirements and terms of reimbursement payments would be coordinated by the District's Claims and Grants Reimbursement Unit who would serve on behalf of the District as the Grantee for the Proposition 1E Stormwater Flood Management Grant funding.

This task will also include the formation of a data management structure consistent with the IRWMP Guidelines to ensure the proper monitoring and tracking of deliverables. The data management structure will follow the Data Management Section in the Bay Area IRWMP (Section J) and will be coordinated with the granting agency to ensure that its meet the grant requirements. This task will outline the mechanisms by which data will be managed and disseminated to stakeholders and the public and how data collection will support statewide data needs. This will include a discussion of the integration of data into the SWRCB's Surface Water Ambient Monitoring Program, the Groundwater Ambient Monitoring and Assessment Program, and other relevant statewide databases.

Deliverables:

- *Quarterly progress reports and invoices*
- *Annual Report*
- *Final Report*
- *Data Management Structure*

B. Land Purchase/Easement Tasks

Task 4 – Land Acquisition and Easements:

Current Status

The District has initiated work on this Task for Component 1 (Lower Berryessa Creek Improvements) and plans to complete remaining easement work prior to August 2013. These activities include the following:

- The District plans to enter into a Memorandum of Understanding (MOU) with the City regarding acquisition of its easements in exchange for project elements that would provide improvements to and/or retain existing conditions of City facilities.
- The District is in the process of entering into a revocable permit agreement with the San Francisco Public Utilities Commission for improvements that would be within the existing Hetch Hetchy water facilities.
- The District is in the process of acquiring permanent easements from other private entities, including Valley Transportation Agency.

For Component 2 (Lower Penitencia Creek Improvements), the proposed work is expected to be contained within existing Rights-of-Way.

No land acquisition or easement work has been completed to date for Component 3 (Upper Berryessa Creek Improvements).

Proposed Work

Easement work to be completed following the anticipated Grant Award date of August 15, 2012 is for Component 3 (Upper Berryessa Creek Improvements) of the Project.

Subtask 4.1 – Easement Work for Component 1 (Lower Berryessa Creek Improvements)

Not Applicable. As stated above, all easement work for Component 1 of the Project will be completed prior to the grant award date.

Subtask 4.2 – Easement Work for Component 2 (Lower Penitencia Creek Improvements)

Not Applicable. As stated above, the proposed work is expected to be contained within existing Rights-of-Way.

Subtask 4.3 – Easement Work for Component 3 (Upper Berryessa Creek Improvements)

Easement and Rights-of-Way are required to accommodate channel widening, bridge replacement, construction access and staging for Component 3 of the Project. In total, the acquisition of 26 parcels will be required to complete the Upper Berryessa Creek improvements. A listing of these parcels is provided in **Table 3-10**. This listing excludes 11 parcels which are being explored for acquisition by the US Army Corps of Engineers. The Army Corps considered this information to be confidential and would not release it for the purposes of this application.

The District expects to finalize all additional land acquisition and easement documentation for Component 3 of the Project prior to March 2015.

Deliverables:

- *Final Easement and Property Acquisition documents*

Table 3-10. Easement Acquisition

#	Ease. Type	APN	City	Owners	Appraisal Received	Appraised Amt.	Contract Amt.	Offer Date	Agreement Signed	Escrow	Close of Escrow	COMMENTS
1	Perm.	028-12-004	Milpitas	Macerich Milpitas Holding LLC	7/13/2012	\$1,135	1,135.00	2/1/2012 (first offer)	12/21/12	51051284Z	?	Agenda Item in routing and going to the Board on 2/12/13. Going with smaller take area of 169 sq ft., price of \$1,135, reduced from 581 sq ft. 1/9/13 (BRADIE IS GREAT!)
2	Perm.	022-31-020	Milpitas	Investor's Warranty of America	6/28/2011	\$154,000		1/27/12				1/15/13 Extensive comments on docs from seller's attorney (Greg Snitker) sent to B. Hopper. 8/13/12 New offer presented. 8/7/12 BOD Oked offer \$205,042. 0.320 Ac+ PE
3	Perm.	028-01-001	Milpitas	Milpitas Town Center / Shappell Industries	7/20/2011	\$6,200		1/26/12				1/4/13 Per J. Fronen, Hulberg & Co. will provide Stmt of Val. (see 4018-22 for sample)10/1/12-Scope of work standards sent to Hulberg & Co. 9/19/12 MTC to order an independent appraisal. 8/22/12 Counter from MTC \$15,000 + \$10,000 attorney fees. 6/19/12 met w/ D. Cheong-District will pay costs for P/Recon. District cannot pay attorney fees. MAY consider reasonable admin settlement. 0.013 Ac+ PE

#	Ease. Type	APN	City	Owners	Appraisal Received	Appraised Amt.	Contract Amt.	Offer Date	Agreement Signed	Escrow	Close of Escrow	COMMENTS
4	Perm.	028-11-036 028-12-006	Milpitas	City & County of San Francisco	6/14/2011	\$5,500		8/15/11				1/15/13 awaiting for SFPUC 's review of the Revised Revocable Permit 0.323 Ac± PE SFPUC will only give us a Revocable Permit.5/21/12 Brian made edits. SFPUC accepted minor edits; EIR sent to SFPUC. 9/5/12DY asked Dennis for direction
5	Perm.	022-31-017	Milpitas	Santa Clara VTA	7/13/2011	\$14,492		8/19/11				0.043 Ac± PE -11/6/12-Per Ted; Chevron and MCI must agree to allow the District a perm easement over VTA property. This will further hamper their accessibility to access their pipelines. He will advise.
6	Perm.	022-31-017	Milpitas	Santa Clara VTA	N/A							0.218 Ac± PE and 0.257 Ac± deed out. 11/12 meeting with Juantita (VTA) wk of 11/12/12. Both tranactions would be handled together once decision is made about 4017-65.
7	Perm.	022-31-000	Milpitas	Heirs of Weller	6/14/2011	\$12,300						11/19/12 Still awaiting MOU from the City; 5/17/12 Awating MOU from City
8	Perm. & TCE	022-05-080 022-31-029	Milpitas	City of Milpitas	N/A	N/A						11/19/12 Still awaiting MOU from the City; 5/17/12 Awating MOU from City
9	TCE	028-20-002	Milpitas	City of Milpitas	N/A	N/A						11/19/12 Still awaiting MOU from the City; 5/17/12 Awating MOU from City
10	Perm.	028-21-059	Milpitas	City of Milpitas	N/A	N/A						11/19/12 Still awaiting MOU from the City; 5/17/12 Awating MOU from City

#	Ease. Type	APN	City	Owners	Appraisal Received	Appraised Amt.	Contract Amt.	Offer Date	Agreement Signed	Escrow	Close of Escrow	COMMENTS
11	Perm.	028-12-000	Milpitas	City of Milpitas	N/A	N/A						11/19/12 Still awaiting MOU from the City; 5/17/12 Awaiting MOU from City
12	Perm.	028-21-000	Milpitas	City of Milpitas	N/A	N/A						11/19/12 Still awaiting MOU from the City; 5/17/12 Awaiting MOU from City
13	Perm.	028-11-032	Milpitas	City of Milpitas	N/A	N/A						11/19/12 Still awaiting MOU from the City; 5/17/12 Awaiting MOU from City
14	Perm. & TCE	022-31-Street portion	Milpitas	City of Milpitas	N/A	N/A						11/19/12 Still awaiting MOU from the City; 5/17/12 Awaiting MOU from City

COMPLETED

1	Perm.	028-26-001	Milpitas	Felcor of CSS SPE LLC	7/18/2011	\$4,200		1/26/12	6/7/12			Completed - Deed recorded on 8/22/12. 0.010 Ac+ PE
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C. Planning/Design/Engineering/Environmental Documentation Tasks

Task 5 – Assessment and Evaluation:

Current Status

Planning work for Component 1 (Lower Berryessa Creek Improvements) was completed in 2010 with the adoption of the Lower Berryessa Creek Planning Study Report (see **Appendix 3-1.A**).

Preliminary planning work for Component 2 (Lower Penitencia Creek Improvements) will be finalized in February 2013 (see **Appendix 3-2.A** -“The Lower Penitencia Creek Capacity Restoration Project Definition Report”). Work on the Lower Penitencia Creek Planning Study Report is scheduled to begin in 2013.

Preliminary planning for Component 3 (Upper Berryessa Creek Improvements) was completed in June 2012 (see **Appendix 3-3.A** – “The Upper Berryessa Creek Project – Draft General Evaluation Report and Environmental Impact Statement/Environmental Impact Report), and a Final Feasibility Study for the component is scheduled to be completed in July 2013.

Proposed Work

Subtask 5.1 – Planning Work for Component 1 (Lower Berryessa Creek Improvements)

Not Applicable. As stated above, all easement work for Component 1 of the Project was completed in 2010.

Subtask 5.2 – Planning Work for Component 2 (Lower Penitencia Creek Improvements)

This task involves completion of a Planning Study Report for the Lower Penitencia Creek Improvement component of the Project. This report will document hydraulic modeling results, analysis of alternatives and the recommended project and is scheduled to be completed by December 2013.

Subtask 5.3 – Planning Work for Component 3 (Upper Berryessa Creek Improvements)

Not Applicable. A Final Feasibility Study for the Project Component is scheduled to be completed in July 2013, prior to the Grant Award date.

Deliverables:

- *Lower Penitencia Creek Planning Study Report*

Task 6–Design:

Current Status

Design for Component 1 (Lower Berryessa Creek Improvements) is currently in the 90% Design phase (see **Appendix 3-1.B**). Final design for this Component is scheduled to be completed in April 2013.

No design work has been initiated for Component 2 (Lower Penitencia Creek Improvements) and Component 3 (Upper Berryessa Creek Improvements) to date.

Proposed Work

Subtask 6.1 – Design for Component 1 (Lower Berryessa Creek Improvements)

Not Applicable. As stated above, all design work for Component 1 of the Project is scheduled to be completed in April 2013, prior to the Grant Award date.

Subtask 6.2 – Design for Component 2 (Lower Penitencia Creek Improvements)

The design task for Component 2 would include the preparation of 30% (Conceptual) Design, 60% Design, 90% Design, and 100% Design plans and specifications for improvements to Lower Penitencia

Creek. The task would include confirming the basis of design and design criteria for Component 2 by looking at the following elements: hydrologic/hydraulic; civil; geotechnical; structural; existing vegetation removal; re-vegetation and irrigation; construction layout areas and work areas (temporary construction easements); preliminary traffic control plan; environmental mitigation, handling and disposal of hazardous materials; noise and air quality control during construction; and utility relocation requirements and criteria.

Component 2 would generally follow the following technical criteria:

- Provide flood protection for peak design flows
- Use peak design flows developed in Component 3 (Upper Berryessa Creek Improvements)
- Provide freeboard adhering to FEMA standards
- Improve access for long-term channel maintenance
- Reduce need for maintenance as much as possible
- Design to be complimentary to City of Milpitas trail system

Component 2 of the Project will include all necessary tasks to finalize 100% design plans including optimizing the final design, developing plans and specifications for the optimized design, and completing design phase close-out per the District Project Delivery Process. The general scope of work for the completion of the Final Design plans and specifications for Component 2 of the Project includes the specific tasks listed below.

1. Update Design Criteria and Revise Technical Design Memorandum
2. Perform 30%, 60%, 90%, and 100% Design Analysis and Calculations
3. Develop 30%, 60%, 90%, and 100% Plan and Specifications
4. Develop 30%, 60%, 90%, and 100% Construction Cost Estimate
5. Prepare Draft 30%, 60%, 90%, and 100% Design Report
6. Internal Review and Approval of 30%, 60%, 90%, and 100% Design Report (QA/QC)
7. Final Sign-off of Plans and Specifications

The District plans to start design of Component 2 of the Project in February 2014 and anticipates a 100% design completion by February 2015 (see **Table 3-11**).

Table 3-11. Component 2 Design Schedule

Design Submittals	Duration	Start Date	Completion Date
30% Design – Component 2	5 months	January 2014	May 2014
60% Design – Component 2	4 months	June 2014	September 2014
90% Design – Component 2	3 months	October 2014	December 2015
100% Design – Component 2	2 months	January 2015	February 2015

Deliverables:

- *Final Signed 30%, 60%, 90%, and 100% Design Reports, Plans and Specifications for Component 2.*

Subtask 6.3 – Design for Component 3 (Upper Berryessa Creek Improvements)

The design task for Component 3 would include the preparation of 30% (Conceptual) Design, 60% Design, 90% Design, and 100% Design plans and specifications for improvements to Upper Berryessa Creek. The task would include confirming the basis of design and design criteria for Component 3 by looking at the following elements: hydrologic/hydraulic; civil; geotechnical; structural; existing vegetation removal; re-vegetation and irrigation; construction layout areas and work areas (temporary construction easements); preliminary traffic control plan; environmental mitigation, handling and disposal of hazardous materials; noise and air quality control during construction; and utility relocation requirements and criteria.

Component 3 would generally follow the following technical criteria:

- Provide flood protection for peak design flows
- Provide freeboard adhering to FEMA standards
- Improve access for long-term channel maintenance
- Reduce need for maintenance as much as possible
- Design to be complimentary to City of Milpitas trail system

Component 3 of the Project will include all necessary tasks to finalize 100% design plans including optimizing the final design, developing plans and specifications for the optimized design, and completing design phase close-out per the District Project Delivery Process. The general scope of work for the completion of the Final Design plans and specifications for Component 3 of the Project includes the specific tasks listed below.

1. Update Design Criteria and Revise Technical Design Memorandum
2. Perform 30%, 60%, 90%, and 100% Design Analysis and Calculations
3. Develop 30%, 60%, 90%, and 100% Plan and Specifications
4. Develop 30%, 60%, 90%, and 100% Construction Cost Estimate
5. Prepare Draft 30%, 60%, 90%, and 100% Design Report
6. Internal Review and Approval of 30%, 60%, 90%, and 100% Design Report (QA/QC)
7. Final Sign-off of Plans and Specifications

The District plans to start design of Component 3 of the Project in December 2013 and anticipates a 100% design completion by March 2015 (see **Table 3-12**).

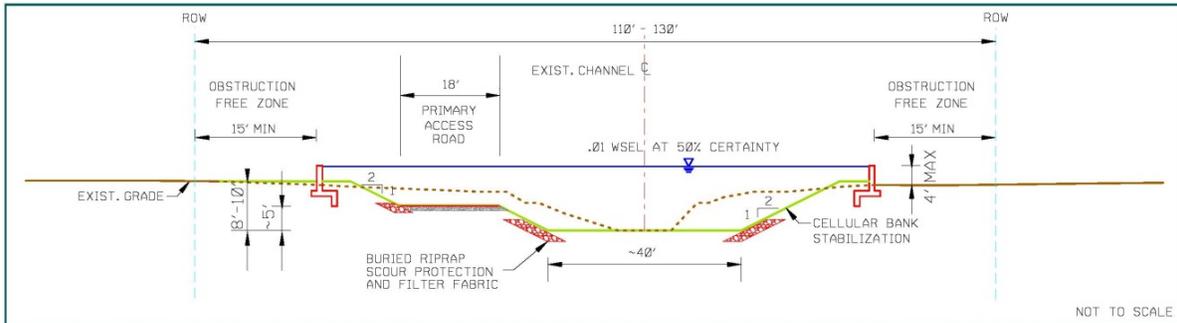
Table 3-12. Component 3 Design Schedule

Design Submittals	Duration	Start Date	Completion Date
30% Design – Component 3	3 months	December 2013	March 2014
60% Design – Component 3	4 months	March 2014	July 2014
90% Design – Component 3	5 months	July 2014	December 2014
100% Design – Component 3	3 months	December 2014	March 2015

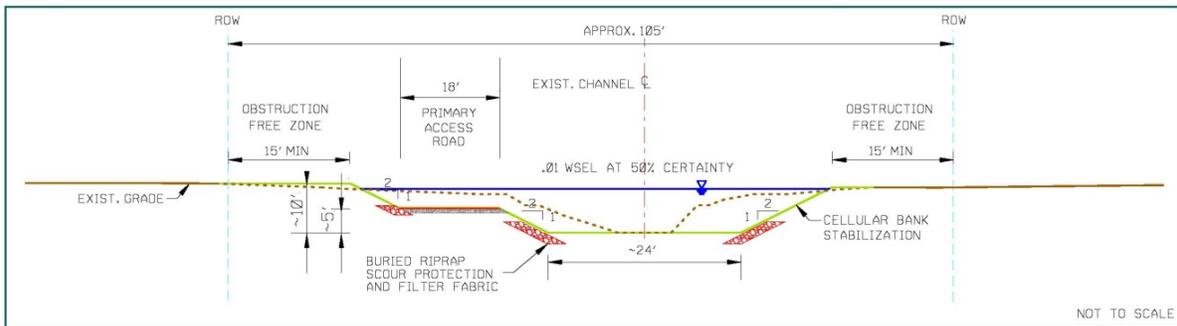
Deliverables:

- *Final Signed 30%, 60%, 90%, and 100% Design Reports, Plans and Specifications for Component 3.*

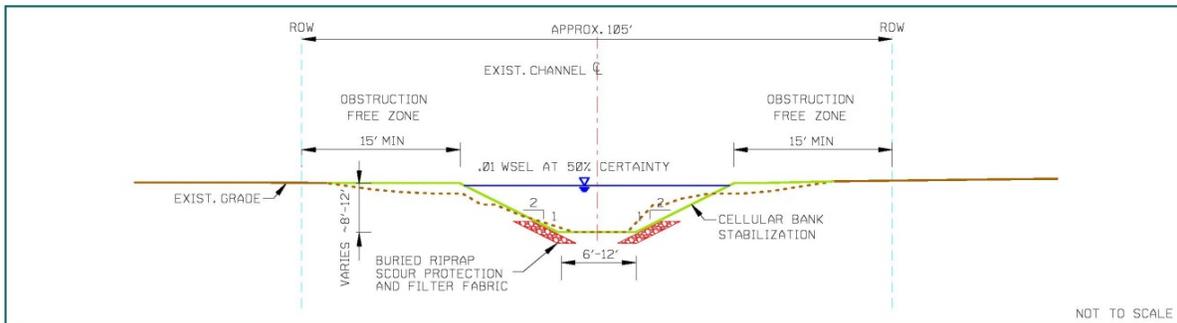
Figure 3-10. Component 3 Typical Sections



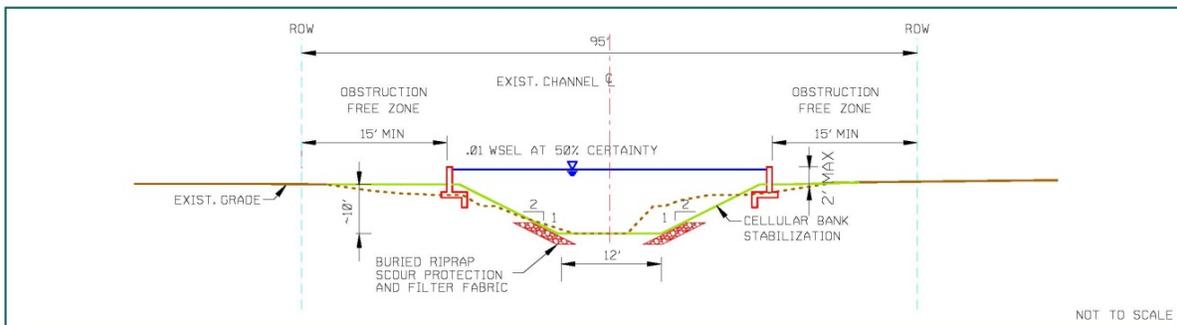
TYPICAL CROSS SECTION, CALAVERAS BLVD TO PIEDMONT CREEK (STA 130 TO 160)



TYPICAL CROSS SECTION, PIEDMONT CREEK TO YOSEMITE DR (STA 160 TO 170)



TYPICAL CROSS SECTION YOSEMITE DR TO I-680 (STA 170 TO 212 AND 214 TO 237)



TYPICAL CROSS SECTION, MONTAGUE EXPY TO 200' UPSTREAM (STA 212 TO 214)

Task 7 – Environmental Documentation:

Current Status

A final Environmental Impact Report (EIR) for Component 1 (Lower Berryessa Creek Improvements) of the Project was completed in December 2011 (see **Appendix 3-1.C**).

The Final EIR for Lower Berryessa Creek contains a programmatic component that covers Lower Penitencia Creek. It is expected that a supplemental EIR will be required. No work on the Supplemental EIR for Component 2 (Lower Penitencia Creek Improvements) has been completed to date.

The District is currently working on a draft EIS/EIR for Component 3 (Upper Berryessa Creek Improvement). A preliminary draft EIS/EIR is included in **Appendix 3-3.A**. A revised draft EIS/EIR is scheduled to be completed by March 2013 and the Final EIS/EIR is scheduled to be completed by July 2013.

Proposed Work

Subtask 7.1 – Environmental Documentation for Component 1 (Lower Berryessa Creek Improvements)

Not Applicable. As stated above, an EIR for Component 1 of the Project was completed in December 2011.

Subtask 7.2 – Environmental Documentation for Component 2 (Lower Penitencia Creek Improvements)

As stated above, a programmatic-level CEQA analysis was completed for Lower Penitencia Creek as part of the Final EIR for Lower Berryessa Creek. It is expected that a supplemental EIR will be required for Component 2. The task would generally include the following activities:

- Preparation of a Project Description and alternatives considered
- Assessment of Cultural and Historic Resources
- Assessment of Biological and Aquatic Resources
- Assessment of Greenhouse Gas/Climate Change Impacts
- Assessment of Hydrology and Water Quality
- Evaluation for the Presence of Hazardous Materials/Sites
- Preparation of a Administrative Draft and Public Draft Supplemental EIR using criteria outlined in Appendix G of the CEQA Guidelines
- Preparation of Final Supplemental EIR and Mitigation Monitoring and Reporting Program (MMRP)

Deliverables:

- *Administrative Draft Supplemental EIR*
- *Public Draft Supplemental EIR*
- *Final Supplemental EIR and MMRP*

Subtask 7.3 – Environmental Documentation for Component 3 (Upper Berryessa Creek Improvements)

Not Applicable. A Final EIS/EIR for the Component 3 is scheduled to be completed in July 2013, prior to the Grant Award date.

Task 8 – Permitting:

Current Status

Construction of Component 1 (Lower Berryessa Creek Improvements) of the Project requires the following permits:

- California Department of Fish and Game (CDFG) Streambed Alteration Agreement
- Regional Water Quality Control Board (RWQCB) permits including:
 - Waste Discharge Requirements and Water Quality Certification
 - 401 Certification
- USACE 404 permit

The District anticipates securing these necessary permits by April 2013.

No permitting work for Component 2 (Lower Penitencia Creek Improvements) or Component 3 (Upper Berryessa Creek Improvements) has been completed to date.

Proposed Work

Subtask 8.1 – Permitting Work for Component 1 (Lower Berryessa Creek Improvements)

Not Applicable. As stated above, all permitting work for Component 1 of the Project is scheduled to be completed by April 2013, prior to the Grant Award Date. Current status is:

- Permit application has been submitted to the Corps for a Section 404 Individual Permit. The Corps posted the required Notification in the Federal Register, and one comment/question was received from EPA. The District's consultant has been coordinating with the Corps to reply, and to facilitate issuance of the 404 IP; however, this has been hampered somewhat by a rather lengthy period of unresponsiveness on the part of the Corps representative. A response was received late last week to the effect that they had not forgotten us.
- The CDFW Lake and Streambed Alteration Agreement (SAA) Notification, i.e., the District's application to CA Fish and Wildlife, (formerly known as CA Fish and Game) is under revision by ESA, based on an earlier round of review and comments by SCVWD staff;
- The application packet to the San Francisco Bay Regional Water Quality Control Board is in preparation by ESA and will incorporate information from the revised SAA Notification to assure consistency;
- Our conceptual Mitigation Monitoring Plan (a necessary component of our application packets to state agencies), prepared here at the District, is with ESA for review to assure consistency with information presented in both state application packets;
- Finalization of both state permit packets is anticipated by the end of this month (Jan), per ESA; and,
- Given ordinary state agency timelines for issuance of permits, and the fact that the District has communicated personally as recently as earlier this month with CDFW and SFBRWQCB staff (Tami Schane and Maggie Beth, respectively) we anticipate receipt of permits by end of April 2013.

Subtask 8.2 – Permitting Work for Component 2 (Lower Penitencia Creek Improvements)

This task involves acquisition of applicable permits for Component 2. These are anticipated to include:

- Secure CDFG Streambed Alteration Agreement
- Secure Regional Water Quality Control Board (RWQCB) permits including:
 - Waste Discharge Requirements and Water Quality Certification
 - 401 Certification
- Secure USACE 404 permit

This task assumes multiple meetings and site walks may be necessary to accommodate regulatory agencies' schedules.

The District plans to start the permitting process for Component 2 in December 2013 and secure all necessary permits by December 2014.

Deliverables:

- *CDFG Streambed Alteration Agreement*
- *RWQCB Permits*
- *USACE 404 Permit*

Subtask 8.3 – Permitting Work for Component 3 (Upper Berryessa Creek Improvements)

This task involves acquisition of applicable permits for Component 3. These are anticipated to include:

- California Department of Fish and Game (CDFG) Streambed Alteration Agreement
- Regional Water Quality Control Board (RWQCB) permits including:
 - Waste Discharge Requirements and Water Quality Certification
 - 401 Certification
- USACE 404 permit
- This task assumes multiple meetings and site walks may be necessary to accommodate regulatory agencies' schedules.

The District plans to start the permitting process for Component 3 in March 2013 and secure all necessary permits by March 2014.

Deliverables:

- *CDFG Streambed Alteration Agreement*
- *RWQCB Permits*
- *USACE 404 Permit*

D. Construction/Implementation Tasks

Task 9 – Construction Contracting:

Current Status

The District plans to initiate construction contracting tasks for Component 1 (Lower Berryessa Creek Improvements) prior to the Grant Award. The District plans to (1) advertise for bids in May 2013 following completion of final design; (2) award the construction contract in July 2013; and (3) issue a Notice to Proceed in August 2013.

No construction contracting activities have been completed for Component 2 (Lower Penitencia Creek Improvements) or Component 3 (Upper Berryessa Creek Improvements) to date.

Proposed Work

Subtask 9.1 – Construction Contracting for Component 1 (Lower Berryessa Creek Improvements)

Not Applicable. As stated above, all permitting work for Component 1 of the Project is scheduled to be completed by August 2013, prior to the Grant Award Date.

Subtask 9.2 – Construction Contracting for Component 2 (Lower Penitencia Creek Improvements)

This task includes all activities necessary to secure a contractor and to award the contract, including: advertisement for bids, a pre-bid meeting, bid opening, bid evaluations, selection of contractor, board approval, award of contract, and notice to proceed. These steps will conform to District Policy & Procedure 4-023, Contract Bid Process and Contract award.

The District plans to (1) advertise for bids in March 2015 following completion of final design; (2) award the construction contract in May 2015; and (3) issue a Notice to Proceed in May 2015.

Deliverables:

- *Site Showing*
- *Pre-Bid Meeting*
- *Letters of Clarification*
- *Addenda (as applicable)*
- *Memo Transmitting Engineer's Estimate*
- *Notice to Proceed*
- *Notice of Completion*

Subtask 9.3 – Construction Contracting for Component 3 (Upper Berryessa Creek Improvements)

This task includes all activities necessary to secure a contractor and to award the contract, including: advertisement for bids, a pre-bid meeting, bid opening, bid evaluations, selection of contractor, board approval, award of contract, and notice to proceed. These steps will conform to District Policy & Procedure 4-023, Contract Bid Process and Contract award.

The District plans to (1) advertise for bids in March 2015 following completion of final design; (2) award the construction contract in May 2015; and (3) issue a Notice to Proceed in June 2015.

Deliverables:

- *Site Showing*
- *Pre-Bid Meeting*
- *Letters of Clarification*
- *Addenda (as applicable)*

- *Memo Transmitting Engineer's Estimate*
- *Notice to Proceed*
- *Notice of Completion*

Task 10 – Construction/Implementation:

Current Status

No construction/implementation work has been initiated for any of the Project components, nor is any construction work anticipated prior to the Grant Award date.

Proposed Work

Construction activities for the Berryessa Creek Flood Protection Project include the following subtasks:

Subtask 10.1 – Mobilization and Site Preparation:

Subtask 10.1.1 – Mobilization for Component 1 (Lower Berryessa Creek Improvements)

Mobilization for the project will include moving the required equipment and materials onto the sites in preparation for construction. The site will be prepared by removing any trash, debris, and other obstructions, clearing and grubbing, and the preparation of a Stormwater Pollution Prevention plan (SWPPP). Services will also include attending the preconstruction meeting, review General Contractor technical submittals, and responding to technical questions and request for information.

The District expects to initiate mobilization for Component 1 in August 2013.

Deliverables:

- *SWPPP*
- *Pre-Construction meeting*

Subtask 10.1.2 – Mobilization for Component 2 (Lower Penitencia Creek Improvements)

Mobilization for the project will include moving the required equipment and materials onto the sites in preparation for construction. The site will be prepared by removing any trash, debris, and other obstructions, clearing and grubbing, and the preparation of a SWPPP. Services will also include attending the preconstruction meeting, review General Contractor technical submittals, and responding to technical questions and request for information.

The District expects to initiate mobilization for Component 2 in May 2015.

Deliverables:

- *SWPPP*
- *Pre-Construction meeting*

Subtask 10.1.3 – Mobilization for Component 3 (Upper Berryessa Creek Improvements)

Mobilization for the project will include moving the required equipment and materials onto the sites in preparation for construction. The site will be prepared by removing any trash, debris, and other obstructions, clearing and grubbing, and the preparation of a SWPPP. Services will also include attending the preconstruction meeting, review General Contractor technical submittals, and responding to technical questions and request for information.

The District expects to initiate mobilization for Component 3 in June 2015.

Deliverables:

- *SWPPP*
- *Pre-Construction meeting*

Subtask 10.2 – Project Construction:

Subtask 10.2.1 – Construction of Component 1 (Lower Berryessa Creek Improvements)

Implementation of Component 1 of the Project would require the District’s contractor to furnish all materials, equipment, labor, supervision, services and all other appurtenances necessary for construction of the improvements for Lower Berryessa Creek and its tributaries. Work incidental to the construction would include constructing temporary fences, where appropriate, maintaining existing roads, maintaining protective devices to safeguard the public, providing detours as necessary, protecting sub-surface utilities and structures, taking care of groundwater and draining of the work area, and performing all other work necessary and proper for the prosecution and completion of the Project.

The District expects to initiate construction for Component 1 in August 2013. **Table 3-13** highlights the major construction activities for each reach of the Lower Berryessa Project.

Table 3-13. Construction Activities for Component 1

Lower Berryessa Creek Improvements by Reach		
Lower Berryessa Creek	Calera Creek	Tularcitos Creek
<ul style="list-style-type: none"> • Widen the channel • Construct a floodwall on the west side and raise the existing levee on the east side • Construct 6-foot and 18-foot wide vegetated benches approximately 2 feet above the low flow channel towards the east side of the channel • Raise an existing pedestrian bridge to allow for easier maintenance access • Construct 18-foot wide maintenance roads for both sides of the channel 	<ul style="list-style-type: none"> • Construct floodwalls at both sides of the channel • Construct 15- to 30-foot wide vegetated benches • Construct an 18-foot wide maintenance road along one side of the channel • Construct a 5-foot wide maintenance path along the other side of the channel • Raise an existing maintenance road bridge 	<ul style="list-style-type: none"> • Construct a stormwater pump station • Construct floodwalls • Provide maintenance roads on both sides of the channel • Raise an existing pedestrian bridge

Subtask 10.2.2 – Construction of Component 2 (Lower Penitencia Creek Improvements)

Implementation of Component 2 of the Project would require the District’s contractor to furnish all materials, equipment, labor, supervision, services and all other appurtenances necessary for construction of the improvements for Lower Penitencia Creek. Work incidental to the construction would include

constructing temporary fences, where appropriate, maintaining existing roads, maintaining protective devices to safeguard the public, providing detours as necessary, protecting sub-surface utilities and structures, taking care of groundwater and draining of the work area, and performing all other work necessary and proper for the prosecution and completion of the Project.

The District expects to initiate construction for Component 2 in July 2015. The contractor’s activities would include, but are not limited to:

- Removing sediment and vegetation;
- Partial widening of channel; and
- Improving maintenance access.

Subtask 10.2.3 – Construction of Component 3 (Upper Berryessa Creek Improvements)

Implementation of Component 3 of the Project would require the District’s contractor to furnish all materials, equipment, labor, supervision, services and all other appurtenances necessary for construction of the improvements for Upper Berryessa Creek. Work incidental to the construction would include constructing temporary fences, where appropriate, maintaining existing roads, maintaining protective devices to safeguard the public, providing detours as necessary, protecting sub-surface utilities and structures, taking care of groundwater and draining of the work area, and performing all other work necessary and proper for the prosecution and completion of the Project.

The District expects to initiate construction for Component 3 in June 2015. **Table 3-14** highlights the major construction activities for each reach of the Upper Berryessa Project.

Table 3-14. Construction Activities for Component 3

Reach	Upper Berryessa Creek Construction Activities
Calaveras Blvd to Los Coches Street	<ul style="list-style-type: none"> • Widen channel to provide a 40-foot bottom width with cellular bank protection at 2:1 slope • Construct floodwalls up to 4 feet
Los Coches Street to Yosemite Drive	<ul style="list-style-type: none"> • Widen channel to provide a 26-foot bottom width with cellular bank protection at 2:1 slope
Yosemite Drive to Montague Expressway	<ul style="list-style-type: none"> • Widen channel to provide a 15-foot bottom width with cellular bank protection at 2:1 slope • Replace Montague Expressway culvert • Replace Union Pacific Railroad (UPRR) trestle
Montague Expressway to Interstate 680	<ul style="list-style-type: none"> • Widen channel to provide a 12-foot bottom width with cellular bank protection at 2:1 slope • Construct floodwalls up to 2 feet

Figure 3-11. Schematic View of Channel Configuration



Figure 3-12. Schematic View of Ames Avenue Bridge Modifications



Subtask 10.3 – Performance Testing and Demobilization:

Subtask 10.3.1 – Demobilization for Component 1 (Lower Berryessa Creek Improvements)

The long-term operation of the constructed project will be administered in accordance to District's Stream Maintenance Program. This Program applies to all of the District's routine stream maintenance activities, including major activities such as sediment removal, vegetation management, and bank protection. Many of these activities are undertaken to ensure flood conveyance capacity is maintained in existing streams. In addition, routine maintenance includes vegetation removal in and around the streams within District's jurisdiction to ensure appropriate access and fire control. For further details on performance measures and monitoring plans in relation to this Project see **Attachment - 6 Monitoring, Assessment, and Performance Measures**.

Demobilization for the Contractor will include removal of all equipments at post construction, finalization per SWPPP requirements, and final inspection by appropriate Water District personnel and other partner agencies/entities.

Deliverables:

- *Project Construction Closeout*

Subtask 10.3.2 – Demobilization for Component 2 (Lower Penitencia Creek Improvements)

The long-term operation of the constructed project will be administered in accordance to District's Stream Maintenance Program. This Program applies to all of the District's routine stream maintenance activities, including major activities such as sediment removal, vegetation management, and bank protection. Many of these activities are undertaken to ensure flood conveyance capacity is maintained in existing streams. In addition, routine maintenance includes vegetation removal in and around the streams within District's jurisdiction to ensure appropriate access and fire control. For further details on performance measures and monitoring plans in relation to this Project see **Attachment - 6 Monitoring, Assessment, and Performance Measures**.

Demobilization for the Contractor will include removal of all equipments at post construction, finalization per SWPPP requirements, and final inspection by appropriate Water District personnel and other partner agencies/entities.

Deliverables:

- *Project Construction Closeout*

Subtask 10.3.3 – Demobilization for Component 3 (Upper Berryessa Creek Improvements)

The long-term operation of the constructed project will be administered in accordance to District's Stream Maintenance Program. This Program applies to all of the District's routine stream maintenance activities, including major activities such as sediment removal, vegetation management, and bank protection. Many of these activities are undertaken to ensure flood conveyance capacity is maintained in existing streams. In addition, routine maintenance includes vegetation removal in and around the streams within District's jurisdiction to ensure appropriate access and fire control. For further details on performance measures and monitoring plans in relation to this Project see **Attachment - 6 Monitoring, Assessment, and Performance Measures**.

Demobilization for the Contractor will include removal of all equipments at post construction, finalization per SWPPP requirements, and final inspection by appropriate Water District personnel and other partner agencies/entities.

Deliverables:

- *Project Construction Closeout*

E. Environmental Compliance/Mitigation/Enhancement Tasks

Task 11 – Environmental Compliance/Mitigation/Enhancement:

Current Status

A draft mitigation and monitoring plan (MMP) was completed for Component 1 (Lower Berryessa Creek Improvements) in December 2012 (see **Appendix 3-1.D**). A final MMP is anticipated to be completed in April 2013. No actual mitigation measures have been implemented to date.

No environmental mitigation work has been completed to date for Component 2 (Lower Penitencia Creek Improvements).

The District is currently working on a draft MMP for Component 3 (Upper Berryessa Creek improvements). A final MMP is anticipated to be completed by July 2013. No actual mitigation measures have been implemented to date.

Proposed Work

Subtask 11.1 – Environmental Mitigation for Component 1 (Lower Berryessa Creek Improvements)

Mitigation requirements for Component 1 of the Project are outlined in the MMRP and the draft MMP, which are provided in **Appendix 3-1.D**. All anticipated impacts to fish, wildlife, and plant resources in the Project area will be temporary only. At the conclusion of project construction, natural streambed contours will become established, and open water habitat will return; and, as water returns to the channel and brings sediment with it, subsequent wetland re-vegetation by natural recruitment is anticipated.

The District considers the proposed mitigation as sufficient to address the anticipated temporary impacts, when viewed in light of: 1) avoidance of all permanent impacts; 2) the expectation of successful habitat recovery following project completion; and, 3) the proposed compensatory mitigation through the establishment of riparian vegetation where none now exists.

Mitigation Measure 3.D-4b: *Compensate for Loss [of Jurisdictional Waters]*

“Prior to construction of the Program, the District shall obtain permits and authorizations from the Corps, SFBRWQCB, and CDFG. Consistent with the terms and conditions of these permits and authorizations, the District shall compensate for the unavoidable loss of jurisdictional waters at a minimum of a 1:1 ratio. Compensation may be provided by one or more of the following methods: 1) on-site creation or restoration; 2) off-site creation, or restoration; or, 3) payment to an approved wetland mitigation bank. A mitigation and monitoring plan (MMP) shall be developed that describes how temporary and permanent impacts shall be compensated for, including active seeding or planting in the event that natural recruitment does not occur as anticipated within the first two years following construction, and shall present a feasible revegetation plan with monitoring protocols to ensure the Program does not result in a net loss of jurisdictional waters.”

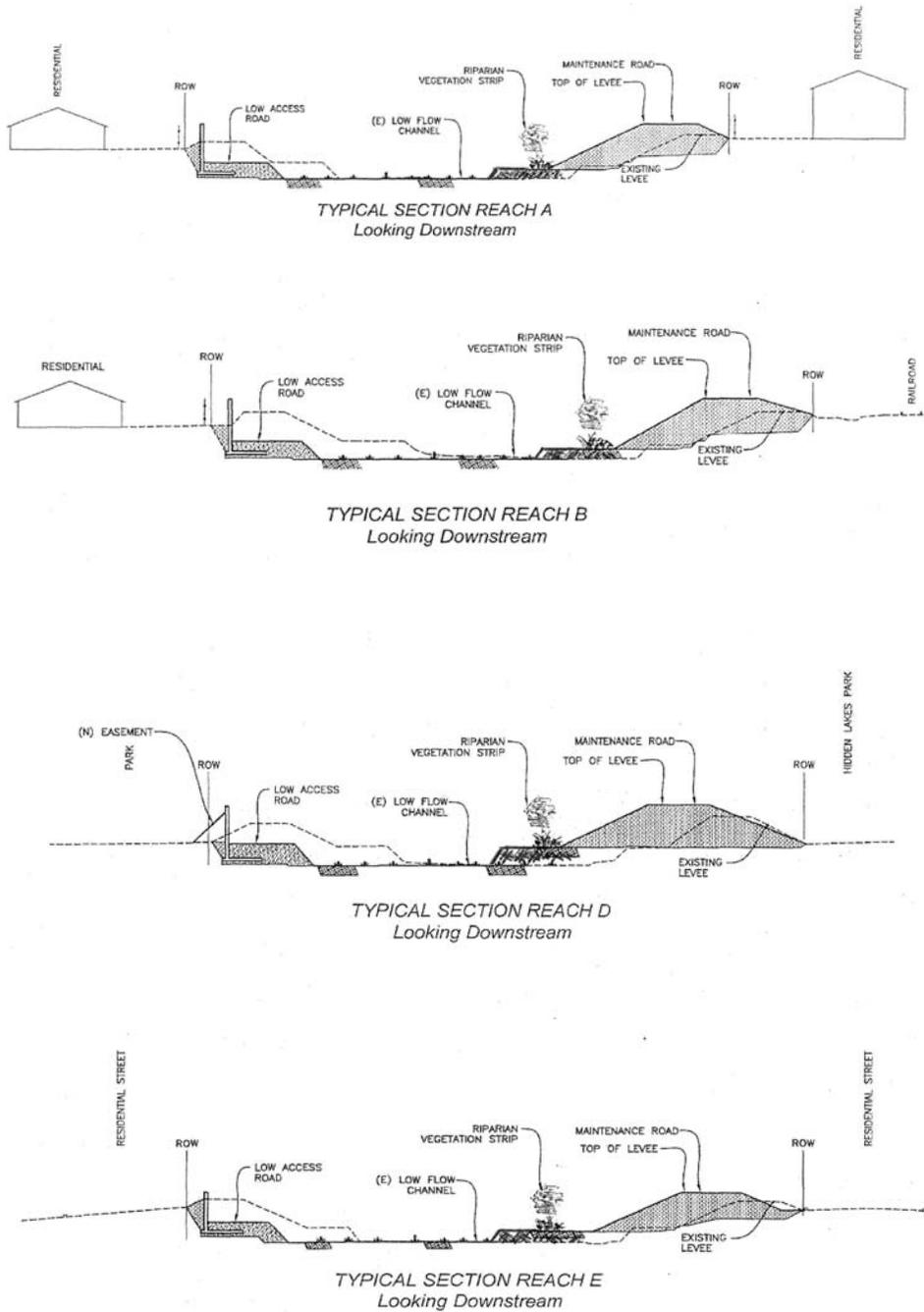
Mitigation Measure 3.D-6a: *Tree and Shrub Replacement*

“Prior to the start of construction, the District shall have a qualified biologist conduct a survey to identify the trees and shrubs that would be removed during construction. Trees shall be identified by species and a determination shall be made of areal coverage of the tree canopy. The District shall prepare a tree replacement plan that requires planting of: 1) trees of species similar to those removed, or of a native species; and, 2) complimentary shrubs. Replacement shall be at a minimum, anticipated 1:1 areal coverage ratio at maturity. Following initial excavation and earthwork, tree and shrub replacement shall include tree, shrub, and other plantings in suitable areas located off of levee

slopes. The plantings shall reflect the structure and density of trees and shrubs as identified in the preconstruction survey, such that the overall character, and quality, of views from the creek roads/trails are restored on-site, to the extent feasible. Where planting trees and shrubs within the same site, or within the District's ROW, is not feasible (e.g. on the levee slope within the District ROW that could reduce channel capacity, as described in Section 2.E, Program Description [of the EIR] where soils within the ROW would not support plantings; or where plantings would compromise the objectives of the Program), the District shall coordinate with the City of Milpitas to find suitable, alternative location(s) for the replacement plantings. The District shall monitor tree replacement plantings annually for a minimum of three years after completion of construction to ensure establishment of the plantings and, if necessary, shall replant to ensure the success of the replacement plantings."

Mitigation for the temporary impacts to 5.20-acres of fresh and tidal wetlands will be satisfied through post-construction natural recruitment within the widened channels of the Project area (for a total of 5.28 *additional* instream acres). Mitigation for the removal of mostly exotic landscape trees and shrubs in upland habitat will be accomplished through the value-added installation of riparian vegetation on low, earthen benches (see **Figure 3-13**). This vegetation will include native woody and herbaceous plants.

Figure 3-13. Low Bench Schematics for Riparian Revegetation



In order to determine whether mitigation goals are being achieved, it is necessary to set success criteria. The monitoring of revegetation activities and the success of the revegetation activities will be evaluated against baseline conditions identified in the FEIR, wetland delineation and other environmental documentation prepared in coordination with the project. Success criteria include:

- At least 50 percent survival of installed plants for the first three years following planting;
- At least 50 percent native plant cover at the end of the five-year monitoring period;
- Excessive rills, gullies or other erosion features will not be allowed to persist within revegetation areas for each monitoring year;
- Irrigation must be removed or turned off for a minimum of two consecutive years, and the mitigation areas must meet all other criteria during this period; and,
- Plants replacing individuals from the original installation that have died over the course of the monitoring period shall be monitored subject to the same criteria as the original installation for a period of five years from their date of planting, but may be curtailed as soon as project cover success criteria are met.

In addition to the implementing the above mitigation measures, this task will include the LOMR application process, which requires that the City of Milpitas complete and submit a formal set of the technical support data and application forms. A LOMR must be requested by the affected community(ies) because the community is responsible for the adoption of the revised flood hazard information into the community's floodplain management ordinances and regulations. The City is the designated responsible person of each local agency. However, the District will undertake the roles and responsibilities in preparing and submitting the package, providing response to review comments, and coordinating with FEMA officials during the review period. The District has been the local lead agency in the acquisition of CLOMRs and LOMRs for several other communities within its service area. The minimum requirements are the same as those required for the final revision (LOMR) under Sections 65.5, 65.6, and 65.7 of the NFIP regulations, except that as-built certification is not required. After issuance of a CLOMR, all technical support data, including but not limited to, revised HEC-1 and 2 data, planning level design analyses and calculations for new/revised project features, topographic mapping, and surveys for changes made to the proposed project should be incorporated into the LOMR package for final review.

Deliverables:

- *Monitoring Reports*
- *Meeting Minutes*
- *Construction Compliance Report*
- *Preconstruction Survey Reports*
- *LOMR Package*

Subtask 11.2 – Environmental Mitigation for Component 2 (Lower Penitencia Creek Improvements)

At this time, mitigation measures required for the construction of Component 2 of the Project have not been defined. The MMRP and MMP will be completed as part of the Environmental Compliance work (see Task 7) which is scheduled to be completed in June 2014. However, it is likely that the mitigation measures will be similar to those required for Component 1 (i.e., Compensate for the Loss of Jurisdictional Waters and Tree and Shrub Replacement). Refer to Subtask 11.1 for details on these mitigation measures.

In addition to the implementing the above mitigation measures, this task will include the LOMR application process, which requires that the City of Milpitas complete and submit a formal set of the technical support data and application forms. A LOMR must be requested by the affected community(ies) because the

community is responsible for the adoption of the revised flood hazard information into the community's floodplain management ordinances and regulations. The City is the designated responsible person of each local agency. However, the District will undertake the roles and responsibilities in preparing and submitting the package, providing response to review comments, and coordinating with FEMA officials during the review period. The District has been the local lead agency in the acquisition of CLOMRs and LOMRs for several other communities within its service area. The minimum requirements are the same as those required for the final revision (LOMR) under Sections 65.5, 65.6, and 65.7 of the NFIP regulations, except that as-built certification is not required. After issuance of a CLOMR, all technical support data, including but not limited to, revised HEC-1 and 2 data, planning level design analyses and calculations for new/revised project features, topographic mapping, and surveys for changes made to the proposed project should be incorporated into the LOMR package for final review.

Deliverables:

- *Monitoring Reports*
- *Meeting Minutes*
- *Construction Compliance Report*
- *Preconstruction Survey Reports*
- *LOMR Package*

Subtask 11.3 – Environmental Mitigation for Component 3 (Upper Berryessa Creek Improvements)

Mitigation requirements for Component 3 of the Project are outlined in the MMRP and the draft MMP, which is scheduled to be completed by July 2013. Although the MMRP and MMP are not yet final, it is likely that the mitigation measures will be similar to those required for Component 1 (i.e., Compensate for the Loss of Jurisdictional Waters and Tree and Shrub Replacement). Refer to Subtask 11.1 for details on these mitigation measures.

In addition to the implementing the above mitigation measures, this task will include the LOMR application process, which requires that the City of Milpitas complete and submit a formal set of the technical support data and application forms. A LOMR must be requested by the affected community(ies) because the community is responsible for the adoption of the revised flood hazard information into the community's floodplain management ordinances and regulations. The City is the designated responsible person of each local agency. However, the District will undertake the roles and responsibilities in preparing and submitting the package, providing response to review comments, and coordinating with FEMA officials during the review period. The District has been the local lead agency in the acquisition of CLOMRs and LOMRs for several other communities within its service area. The minimum requirements are the same as those required for the final revision (LOMR) under Sections 65.5, 65.6, and 65.7 of the NFIP regulations, except that as-built certification is not required. After issuance of a CLOMR, all technical support data, including but not limited to, revised HEC-1 and 2 data, planning level design analyses and calculations for new/revised project features, topographic mapping, and surveys for changes made to the proposed project should be incorporated into the LOMR package for final review.

Deliverables:

- *Monitoring Reports*
- *Meeting Minutes*
- *Construction Compliance Report*
- *Preconstruction Survey Reports*
- *LOMR Package*

F. Construction Administration Tasks

Task 12 – Construction Administration:

Current Status

No construction administration activities have been completed for any of the Project components.

Proposed Work

Subtask 12.1 – Construction Administration for Component 1 (Lower Berryessa Creek Improvements)

Construction administration activities will include District construction management and project management. The District's construction management department will oversee the construction sites, provide daily on-site observation, coordinate with contractors, review schedules, prepare construction-related invoices, and provide inspection services to ensure construction is in compliance with District, SWPPP and other agencies' standards. The project manager will complete quarterly and annual progress reports to accompany invoices to the State. The project manager will require the construction management services to submit quarterly progress reports to accompany each invoice.

Deliverables:

- *Contractor quarterly progress reports and invoices*

Subtask 12.2 – Construction Administration for Component 2 (Lower Penitencia Creek Improvements)

Construction administration activities will include District construction management and project management. The District's construction management department will oversee the construction sites, provide daily on-site observation, coordinate with contractors, review schedules, prepare construction related invoices, and provide inspection services to ensure construction is in compliance with District, SWPPP and other agencies' standards. The project manager will complete quarterly and annual progress reports to accompany invoices to the State. The project manager will require the construction management services to submit quarterly progress reports to accompany each invoice.

Deliverables:

- *Contractor quarterly progress reports and invoices*

Subtask 12.3 – Construction Administration for Component 3 (Upper Berryessa Creek Improvements)

Construction administration activities will include District construction management and project management. The District's construction management department will oversee the construction sites, provide daily on-site observation, coordinate with contractors, review schedules, prepare construction related invoices, and provide inspection services to ensure construction is in compliance with District, SWPPP and other agencies' standards. The project manager will complete quarterly and annual progress reports to accompany invoices to the State. The project manager will require the construction management services to submit quarterly progress reports to accompany each invoice.

Deliverables:

- *Contractor quarterly progress reports and invoices*

Other Project Information Requested by PSP

The following sections provide other project information specifically requested by the PSP

Project Coordination with Partners:

The District currently meets with the City of San Jose and the County of Santa Clara on a monthly basis to coordinate Project development and implementation. This coordination will be continued throughout Project development and implementation, and may be increased during periods of intense activity.

Standards that Will be Used In Implementation:

The design of each Project component will be completed using the District and applicable USACE design standards. Project implementation will comply with industry construction standards as well as health and safety measures. In addition, CalTrans state specifications will be followed. Additional industry standards that will be applied include State of California Department of Transportation Standard Specifications and Plans (Caltrans), Manual on Uniform Traffic Control Devices (MUTCD), structural standards such as AISC, AWC, ACI, California Stormwater Quality Association BMP standards (CASQA), etc.

Performance Measures and Monitoring Plans:

Details on performance measures and monitoring plans in relation to this Project see **Attachment - 6 Monitoring, Assessment, and Performance Measures.**

Deliverables to DWR:

- Quarterly, Annual and Final Progress Reports
- Final Design Documents
- As-Builts

APPENDIX 3-1: Component 1 (Lower Berryessa) Technical Documents

Provided on Attached CD as follows:

- **Appendix 3-1.A: Lower Berryessa Planning Study Report - Att3_SWF_WorkPlan_2of10**
- **Appendix 3-1.B: Lower Berryessa Creek 60% Design Documents - Att3_SWF_WorkPlan_3of10**
- **Appendix 3-1.C: Lower Berryessa Creek Project EIR - Att3_SWF_WorkPlan_4of10**
- **Appendix 3-1.D: Draft Mitigation and Monitoring Plan, Lower Berryessa Creek - Att3_SWF_WorkPlan_5of10**

APPENDIX 3-2: Component 2 (Lower Penitencia) Technical Documents

Provided on Attached CD as follows:

- **Appendix 3-2.A: Lower Penitencia Creek Capacity Restoration Project Definition Report (DRAFT) - Att3_SWF_WorkPlan_6of10**
- **Appendix 3-2.B: Lower Penitencia Creek Planning Study - Att3_SWF_WorkPlan_7of10**
- **Appendix 3-2.C FEMA Levee Recertification Report - Att3_SWF_WorkPlan_8of10**

APPENDIX 3-3: Component 3 (Upper Berryessa) Technical Documents

Provided on Attached CD as follows:

- **Appendix 3-3.A: Draft General Re-Evaluation Report and Environmental Impact Statement / Environmental Impact Report (“GRR Study”) - Att3_SWF_WorkPlan_9of10**

APPENDIX 3-4: Other Technical Documents

Provided on Attached CD as follows:

- **Appendix 3-4: Bay Area IRWMP Project Review Process Documents. Draft - Att3_SWF_WorkPlan_10of10**