



March 8, 2013

Margarete Beth
Water Quality Certification
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: Notification of Streambed Alteration for the San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project, San Mateo and Santa Clara Counties, CA

Dear Ms. Beth:

Enclosed is an application for Clean Water Act, Section 401 Water Quality for the San Francisquito Creek Joint Powers Authority San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project located in San Mateo and Santa Clara Counties, California.

The project proposes to increase the Creek's capacity by degrading a portion of an unmaintained levee downstream of Friendship Bridge, excavating sediment deposits within the channel, rebuilding levees and relocating a portion of the southern levee, and constructing floodwalls in the upper reach of the Creek. The goal of the project is to improve flood protection, habitat, and recreational opportunities within the Project reach. The Project would ultimately improve channel capacity for creek flows coupled with the influence of the tides of San Francisco Bay, including projected Sea Level Rise (SLR), from the downstream face of East Bayshore Road to San Francisco Bay. It would reduce local fluvial flood risks in the Project area during storm events, provide the capacity needed for future upstream improvements, increase and improve ecological habitat, and provide for improved recreational opportunities.

The Proposed project would directly affect 8.56 acres of water of the State. Permanent impacts would total 7.96 acres and temporary impacts would total 0.60 acres. The SFCJPA proposes to create 14.63 acres of marshplain habitat within San Francisquito Creek adjacent to the Faber-Laumeister Tract to the north. The current project schedule anticipates construction will start in September 2013, but could start sooner if possible. An Individual Permit requesting authorization for the project under Section 404 of the Clean Water Act has been sent to Ian Liffmann at the San Francisco District, U.S. Army Corps of Engineers, and a Lake and Streambed Alteration Notification has been sent to Tami Schane at the California Department of Fish and Wildlife. Additional permit applications are being sent to the Bay Conservation and Development Commission.

A check in the amount of \$59,000 is enclosed using the fee calculator spreadsheet. The 401 Water Quality Certification application fee includes a \$944 base fee plus a fee equal to the Discharge Area Acres x \$4,059. As the preliminary estimate of the affected area within State jurisdiction is 33.01

Ms. Margarete Beth
March 8, 2013
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Acres this fee would exceed the \$59,000 cap on RWQCB fees ($33.01 \times \$4,059 + \$944 = \$134,931.59$). Hence, the application fee enclosed is for \$59,000.

Attached to the 401 Certification Application Form are the following appendices:

- Figures showing the project location; waters of the State, project plans and profiles; project impacts; and revegetation/restoration plan
- Representative Photographs
- Fee Calculator Spreadsheet
- Notice of Determination

This package also includes two Compact Discs:

Disc 1:

- Environmental Impact Report
- Copy of Individual Permit Application sent to the U.S. Army Corps of Engineers
- Copy of Notification for Streambed Alteration Agreement sent to the Department of Fish and Game

Disc 2:

- Biological Assessment,
- Wetland Delineation Report
- Hydraulic Analysis

If you have any questions regarding this application package please contact Kevin Murray at (650) 324-1972 or me at (408) 216-2815. Thank you for your assistance.

Sincerely,



Matthew Jones
Project Manager

cc: Kevin Murray, SFCJPA, Project Manager/Applicant

STATE OF CALIFORNIA – CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD
 1515 CLAY STREET, SUITE 1400
 OAKLAND, CALIFORNIA 94612

**APPLICATION FOR 401 WATER QUALITY CERTIFICATION
 AND/OR REPORT OF WASTE DISCHARGE**

(FORM R2C502-E)

1. APPLICANT'S NAME Kevin Murray, San Francisquito Creek Joint Powers Authority	4. AUTHORIZED AGENT'S NAME AND TITLE (an agent is not required) Matthew Jones, ICF International
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2. APPLICANT'S ADDRESS 615 B Menlo Avenue Menlo Park, Ca 94025	5. AGENT'S ADDRESS 75 East Santa Clara St., Suite 300 San Jose, Ca 95113
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3. APPLICANT'S PHONE & FAX NOS. (email optional) 650.324.1972	6. AGENT'S PHONE & FAX NOS. (email optional) 408.216.2815
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7. STATEMENT OF AUTHORIZATION
 I hereby authorize _____ N/A _____ to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE **DATE**
 (This must be signed by the Applicant, not the authorized agent)

PROJECT OR ACTIVITY INFORMATION

8. PROJECT NAME OR TITLE (See Instructions.)
 San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project

9. NAME OF AFFECTED WATERBODY(IES) (See instructions.) San Francisquito Creek, South San Francisco Bay, Faber Tract And Associated Unnamed Sloughs	10. PROJECT STREET ADDRESS (if applicable) See Box 13
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11. LOCATION OF PROJECT

<u>San Mateo</u> COUNTY	<u>Palo Alto</u> CITY/TOWN (or unincorporated)	<u>Region 2 – San Francisco Bay</u> REGIONAL WATER BOARD REGION
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12. OTHER LOCATION DESCRIPTIONS (watershed, latitude & longitude, river mile, etc. Attach map. See instructions.)
 San Francisquito Creek Watershed, 200 feet upstream of East Bayshore and Highway 101 Bridge to San Francisco Bay. See the Additional Pages; Box 12: Project Location, for more details.

13. DIRECTIONS TO THE SITE

From Highway 101 North: Take the Embarcadero Road exit. Keep left at the fork and follow signs for Embarcadero Road. Then, keep right at the fork and follow signs for Embarcadero Road East and merge onto Embarcadero Road. Take a left onto Geng Road and follow to the end of the road.

From Highway 101 South: Take the Embarcadero Road/Oregon Expressway. Keep left at the fork and follow signs for Embarcadero Road East, then merge on Embarcadero Road. Take a left onto Geng Road and follow to the end of the road.

14. PROJECT PURPOSE (Describe the reason or purpose for the overall project. See instructions.)

The Project would ultimately improve channel capacity for Creek flows coupled with the influence of the tides of San Francisco Bay, including projected Sea Level Rise (SLR), from the downstream face of East Bayshore Road to San Francisco Bay. It would reduce local fluvial flood risks in the action area during storm events, provide the capacity needed for future upstream improvements, increase and improve ecological habitat, and provide for improved recreational opportunities

15. DESCRIPTION OF ACTIVITY AND ENVIRONMENTAL IMPACTS (Provide a full, technically accurate description of the entire activity and associated environmental impacts. See instructions.)

The San Francisquito Creek Joint Powers Authority (SFCPJA) proposes the San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project San Francisco Bay to Highway 101 (Project). This Project would increase conveyance and retention capacity of floodwaters from runoff and San Francisco Bay tides to protect residents and property from flood events along the lower section of the Creek, from East Bayshore Road to the San Francisco Bay. An Environmental Impact Report was approved October 25, 2012 . Work within the project boundary includes the following activities:

- Degrading a portion of an unmaintained levee downstream of Friendship Bridge to allow flood flows from the Creek channel into the Palo Alto Baylands Preserve north of the Creek.
- Excavating sediment deposits within the channel to maximize conveyance.
- Rebuilding levees and relocating a portion of the southern levee to widen the channel to reduce influence of tides and increase channel capacity.
- Constructing floodwalls in the upper reach to increase capacity and maintain consistency with Caltrans' enlargement of the U.S. 101/East Bayshore Road Bridge over San Francisquito Creek (Caltrans facility). See Additional Pages; Box 15: Description of Activity and Environmental Impacts, for full details.

16. AVOIDANCE OF IMPACTS (Describe efforts to avoid and minimize impacts to waters of the State. See instructions.)

See Additional Pages: Box 16: Avodiance of Impacts which details the measures that will be implemented as necessary to reduce and minimize stormwater pollution during ground disturbing maintenance activities.

17. ENVIRONMENTAL DOCUMENTS (list any non-CEQA environmental documents that have been prepared for the project and/or the project site. Provide the date of the document and the name of the individual, firm, or agency that prepared it. Provide a copy of delineations and endangered species surveys. See instructions.)

Biological and Essential Fish Habitat Assessment, IFC International, November 2012, Compact Disc 2
 Preliminary Delineation of Wetland and Other Waters of the United States, ICF International, June 2012, Compact Disc 2
 SWPPP and Erosion Control and Sedimentation Plan, in preparation

DREDGE & FILL INFORMATION

18. The following items must be completed for each action where fill or other material will be temporarily (T) or permanently (P) discharged to a wetland or other waterbody, and where material will be dredged from a waterway (add additional pages as necessary). Provide a map showing the location of each action (See instructions):

Map Location Number	LOCATION (show on plan & indicate waterbody)	REASON FOR ACTION (See instructions)	AMOUNT AND TYPE OF MATERIAL (in cubic yards, see instructions)	SURFACE AREA OF FILL (in acres and/or linear feet; specify (T) or (P); see instructions)
	See Additional Pages: Box 18: Dredge and Fill Information			

MITIGATION

19. MITIGATION (Describe the size, type, and functions, and values of the proposed mitigation. Describe success criteria, monitoring, and long-term funding, management, and protection of the mitigation site. Attach a Mitigation Plan if needed. See instructions and contact Regional Board staff for additional assistance.)

The SFCJPA will be responsible for restoring permanently affected riparian habitat at a mitigation-to-effect ratio of 2:1, and restoring temporarily affected habitat at a minimum effect-to-mitigation ratio of 1:1 to ensure no net loss of riparian habitat in the affected stream reach. The SFCJPA will develop a Mitigation and Monitoring Plan (MMP) to ensure that all removed habitat is replaced "in kind" with the appropriate native overstory and understory species to maintain structural complexity and habitat value. The MMP will be developed in the context of the federal and state permitting processes under the CWA and California Department of Fish and Game Code, and will include success criteria as specified by the permitting agencies. The MMP will also include adaptive management guidelines for actions to be taken if the success criteria are not met. The success criteria will be met if 80 percent of the riparian plantings become established after ten years. Monitoring will occur, at a minimum, during years 1, 2, 3, 5, 7, and 10, with the plantings taking place in year 0. The initial annual monitoring will assess progress of the plantings according to predetermined success criteria. If progress is not satisfactory, adaptive management actions (including replanting, nonnative species removal, etc.) could be implemented. The MMP will remain in force until the success criteria are met.

CEQA

20. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) Documents: Indicate the status of CEQA documents prepared for the project (see instructions).

TYPE OF DOCUMENT	STATUS	DATE COMPLETED (or expected to be complete)	TYPE OF DOCUMENT	STATUS	DATE COMPLETED (or expected to be complete)
Initial Study	Not Applicable		Notice of Preparation	Complete	09/13/12
Draft Environmental Impact Report	Complete	09/12/12	Final Environmental Impact Report	Complete	10/25/12
Negative Declaration	Not Applicable		Mitigated Negative Declaration	Not Applicable	
Notice of Categorical Exemption Exemption Number:	Not Applicable		Notice of Statutory Exemption Exemption Number:	Not Applicable	
Other (describe)	Not Applicable				
Notice of Determination*	Complete	10/08/12	*Note: A Notice of Determination or Notice of Exemption from the Lead Agency is required before a certification or waiver can be issued.		
Lead Agency: US Army Corps of Engineers		Contact: Ian Liffmann		Telephone: 4155036769	
State Clearing House Number: 2010092048_____					

ADDITIONAL INFORMATION

21. HAS ANY PORTION OF THE WORK BEEN INITIATED? YES NO
IF YES, DESCRIBE THE INITIATED WORK, and explain why it was initiated prior to obtaining a permit. Indicate whether any enforcement action has been taken against the project.

N/A

22. HAS A FEDERAL AGENCY OR THE APPLICANT PROVIDED PUBLIC NOTICE OF THIS APPLICATION FOR WATER QUALITY CERTIFICATION?

Federal Agency: YES NO Date: _____ Type of Notification: _____ Agency Name and Contact: _____

Applicant: YES NO Date: _____ Type of Notification: _____ Media Name and Contact: _____

IF PUBLIC NOTICE HAS NOT BEEN MADE, provide the name, address, and phone number (if available) of adjacent property owners, lessees, etc., and any other parties known to be interested in the project:

23. OTHER PERMITS (List other local, state or federal licenses, permits, and agreements that will be required for any construction, operation, maintenance, or other actions associated with the project. Attach copies of all draft or final documents. See instructions.)

AGENCY	CONTACT (with phone number)	TYPE OF APPROVAL	PERMIT OR ID NUMBER	DATE APPLIED	STATUS	DATE OF ACTION
US Corps of Engrs.	Ian Liffmann (415) 5036769	404			In Review	
Ca Dept Fish Game	Tami Schane (415) 8314640	LSAA			In Review	
-Choose One-					-Choose One-	
-Choose One-					-Choose One-	
-Choose One-					-Choose One-	

SF BCDC	Unknown	Coastal Development Permit			In Review	
Other or Local Agency					-Choose One-	
Other or Local Agency					-Choose One-	
Other or Local Agency					-Choose One-	

24. OTHER PROJECTS (List and describe other projects implemented or planned that are related to the proposed project, or that may impact the same waterbody. See instructions. Add additional sheets if necessary.)

PROJECT NAME	DESCRIPTION	WATERBODY AND WATERSHED	DATE IMPLEMENTED/PLANNED
See Additional Pages: Box 24: Relationship to Other Projects			

25. Application is hereby made for a permit or permits to authorize the work described in this application. I certify, under penalty of perjury, that this application is complete and accurate to the best of my knowledge. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
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The application must be signed by the person who desires to undertake the proposed activity (Applicant) or a duly authorized agent if the statement in Block 7 has been filled out and signed.

Attach fee deposit (see Instructions page 7) and any additional documents and submit this application to:

SFBRWQCB
Attention: 401 Water Quality Certification
1515 Clay Street, Suite 1400
Oakland, CA 94612

Note: This form, FORM R2C502-E, was designed for electronic use as a Microsoft Word document or template. For assistance using this form or to relay suggestions on how it may be improved, please call 510-622-2330. If you would like a standard, non-electronic form, please call 510-622-2300 and request 401 Application FORM R2C502 – Non-electronic version.

SECTION 401 WATER QUALITY CERTIFICATION APPLICATION

**SAN FRANCISQUITO CREEK FLOOD REDUCTION, ECOSYSTEM
RESTORATION, AND RECREATION PROJECT, SAN MATEO AND SANTA
CLARA COUNTIES, CA**

SUBMITTED TO:

San Francisco Bay Regional Water Quality Control Board
Water Quality Certification
1515 Clay Street, Suite 1400
Oakland, CA 94612
Contact: Margarete Beth

APPLICANT:

San Francisquito Creek Joint Powers Authority
615 B Menlo Avenue
Menlo Park, CA 94025
Contact: Kevin Murray
650/324-1972

PREPARED BY:

ICF International
75 East Santa Clara Street, Suite 300
San Jose, CA 95113
Contact: Matthew Jones
408/216-2815

MARCH 8, 2013



ICF International. 2013. San Francisquito Creek Joint Powers Authority. 401 Water Quality Certification Application. March. (ICF 00290.10.) San Jose, CA. Prepared for: San Francisquito Creek Joint Powers Authority, Menlo Park, CA. Submitted to: San Francisco Bay Regional Water Quality Control Board.

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Appendix C: Copy of Application for Section 404 Individual Permit

Appendix D: Copy of Notification of Streambed Alteration

Appendix E: Proof of Filing Fee

This package also includes two Compact Discs:

Disc 1:

- Final Environmental Impact Report
- Notice of Determination
- Statement of Overriding Considerations
- Notice of Preparation

Disc 2:

- Biological and Essential Fish Habitat Assessment
- Preliminary Delineation of Wetlands and Other Waters of the United States
- Hydrological Study

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Additional Pages

Preconstruction Notification for San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project

Box 12: Project Location

The San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project (Project) is located within the San Francisquito Creek (Creek) watershed, which encompasses a 45-square-mile basin, extending from Skyline Boulevard to San Francisco Bay. The watershed encompasses public and private lands in the Cities of East Palo Alto, Menlo Park, Palo Alto, Portola Valley, and Woodside; the unincorporated areas of San Mateo and Santa Clara counties; and Stanford University. The San Francisquito Creek floodplain, which has almost no overlap with the watershed, comprises almost 5 square miles. San Francisquito Creek represents the boundary between San Mateo and Santa Clara counties in the lower watershed. The last relatively unaltered urban creek system in the South Bay, San Francisquito Creek begins at the confluence of Corte Madera Creek and Bear Creek, just below Searsville Lake in Stanford University’s Jasper Ridge Biological Preserve. The mouth of the Creek opens to the San Francisco Bay adjacent to Palo Alto Airport of Santa Clara County (Palo Alto Airport) to the south and the Baylands Nature Preserve to the north. The system contains more than 71 miles of Creek bed; the mainstem is approximately 14 miles long.

Figure 1 displays the project site and project area. The project is located along an X-mile stretch of the Creek from San Francisco Bay to East Bayshore Road (Highway 101). For description purposes, the Project area is divided into three reaches. A reach is a continuous part of the Creek between two specified points. The lower reach is from San Francisco Bay to Friendship Bridge, the middle reach from Friendship Bridge to Daphne Way, and the upper reach from Daphne Way to East Bayshore Road. Additionally, the right bank refers to the San Mateo County (East Palo Alto) side of the Creek and the left bank refers to the Santa Clara County (Palo Alto) side of the Creek. Table 1 provides coordinates for eastern and western extents of the Project site.

Table 1. Coordinates for the San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project

Project Area	Latitude	Longitude	Township/ Range/ Section	USGS Map
San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project 401 Water Quality Certification Application		8		March2013 ICF 00882.09

East Bayshore Road and US 101	37°27'11" N	122°07'39"W	N/A	Palo Alto
San Francisco Bay	37°27'157" N	122°06'57"W	N/A	Mountain View

The Project is located within the larger Santa Clara watershed basin located within the larger South San Francisco Bay Hydrologic Unit (HUC 18050004). More specifically, it is located within the San Francisquito Creek watershed along creek channel, and is bordered in the west by the Cordilleras Creek watershed, and in the east by the South San Francisco Bay. The project is located within a tidally-influenced zone.

Box 14-Project Purpose

The Project would ultimately improve channel capacity for creek flows coupled with the influence of the tides of San Francisco Bay, including projected Sea Level Rise (SLR), from the downstream face of East Bayshore Road to San Francisco Bay. It would reduce local fluvial flood risks in the Project area during storm events, provide the capacity needed for future upstream improvements, increase and improve ecological habitat, and provide for improved recreational opportunities.

The SFCJPA, formed in 1999 following the flood of 1998, is a regional government agency whose members include the Cities of Palo Alto, Menlo Park, and East Palo Alto; the San Mateo County Flood Control District, and the Santa Clara Valley Water District (District). The SFCJPA implements flood management, ecosystem restoration and recreational enhancements throughout the San Francisquito Creek watershed and floodplain.

Flooding from the Creek is a common occurrence. The most recent flood event occurred as a result of extremely high creek flows in December 22-23, 2012, when the Creek overtopped its banks in several areas. The maximum instantaneous peak flow recorded at USGS Gage 11164500 during the December 2012 event was 5,400 cfs. An even larger event occurred on a February 1998 event, with a maximum instantaneous peak flow recorded during the February 1998 event was 7,200 cubic feet per second (cfs). The U.S. Army Corps of Engineers (USACE) estimates that the 1998 flood was a 45-year flood event. A 100-year flood event is anticipated to result in flows of 9,400 cfs at the mouth of the Creek. These flows would exceed the existing capacity of the Creek (San Francisquito Creek Joint Powers Authority 2009).

The Project’s goals are to improve flood protection, habitat, and recreational opportunities within the Project reach, with the following specific objectives:

- Protect properties and infrastructure between East Bayshore Road and the San Francisco Bay from Creek flows resulting from 100-year fluvial flood flows occurring at the same time as a 100-year tide that includes projected Sea Level Rise through 2065.
- Accommodate future flood protection measures that might be constructed upstream of the Project.
- Enhance habitat along the Project reach, particularly habitat for threatened and endangered species.

- Enhance recreational uses.
- Minimize operational and maintenance requirements.

The Project would increase conveyance and retention capacity of floodwaters from runoff and San Francisco Bay tides to protect residents and property from flood events along the lower section of the Creek, from East Bayshore Road to the San Francisco Bay.

Box 15: Description of Activity and Environmental Impacts

The Project will have a total of X acres of temporary impacts and X acres of permanent impacts to waters of the state. Temporary impacts include areas that will may be impacted during construction activities, but will be restored (i.e., re-graded and re-vegetated) post-construction. Permanent impacts comprise all areas that will be permanently modified as part of the Project. Table 4, *Summary of Water Bodies*, below provides detail on permanent impact areas.

Project Elements

The San Francisquito Creek Joint Powers Authority (SFCJPA) proposes the Project. This Project would increase conveyance and retention capacity of floodwaters from runoff and San Francisco Bay tides to protect residents and property from flood events along the lower section of the Creek, from East Bayshore Road to the San Francisco Bay. An Environmental Impact Report was approved October 25th, 2012 (<http://sfcjpa.org/web/documents/docs/docs-sf-bay-highway-101-project-final-eir/>). Work within the project boundary includes the following activities. The project elements are identified in Appendix A, Figure 2.

- Degrading a portion of an unmaintained levee downstream of Friendship Bridge to allow flood flows from the Creek channel into the Palo Alto Baylands Preserve north of the Creek.
- Excavating sediment deposits within the channel to maximize conveyance.
- Rebuilding levees and relocating a portion of the southern levee to widen the channel to reduce influence of tides and increase channel capacity.
- Constructing floodwalls in the upper reach to increase capacity and maintain consistency with Caltrans' enlargement of the U.S. 101/East Bayshore Road Bridge over San Francisquito Creek (Caltrans facility).

Major Project elements include:

- An overflow terrace at marsh elevation adjacent to the Baylands Preserve.
- Levee setback and improvements to widen the channel and increase levee height and stability between East Palo Alto and the Palo Alto Golf Course.
- Floodwalls in the upper reach downstream of East Bayshore Road.

- Extension of Friendship Bridge via a boardwalk across new marshland within the widened channel.

The Project has two main components: Levee and Floodwall Construction and Marshplain Restoration. Each component contains multiple elements summarized in Table 2 below.

Table 2. Summary of Project Elements

Project Component	Description
Levee and floodwall construction	
Levee lowering on right bank	From the mouth of the Creek at San Francisco Bay to 200 feet downstream of the existing Friendship Bridge. This would allow floodwaters to flow into the Baylands north of San Francisquito Creek.
Levee raising on right bank	From the O’Connor Pump Station tie-in near Friendship Bridge to the floodwall.
Floodwall on right bank	The right floodwall would extend from just downstream of Daphne Way to the end of the Project reach where it would connect with the Caltrans U.S. 101/East Bayshore Road facility.
Levee raising on left bank and levee relocation	Levee relocation of the middle reach and a small portion of the upper and lower reaches. The levee would be relocated inland (currently occupied by the Golf Course), creating space on the left bank for a marshplain terrace. Except for a section around the eastern footings of Friendship Bridge, the existing levee along this stretch would be removed.
Floodwall on left bank	The left floodwall would extend from the end of the left levee, along the streambed, around the Palo Alto Pump Station, to the end of the Project reach where it would connect with the Caltrans facility.
Downstream access road on right bank	The right bank downstream access road would be approximately 16 feet wide and extend from the crown of the right levee to street level to just downstream of Daphne Way.
Upstream access road on right bank	The right bank upstream access road would be approximately 12 feet wide and would extend from just downstream of Verbena Drive to the Caltrans facility at East Bayshore Road.
Access road on left bank	The left bank access road would be generally 12 feet wide and would extend from a point downstream of the International School of the Peninsula to the Palo Alto Pump Station. The access road would also be used as a public trail within the City of Palo Alto and would connect to the Baylands Athletic Center.
Friendship Bridge	The existing Friendship Bridge would be retained and extended as a boardwalk from the retained eastern footing across the new marshplain terrace to the relocated left bank levee.
Marshplain restoration	
Downstream of Friendship Bridge on right bank	High-marsh and transitional vegetation would be planted from the edge of the Creek channel to the toe of the levee from just upstream of San Francisco Bay to just downstream of Friendship Bridge.

Project Component	Description
Upstream of Friendship Bridge on right bank	High-marsh and transitional vegetation would be planted from the edge of the Creek channel to the toe of the levee from just upstream of Friendship Bridge to East Bayshore Road.
Left bank	High-marsh and transitional vegetation would be planted from the edge of the Creek channel to the base of the floodwall or the toe of the levee. In this area the marsh would be planted adjacent to the toe of the cut-and-fill area. The marsh would extend from the point at which the new levee would diverge inland from the existing levee to East Bayshore Road.

More detailed information for each project element can be found in Biological Assessment included on the CD's included with the package.

Utility Relocation

Project activities would require relocation or removal of electricity transmission towers and poles; abandonment of existing and construction of new gas transmission lines; and realignment or relocation of sewer lines and storm drains (Environmental Impact Report, Figure 2-4). These activities described in more detail can be found in Attachment X, Biological Assessment.

Construction

Construction of Project elements would likely occur in two phases. While all Project elements could be constructed at one time if sufficient funding was secured, the two-phase construction methodology is conservatively assumed to be the preferred construction approach. Phase One construction would begin in 2013 and be completed by 2015. Construction would begin with building the new levee structure outside of the existing levee, during or after completion of PG&E and EPASD modifications to existing utilities and modifications to the PAGC, and would proceed at Friendship Bridge and upstream with the excavation of the channel up to East Bayshore Road being the final Project activity. Phase Two construction of upstream floodwalls and associated maintenance roads would occur once funding was secured.

Construction activities would take place between 8 a.m. and 6 p.m. on weekdays, and 9 a.m. and 5 p.m. on Saturdays, in accordance with City of Palo Alto and City of East Palo Alto municipal codes. Final construction permits issued for the Project may place additional constraints on construction timing. Table 2 shows the Project elements, when construction on each is expected to begin, construction activities, and construction duration.

A summary of the anticipated construction methodology, the proposed starting date and duration of each activity, and the equipment to be used during each phase is listed in Table 3.

Table 3. Summary of Construction Methodology, Timing, and Equipment

Project Component	Proposed Starting Date	Activity	Proposed Duration	Equipment
Utility Relocation				
PG&E Electricity Transmission	12/2012	Site and road preparation: Trees and brush trimmed in work areas	2 weeks	1 dump truck 1 grader 1 four-door pickup
	12/2012	Wood pole relocation	4 weeks	1 flat-bed truck
	1/2013	Demolition of wood poles and secondary wire removal	6 days	3 four-door pickups 3 bucket trucks 3 line trucks 1 rope truck 1 tensioner (on a trailer)
	1/2013	Construction of shoo-fly tower at T3	2 weeks	1 pickup 1 four-door pickup
	2/2013	Tower raises (T1 and T4)	2 weeks (1 week per tower)	1 2-ton tool truck with air compressor
	3/2013	New tower construction and demolition of T2	4 weeks	1 dump truck 1 70-ton crane 1 caterpillar (pile driver)
	3/2013	Demolition of shoo-fly	1 day	1 back hoe 1 concrete truck 1 pump truck
	4/2013	Gas line work	4 weeks	2 4-door pickups 1 backhoe 2 flatbed truck
	4/8/2013	directional drilling	2 weeks	1 directional drill rig
	PG&E Gas Transmission	4/18/2013	export of material	1 week
4/25/2013		concrete	2 days	1 concrete truck
4/27/2013		Demobilization	1 week	2 4-door pickups 1 flatbed truck
Phase One—Levees and Excavation				

Site Preparation	1/2013	Mobilization Tree Removal Clearing and Grubbing Stripping Demolition	6 weeks	4 four-door pickups 1 backhoe 1 loader 1 jackhammer 1 flat-bed truck
Construction of new left bank levee	4/2013	Site excavation Levee construction Seeding for erosion control	5 weeks	4 four-door pickups 3 excavators 1 backhoe 2 loaders 4-6 dump trucks (20 cy each) 2 water trucks
Removal of old left bank levee	6/2013	Site excavation	3 weeks	4 four-door pickups 3 excavators 1 backhoe 2 loaders 4-6 dump trucks (20 cy each) 2 water trucks
Removal of right bank levee	6/2013	Site excavation Relocation of East Palo Alto sewer line and siphon	2 weeks	4 four-door pickups 3 excavators 1 backhoe 2 loaders 4-6 dump trucks (20 cy each) 2 water trucks
Construction of right bank levee	7/2013	Levee construction Seeding for erosion control	3 weeks	4 four-door pickups 3 excavators 1 backhoe 2 loaders 4-6 dump trucks (20 cy each) 2 water trucks
Construction of downstream access road on right and left banks	8/2013	Site preparation and paving	4 weeks	4 four-door pickups 1 dump truck 1 grader 1 four-door pickup 2 concrete trucks 1 asphalt paver 1 compactor
Friendship Bridge	9/2013	Site excavation Boardwalk construction	6 weeks	4 four-door pickups 1 backhoe 1 loader 1 flat-bed truck

Channel widening and marshplain terracing	6/2013	Site excavation Terracing	10 weeks	4 four-door pickups 3 excavators 1 backhoe 2 loaders 4–6 dump trucks (20 cy each) 2 water trucks
Revegetation	9/2013	Installation of irrigation system Revegetation	6 weeks	2 four-door pickups
Phase Two—Floodwalls				
Site Preparation	5/2014	Mobilization Clearing and grubbing	3 weeks	4 four-door pickups 1 backhoe 1 loader 1 jackhammer 1 flat-bed truck
Installation of right and left bank floodwalls	6/2014	Site excavation Preparation of foundation Construction of floodwalls	5 months	4 four-door pickups 1 excavator 1 trencher 1 backhoe 1 loader 1 dump truck 1 grader 2 concrete trucks 1 flat-bed truck
Construction of upstream access road on right and left banks	10/2014	Site preparation and paving	4 weeks	4 four-door pickups 1 dump truck 1 grader 1 four-door pickup 2 concrete trucks 1 asphalt paver 1 compactor
Site Restoration	11/2014	Demobilization	2 weeks	2 four-door pickups 1 loader 1 flat-bed truck

Detailed information for the construction and purpose of each element of the project can be found in Biological Assessment.

Marshplain Creation and Restoration

The Project would create approximately 18 acres of tidal marsh on both sides of the Creek, effectively restoring tidal influence in the Project reach (see Figure 2). Marshplain creation would span the entire Project extent on both banks from East Bayshore Road to San Francisco Bay on the right bank and from East Bayshore Road to the end of the existing left levee on the left bank. Both sides of the channel would be planted from the toe of the levee or base of the floodwall to the edge of the Creek channel.

After Phase One levee construction is complete, the tidal marsh area would be terraced and revegetated with high-marsh plants. The high-marsh planting area would total 7.05 acres and the high-marsh transition planting area would total 10.77 acres. Additionally, in areas where rock slope protection is required, 10-foot vegetated shrub bands would be installed to provide refugia and promote long term vegetated protection and stability across the rock slope protection areas.

Native marsh plants would be used to revegetate the terraced land. Plants appropriate to the high marsh would be planted near the stream channel. Plants native to marsh transition areas would be planted in areas more distant from the Creek channel. The SFCJPA, or its designated contractor, will be responsible for the acquisition of plant material. All container stock will be propagated from native stock collected within the south San Francisco Bay and tidally influenced creeks in coordination with Santa Clara Valley Water District staff.

Box 16: Avoidance of Impacts

1. The following measures will be implemented as necessary to reduce and minimize stormwater pollution during ground disturbing maintenance activities:
 - Soils exposed due to maintenance activities will be seeded and stabilized using hydroseeding, straw placement, mulching, and/or erosion control fabric. These measures will be implemented such that the site is stabilized and water quality protected prior to significant rainfall.
 - The preference for erosion control fabrics will be to consist of natural fibers.
 - Appropriate measures include, but are not limited to, the following:
 - Silt Fences.
 - Straw Bale Barriers.
 - Brush or Rock Filters.
 - Storm Drain Inlet Protection.
 - Sediment Traps.
 - Sediment Basins.
 - Erosion Control Blankets and Mats.
 - Soil Stabilization (i.e. tackified straw with seed, jute or geotextile blankets, etc.).
 - Wood chips.
 - Straw mulch.
 - All temporary construction-related erosion control methods will be removed at the completion of the Project (e.g., silt fences). (Santa Clara Valley Water District Water Quality BMP 41)
2. The following measures will be implemented to ensure sediments will be stored and transported in a manner that minimizes water quality effects:
 - Wet sediments may be stockpiled outside of a live stream or may be stockpiled within a dewatered stream so water can drain or evaporate before removal.
 - This measure applies to saturated, not damp, sediments and depends on the availability of a stockpile site.

- For those stockpiles located outside the channel, water draining from them will not be allowed to flow back into the Creek or into local storm drains that enter the Creek, unless water quality protection measures recommended by RWQCB are implemented.
 - Trucks may be lined with an impervious material (e.g., plastic), or the tailgate blocked with dry dirt or hay bales, for example, or trucks may drain excess water by slightly tilting their loads and allowing the water to drain out.
 - Water will not drain directly into channels (outside of the work area) or onto public streets without providing water quality control measures
 - Streets and affected public parking lots will be cleared of mud and/or dirt by street sweeping (with a vacuum-powered street sweeper), as necessary, and not by hosing down the street. (Santa Clara Valley Water District Water Quality BMP 4)
3. Oily, greasy, or sediment-laden substances or other material that originate from the Project operations and may degrade the quality of surface water or adversely affect aquatic life, fish, or wildlife will not be allowed to enter, or be placed where they may later enter, any waterway.
4. The following measures will be implemented to ensure the Project will not increase the turbidity of any watercourse flowing past the construction site by taking all necessary precautions to limit the increase in turbidity as follows:
- Where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases will not exceed 5 percent.
 - Where natural turbidity is greater than 50 NTU, increases will not exceed 10 percent.
 - Where the receiving water body is a dry creek bed or storm drain, waters in excess of 50 NTU will not be discharged from the Project.
 - Water turbidity changes will be monitored. The discharge water measurements will be made at the point where the discharge water exits the water control system for tidal sites and 100 feet downstream of the discharge point for non-tidal sites. Natural watercourse turbidity measurements will be made in the receiving water 100 feet upstream of the discharge site. Natural watercourse turbidity measurements will be made prior to initiation of Project discharges, preferably at least 2 days prior to commencement of operations. (Santa Clara Valley Water District Water Quality BMP 40)
5. No washing of vehicles will occur at job sites. (Santa Clara Valley Water District Hazards & Hazardous Materials BMP 9).
6. No fueling will be done in a waterway or immediate flood plain, unless equipment stationed in these locations is not readily relocated (i.e., pumps, generators).
- For stationary equipment that must be fueled on the site, containment will be provided in such a manner that any accidental spill of fuel will not be able to enter the water or contaminate sediments that may come in contact with water.
 - Any equipment that is readily moved out of the waterway will not be fueled in the waterway or immediate flood plain.
 - All fueling done at the job site will provide containment to the degree that any spill will be unable to enter any waterway or damage riparian vegetation. (Santa Clara Valley Water District Hazards & Hazardous Materials BMP 10)

7. No equipment servicing will be done in a stream channel or immediate flood plain, unless equipment stationed in these locations cannot be readily relocated (i.e., pumps, generators).
 - Any equipment that can be readily moved out of the channel will not be serviced in the channel or immediate flood plain.
 - All servicing of equipment done at the job site will provide containment to the degree that any spill will be unable to enter any channel or damage stream vegetation.
 - If emergency repairs are required in the field, only those repairs necessary to move equipment to a more secure location will be done in a channel or flood plain.
 - If emergency repairs are required, containment will be provided equivalent to that done for fueling or servicing.
8. Measures will be implemented to ensure that hazardous materials are properly handled and the quality of water resources is protected by all reasonable means.
 - Prior to entering the work site, all field personnel will know how to respond when toxic materials are discovered.
 - The discharge of any hazardous or nonhazardous waste as defined in Division 2, Subdivision 1, Chapter 2 of the California Code of Regulations (CCR) will be conducted in accordance with applicable state and federal regulations.
 - In the event of any hazardous material emergencies or spills, personnel will call the Chemical Emergencies/Spills Hotline at 1 800 510 5151. (Santa Clara Valley Water District Hazards & Hazardous Materials BMP 12)
9. Prevent the accidental release of chemicals, fuels, lubricants, and non-storm drainage water.
 - Field personnel will be appropriately trained in spill prevention, hazardous material control, and cleanup of accidental spills.
 - No fueling, repair, cleaning, maintenance, or vehicle washing will be performed in a creek channel or in areas at the top of a channel bank that may flow into a creek channel. (Santa Clara Valley Water District Hazards & Hazardous Materials BMP 13)
10. Spill prevention kits appropriate to the hazard will always be in close proximity when using hazardous materials (e.g., crew trucks and other logical locations).
 - Prior to entering the work site, all field personnel will know the location of spill kits on crew trucks and at other locations within District facilities.
 - All field personnel will be advised of these locations and trained in their appropriate use. (Santa Clara Valley Water District Hazards & Hazardous Materials BMP 14)
11. Runoff from soil stockpiles will be avoided. If soil is to be stockpiled, no runoff will be allowed to flow to a creek.
12. Cofferdams will be used for tidal work areas. For tidal areas, a downstream cofferdam will be constructed to prevent the work area from being inundated by tidal flows. By isolating the work area from tidal flows, water quality effects are minimized. Downstream flows continue through the work area and through pipes within the cofferdam.
 - Installation of coffer dams will begin at low tide.
 - Waters discharged through tidal coffer dam bypass pipes will not exceed 50 NTU over the background levels of the tidal waters into which they are discharged.

- Cofferdams shall not be constructed of earthen fill due to potential adverse water quality impacts in the event of a failure.
 - Cofferdams constructed of gravel shall be covered by a protective covering (e.g., plastic or fabric) to prevent seepage.
13. Groundwater will be managed at work sites. If high levels of groundwater in a work area are encountered, the water will be pumped out of the work site. If necessary to protect water quality, the water will be directed into specifically constructed infiltration basins, into holding ponds, or onto areas with vegetation to remove sediment prior to the water re-entering a receiving water body. Water pumped into vegetated areas will be pumped in a manner that will not create erosion around vegetation.
14. Sanitary/septic waste will be managed. Temporary sanitary facilities will be located on jobs that last multiple days in compliance with California Division of Occupational Safety and Health (Cal/OSHA) regulation 8 CCR 1526. All temporary sanitary facilities will be placed outside of the Creek channel and flood plain and removed when no longer necessary.
15. SFCJPA will be responsible for ensuring compliance with all local and State regulations, including the RWQCB NPDES permits and local BMPs for jurisdictions adjoining the Project site. As part of the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) and the San Mateo Countywide Stormwater Pollution Prevention Program (SM-STOPPP), required under San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (Order R2-2009-0074), all construction sites are required to have site-specific and seasonally and phase-appropriate effective BMPs (San Francisco Bay Regional Water Quality Control Board 2009). SFCJPA shall be covered under the new National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities (Order 2009-0009-DWQ as amended by 2010-0014-DWQ)(Construction General Permit), which became effective on July 1, 2010. The Project specifications require that the Project construction contractor prepare a SWPPP and erosion control and sedimentation plan showing placement of BMPs at various stages of construction in conformance with requirements, and all SWPPP documents and plans will be approved by a State-certified Qualified SWPPP Developer (QSD) and compliance with the Construction General Permit will be overseen by a State-certified Qualified SWPPP Practitioner (QSP). The Project will implement measures to accomplish objectives specified in SFCJPA's San Francisquito Creek Watershed Analysis and Sediment Reduction Plan, which fulfills NPDES permit provisions that require the co-permittees of the SCVURPPP and SM-STOPPP within the Creek watershed to assess and implement sediment management measures in the watershed (San Francisquito Creek Joint Powers Authority 2004). Water quality protection standards during construction will comply with the most protective and effective BMPs of the local jurisdictions and the State of California.

Box 20: CEQA

The Final Environmental Impact Report (EIR) for the San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project San Francisco Bay to Highway 101 was certified by the lead agency, the SFCJPA, in November 2012 (SCH 2010092048). The Notice of Preparation can be found online at: <http://www.ceqanet.ca.gov/DocDescription.asp?DocPK=645951> and the Draft EIR is available online at:

<http://www.ceqanet.ca.gov/DocDescription.asp?DocPK=663670>. The Final EIR is available on the SFCJPA's website at: <http://sfcjpa.org/web/documents/docs/docs-sf-bay-highway-101-project-final-eir/>. The Notice of Determination (NOD) and Findings of Fact and Statement of Overriding Considerations (SOC) are provided in the enclosed CD's.

Box 24: Dredge and Fill Information

Wetlands affected by the San Francisquito Creek Flood Reduction, Ecosystem Restoration, and Recreation Project include diked marsh, freshwater marsh, and tidal salt marsh habitat and "other waters" include San Francisquito Creek, Faber-Laumeister Tract, one freshwater pond in the golf course. All affected water bodies were determined to be waters of the State. Table 4 provides a summary of all water bodies within the project area and those affected by the proposed project.

Table 4. Summary of Water Bodies

Water Body Type	ID	Reason For Action	Amount and Type of Material Cut (CY)	Amount and Type of Material Fill (CY)	Surface Area Affected (P acre)	Surface Area Affected (T acre)
Diked Marsh	DM-1	Levee	0	0	0.001	0.15
Diked Marsh	DM-2	Levee	0	0	0	0.01
Diked Marsh	DM-3	Levee	0	2	0.001	0.03
Diked Marsh	DM-4	Levee	0	0	0.001	0.01
Diked Marsh	DM-5		0	0	0	0
Diked Marsh	DM-6		0	0	0	0
Diked Marsh	DM-7	Levee	0	0	0.02	0
Diked Marsh	DM-8	Levee, Pavement, Cut of Floodplain Bench (CFB)	461	11,383	1.33	0
Diked Marsh	DM-9	Levee, Rock(RSP), Gravel	0	1,246	0.18	0
Diked Marsh	DM-10	Levee, RSP, CFB	308	2,552	0.80	0
Diked Marsh	DM-11	Levee	0	2,296	0.24	0

Diked Marsh	DM-12	Levee	0	1,346	0.10	0
Diked Marsh	DM-13	Levee, CFB	40	573	0.21	0
Freshwater Marsh	FM-1	Levee	0	881	0	0
Freshwater Marsh	FM-2	Levee	0	742	0.14	0
Tidal Salt Marsh	TSM-1	Levee, CFB	3,229	1,592	1.51	0
Tidal Salt Marsh	TSM-3	Levee, RSP, CFB	337	140	0.06	
Tidal Salt Marsh	TSM-4	Levee, RSP, CFB	1,223	2,694	0.34	0.38
Tidal Salt Marsh	TSM-5	Levee	0	0	0.0003	0
Tidal Salt Marsh	TSM-6		0	0	0	0
Tidal Salt Marsh	TSM-7	Levee, RSP, CFB	225	304	0.08	0.002
Tidal Salt Marsh	TSM-8		0	0	0	0
Tidal Salt Marsh	TSM-9	Levee, RSP, CFB	1,987	3,093	1.21	0
Tidal Salt Marsh	TSM-10	Levee, CFB	3	0	0.002	0
Tidal Salt Marsh	TSM-11	Levee, RSP, CFB	191	64	0.04	0
Tidal Salt Marsh	TSM-12	Levee, CFB	30	0	0.01	0
Subtotal Wetlands			8,034	28,908	6.28	0.58
Freshwater Pond	FP-1	Levee	0	5,605	1.13	0
Tidal Channel and Bay Waters	TC-1	Levee	0	0	0	0.02
Tidal Channel and Bay Waters	TC-2	Levee, RSP, CFB	1,048	3,080	0.78	0
Tidal Pan	TP-1		0	0	0	0
Tidal Pan	TP-2		0	0	0	0

Tidal Pan	TP-3	0	0	0	0
Subtotal Other Water Bodies		1,048	8,685	1.91	0.02
PROJECT TOTAL		9,082	37,593	8.19	0.60

Verification of Water Bodies

During July 6,7, 8, 2010 and February 22, 2012, an ICF soil and wetland scientist and ICF botanist delineated a total of 140.11 acres of potential waters of the United States within the project area, including 13 diked marsh wetlands (4.34 acres), two freshwater marsh wetlands (0.33 acre), 11 tidal salt marsh wetlands (112.26 acres), one freshwater pond (1.13 acres), three tidal channel and bay waters (1.13 acres), and three tidal pans (0.37 acre) using the routine onsite determination method described in the 1987 USACE Wetlands Delineation Manual (Environmental Laboratory 1987) and where applicable, criteria specified in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Arid West Supplement) (U.S. Army Corps of Engineers 2008). On February 5, 2013, Ian Liffmann from the USACE, San Francisco District, conducted a field visit to verify the results of the delineation, accompanied Joel Butterworth of ICF International.

Box 24: Relationship to Other Projects

Concurrently, the California Department of Transportation (Caltrans) is in the process of planning and design to replace the U.S. Highway 101 (U.S. 101), East Bayshore Road, and West Bayshore Road crossings over the Creek, and will improve the Creek conveyance capacity of the structures to the SFCJPA’s design standards. The SFCJPA is also working as the local sponsor with USACE to initiate a comprehensive flood management plan for San Francisquito Creek. The Project also adjoins areas of the San Francisco Bay covered by the South Bay Salt Ponds Restoration Project and the South San Francisco Bay Shoreline Study.

The South Bay Salt Ponds Restoration Project will restore tidal connectivity to some 15,000 acres of former salt evaporation ponds recently acquired from Cargill Inc. by a coalition of federal and state resource agencies and private foundations. Additional goals include providing opportunities for public access and recreational use and improving South San Francisco Bay flood management. For more information on the South Bay Salt Ponds Restoration Project, see the project web page at <http://www.southbayrestoration.org/index.html>.

The South San Francisco Bay Shoreline Study is a joint undertaking by USACE, the California Coastal Conservancy, and the District, and is aimed at identifying one or more projects for flood damage reduction and ecosystem restoration to be recommended for federal funding. Other participating agencies are the U.S. Fish and Wildlife Service (USFWS), DFG, and the Alameda County Flood Control District. For more information on the South San Francisco Bay Shoreline Study, see the project web page at <http://www.southbayshoreline.org/index.html>.

Since the fall of 2009, staff from the SFCJPA and one of its member agencies, the District, have been analyzing capital improvements necessary to provide 100-year flood protection for the flood-prone reach of San Francisquito Creek upstream of U.S. 101. Creek capacity improvements under analysis include bridge replacement, channel widening and naturalization, floodwall construction or enhancement, a bypass culvert, and an upstream detention facility. It is likely that a suite of these alternatives will be required to address the flooding problem. This analysis is being conducted locally, but adheres to USACE's planning standards. It is important to note that upstream improvements to flow capacity cannot not be constructed until project improvements at U.S. 101 and downstream to the San Francisco Bay are completed.

The Palo Alto Municipal Golf Course (Golf Course) Reconfiguration Project is an effort being undertaken by the City of Palo Alto, in response to the planning of this Project, to determine how to reconfigure the Golf Course to accommodate the San Francisquito Creek Flood Protection and continue to maintain the Golf Course's number of holes and par rating. The Golf Course Project also contemplates other recreational improvements at the Golf Course site. For more information on the Palo Alto Municipal Golf Course Reconfiguration Project, see the Golf Course web page at <http://www.cityofpaloalto.org/gov/depts/csd/golf/default.asp>.

Appendix A: Figures

Appendix B: Representative Photographs

Appendix C: Copy of Application for Section 404 Individual Permit

Appendix D: Copy of Notification of Streambed Alteration

Appendix E: Fee Calculator Spreadsheet

Appendix E: Notice of Determination (PENDING)