



PUBLIC NOTICE

**U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT**

BUILDING STRONG®

**APPLICATION FOR PERMIT
Orange County Water District (OCWD)
Prado Basin Sediment Management Demonstration Project**

Public Notice/Application No.: SPL-2011-00961-JEM

Project: OCWD Prado Basin Sediment Management Demonstration Project

Comment Period: March 30, 2015 through April 29, 2015

Project Manager: James Mace; 951-276-6624 x263; James.E.Mace@usace.army.mil

Applicant

Orange County Water District (OCWD)
18700 Ward Street
Fountain Valley, California 92708

Contact

Dan Bott
Orange County Water District
18700 Ward Street
Fountain Valley, California 92708

Location

The proposed project would be located within the Prado Basin, adjacent and upstream of Prado Dam, along the Santa Ana River, in Corona, Riverside County, California (33.9006, -117.6196 lat/lon: see attached Figure 1, Regional Map).

Activity

The OCWD is seeking approval to undertake a pilot sediment management program from the Corps under three authorities: section 404 of the Clean Water Act ("section 404 permit"); section 14 of the Rivers and Harbors Act of 1899 ("section 408 permission"); and a 5-year License to implement the project on federal lands managed by the Corps of Engineers. The proposed project consists of the temporary discharge of fill materials into approximately 33.66 acres of waters of the U.S. (1.97 acres other waters, 31.69 acres wetland waters) for the implementation of the OCWD Prado Basin Sediment Management Demonstration Project (Project).

Specifically, the Project proposes to remove approximately 200,000 cubic yards of sediment from behind Prado Dam and entrain it into the Santa Ana River (downstream) as part of a demonstration project for sediment management over an eight-year period. The proposed Project involves four primary activities: 1) the removal of approximately 200,000 cubic yards of sediment from Prado Basin, 2) the processing and storage of the sediment removed from Prado Basin, 3) the re-entrainment of the sediment into the lower Santa Ana River below Prado Dam, and 4) implementation of proposed Project mitigation. For more information see page 3 of this notice.

Interested parties are hereby notified an application has been received for a Department of the Army permit for the activity described herein and shown on the attached drawing(s). We invite you to review today's public notice and provide views on the proposed work. By providing substantive, site-specific comments to the Corps Regulatory Division, you provide information that supports the Corps' decision-making process. All comments received during the comment period become part of the

record and will be considered in the decision. This permit will be issued, issued with special conditions, or denied under Section 404 of the Clean Water Act and in coordination with the Corps' reviews for a section 408 permission and outgrant decision.

Comments should be mailed to:

DEPARTMENT OF THE ARMY
Los Angeles District, U.S. Army Corps of Engineers
Riverside Regulatory Field Office
Attn: James Mace
1451 Research Park Drive, Suite 100
Riverside, California 92507-2154

Alternatively, comments can be sent electronically to James.E.Mace@usace.army.mil.

The mission of the U.S. Army Corps of Engineers Regulatory Program is to protect the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. The Regulatory Program in the Los Angeles District is executed to protect aquatic resources by developing and implementing short- and long-term initiatives to improve regulatory products, processes, program transparency, and customer feedback considering current staffing levels and historical funding trends.

Corps permits are necessary for any work, including construction and dredging, in the Nation's navigable water and their tributary waters. The Corps balances the reasonably foreseeable benefits and detriments of proposed projects, and makes permit decisions that recognize the essential values of the Nation's aquatic ecosystems to the general public, as well as the property rights of private citizens who want to use their land. The Corps strives to make its permit decisions in a timely manner that minimizes impacts to the regulated public.

During the permit process, the Corps considers the views of other Federal, state and local agencies, interest groups, and the general public. The results of this careful public interest review are fair and equitable decisions that allow reasonable use of private property, infrastructure development, and growth of the economy, while offsetting the authorized impacts to the waters of the United States. The permit review process serves to first avoid and then minimize adverse effects of projects on aquatic resources to the maximum practicable extent. Any remaining unavoidable adverse impacts to the aquatic environment are offset by compensatory mitigation requirements, which may include restoration, enhancement, establishment, and/or preservation of aquatic ecosystem system functions and services.

Evaluation Factors

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof. Factors that will be considered include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production and, in general, the

needs and welfare of the people. In addition, if the proposal would discharge dredged or fill material, the evaluation of the activity will include application of the EPA Guidelines (40 CFR Part 230) as required by Section 404 (b)(1) of the Clean Water Act.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Preliminary Review of Selected Factors

EIS Determination- A preliminary determination has been made an environmental impact statement is not required for the proposed work.

Water Quality- The applicant is required to obtain water quality certification, under Section 401 of the Clean Water Act, from the California Regional Water Quality Control Board. Section 401 requires any applicant for an individual Section 404 permit provide proof of water quality certification to the Corps of Engineers prior to permit issuance.

Coastal Zone Management- This project is located outside the coastal zone and preliminary review indicates it would not affect coastal zone resources. After a review of the comments received on this public notice and in consultation with the California Coastal Commission, the Corps will make a final determination of whether this project affects coastal zone resources after review of the comments received on this Public Notice.

Essential Fish Habitat- No Essential Fish Habitat (EFH), as defined by the Magnuson-Stevens Fishery Conservation and Management Act, occurs within the project area and no EFH is affected by the proposed project.

Cultural Resources- The latest version of the National Register of Historic Places has been consulted and this site is not listed. In addition, the Applicant has conducted record searches which indicate that cultural resources listed on or potentially eligible to be listed on the NRHP are not located within the Action Area. The USACE will continue to evaluate potential effects on cultural resources and will make a determination on whether consultation with the State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, is warranted.

Endangered Species- Preliminary determinations based on the results of database searches and site surveys suggest the following federally-listed species, protected under the Endangered Species Act (ESA), have potential to occur within the proposed Action Area: Least Bell's vireo (*Vireo bellii pusillus*), Southwestern Willow flycatcher (*Empidonax traillii extimus*), Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*) and Santa Ana sucker (*Catostomus santaanae*). Therefore, consultation with the United States Fish and Wildlife Service (USFWS), pursuant to Section 7 of the ESA has been initiated and will be completed prior to a permit decision.

Public Hearing- Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearing shall state with particularity the reasons for holding a public hearing.

Proposed Activity for Which a Permit is Required

Basic Project Purpose- The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed project, and is used by the Corps to determine whether the applicant's project is water dependent (i.e., requires access or proximity to or siting within the special aquatic site to fulfill its basic purpose). Establishment of the basic project purpose is necessary only when the proposed activity would discharge dredged or fill material into a special aquatic site (e.g., wetlands, pool and riffle complex, mudflats, coral reefs). The basic project purpose for the proposed project is to minimize further loss of water conservation storage behind Prado Dam and to increase sediment migration and groundwater infiltration along the Santa Ana River. The project is water dependent.

Overall Project Purpose- The overall project purpose serves as the basis for the Corps' 404(b)(1) alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals for the project, and which allows a reasonable range of alternatives to be analyzed. The overall project purpose for the proposed activity is to remove approximately 200,000 cubic yards of sediment from the Prado Basin to minimize further loss of water conservation storage behind Prado Dam and to re-entrain the sediment from Prado Basin into the Santa Ana River to increase sediment migration and groundwater infiltration.

Additional Project Information

Baseline information- Prado Dam is an existing earth-filled dam that was constructed by the Corps in 1941 to control floods occurring in the Santa Ana River Watershed. Prado Dam's primary purpose and beneficial use is flood control and the secondary beneficial use is water conservation. Through a joint agreement with OCWD and the Corps, the Corps temporarily stores water at Prado Dam for groundwater recharge purposes. Since commencement of operations at Prado Dam, sedimentation has occurred behind Prado Dam restricting the amount of sediment transported to the lower Santa Ana River and the beaches near the outlet of the river. Over time the sediment has accumulated in the Prado Dam reservoir area which is referred to as the Prado Basin. The accumulation of sediment in Prado Basin has reduced the amount of water conservation storage available for OCWD groundwater recharge operations. Since 1941, data suggest at least 25,000 acre feet of storage has been lost below the 505 foot elevation due to sediment accumulation behind the dam. If the storage loss continues unabated at this rate of about 360 acre feet per year, ultimately all water conservation storage will be lost. Without sediment management, Prado Basin will continue to accumulate sediment and reduce water conservation storage. In addition to reduced storage, reduced sediment transport below the dam is potentially associated with a number of downstream impacts, including increased erosion and incising of the river bottom, reduced riparian habitat along the banks of the river, armoring of the river, and lower groundwater infiltration rates.

In response to the need for sediment management at Prado Basin, OCWD is proposing a sediment management demonstration project that will remove approximately 200,000 cubic yards of material from the Prado Basin and re-entrain it in a controlled manner back into the lower Santa Ana River, downstream of Prado Dam. When completed, the proposed sediment management demonstration project would provide data, conclusions, and recommendations to assess whether to implement a

long-term sediment management program at Prado Basin, and if so, to help design and implement that program.

Project description- The proposed Project would remove sediment from a created “sediment removal channel” located in the Prado Basin and re-entrain it into the Santa Ana River to allow it to migrate to the tidal prism of the Pacific Ocean (see attached Figures 2 and 3). The amount of jurisdictional area that would be temporarily impacted by the proposed Project, including implementation and possible mitigation options, is presented below.

Table 1. Temporary Impacts to Waters of the United States (Acres)

Site	Non-Wetland Waters of U.S.	Wetland Waters of U.S.
Sediment Removal Channel	1.39	21.52(1)
Sediment Storage Site E	0.0	0.0
Pheasant Field Mitigation Site	0.0	1.09(2)
Slaughter Adobe Mitigation Site	0.0	1.09(2)
Pigeon Hill Mitigation Site	0.0	0.0
Demonstration Garden Extension Mitigation Site	0.0	0.0
Sediment Removal Channel Open Space Buffer Mitigation Site	0.0	1.09(2)
Sunnyslope Creek Mitigation Site	.57	6.9(3)
River Road Gabion Mitigation Site	.013	0.0
Total	1.97	31.69
(1) Includes 20.43 acres of Arundo		
(2) Mix Arundo/Non-Native Vegetation		
(3) 50% Native Vegetation/50% Non-Native Vegetation		

The Project would be implemented in 6 phases: 1) Pre-Construction Monitoring and Mitigation, 2) Site Preparation, 3) Infrastructure Construction and Dry Excavation, 4) Sediment Removal, 5) Sediment Re-entrainment, and 6) Monitoring and Site Restoration. Pre-construction monitoring and mitigation, site preparation, infrastructure construction/dry excavation and sediment removal are planned for year one. Sediment re-entrainment is expected to take up to two years because it would be dependent upon storm frequency and intensity. Performance monitoring would take place over an additional five years. The total proposed Project duration is expected to last up to 8 years. The phases of the proposed Project are presented as follows:

Phase 1 – Pre-Construction Monitoring/Mitigation Program

Phase 1 involves the implementation of the proposed mitigation and monitoring program. The proposed mitigation would be implemented in accordance with the Habitat Management Plan approved by the Corps. Listed in Table 1 is a suite of sites under consideration as possible mitigation. Concurrent with the implementation of the mitigation program, the proposed monitoring plan would also be implemented. Data would be collected to establish baseline conditions in Prado Basin, in the area around Prado Dam, and in the Lower Santa River from Prado Dam to the Pacific Ocean. Wildlife and habitat in the proposed construction activity impact area would be

surveyed and monitored to identify the presence of federally threatened or endangered species, and the quantity and quality of habitat. Additional studies would be performed to identify the physical characteristics of the proposed construction area, such as sediment quantities/locations, basin and river geometry, and water quality parameters. Field activities for this phase of the proposed Project include surveys and data collection. Additional performance monitoring activities would occur during operation of the Project and after the Project was completed. Vehicle access to the proposed construction areas would occur along existing service roads. If existing service roads are not available, then access to the proposed construction area would occur by foot travel.

Phase 2 – Site Preparation

Phase 2 involves the clearing, grubbing and rough grading of the proposed sediment removal channel, access roads, and the proposed sediment storage site. In order to construct the sediment removal channel, all vegetation within the alignment of the channel would be removed. The proposed alignment of the sediment removal channel extends through an area dominated by giant cane (*Arundo donax*), a highly invasive and problematic plant. The sediment removal alignment would be situated at the discernible end of the Santa Ana River Channel in Prado Basin. The sediment removal channel would cover a maximum area of 560 feet wide by 2,000 feet long with a depth ranging from 6 feet to 15 feet. Due to the dynamic nature of the river and habitat in this area of the basin, a 150 foot wide buffer zone has been identified around the perimeter of the alignment. The buffer zone would allow minor adjustments to be made to the alignment during final design to optimize the alignment with respect to the location of the Santa Ana River and non-native habitat in the area. Vegetation removal activities would occur outside of nesting season and when the water elevation behind Prado Dam is low enough to expose the base of the vegetation. The above-ground vegetation would be cleared, followed by removal of the vegetation root system. Some of the removed vegetation would be trucked to the green waste processing area to be processed and converted to mulch and/or firewood. The remaining green waste would be processed and trucked to a nearby location for re-use by the Applicant. Additional geotechnical samples would be collected during this phase (within the footprint of the sediment removal channel) to further investigate the sediment properties prior to removal.

Phase 3 – Infrastructure Construction and Dry Excavation

Phase 3 includes the construction of the proposed temporary above ground pipelines, sediment storage area, and re-entrainment facility. The sediment removal (dry excavation) alignment would be within the alignment of the Santa Ana River in the southeast portion of Prado Basin. The sediment removal channel would be approximately 2,000 feet long with a width of approximately 560 feet and a depth ranging from 6 to 15 feet. The western end of the sediment removal channel would be located approximately 5,500 feet from the Prado Dam outlet works structure. A dirt access road (approximately 30-foot wide) would be provided along both sides of the proposed channel alignment and between the proposed sediment removal channel and sediment storage site. The access road along the sediment removal channel would provide a buffer between the sediment removal activities and adjacent habitat areas. Once the vegetation was removed from the proposed alignment, heavy equipment would begin dry excavation of the sediment removal channel. Dry excavation would include the use of scrapers and/or off-road haul trucks to transport some of the sediment to the sediment storage area. Dry sediment transported to the storage site would be stockpiled adjacent to the proposed wet sediment storage basin. Dry excavation would occur until groundwater was encountered or until storm flows required the de-mobilization of dry excavation equipment. If groundwater was encountered, excavation would create a pool for initiating hydraulic dredging. An initial area approximately 200 feet in length, 200 feet in width, and 12 feet in depth, would be excavated in and around the channel to create a pool for dredge

placement. If groundwater were not encountered, and storm events do not occur, then all sediment would be removed with dry excavation techniques. The vegetation and sediment removed from the sediment removal channel would be processed at the approximately 46.1 acre site located south of the sediment removal channel, referred to as Sediment Storage Site E.

Phase 4 – Sediment Removal

Phase 4 involves the activities within Prado Basin to remove wet sediment from the removal alignment and transport it to the temporary sediment storage site. A hydraulic dredge would be used to remove the sediment from the sediment removal channel previously initiated by dry excavation methods. The removed sediment would be pumped through an above-ground pipeline to the sediment storage site. Booster pumps may be required along the discharge line to transport the material. Once the sediment reaches the sediment storage site it would be held in a temporary storage basin until conditions are appropriate for re-entrainment. The dredge alignment would be positioned in-line with, and be a continuation of, the existing Santa Ana River channel. In order to control the amount of water entering the dredge alignment during dredging, existing sediment at the upper end of the removal alignment would be manipulated to achieve the desired flow of water and sediment into the alignment. Excess flows would be allowed to temporarily flow around the dredge alignment. This process would include the movement of existing sand bars and low flow channels to control the flow of water. Once dredging activities are complete, the sand bars and excess sediments would be removed to provide a single, continuous, channel; which would allow upstream sediments to be transported into the dredge alignment unobstructed. This process would extend the existing Santa Ana River channel and steepen the grade of the river to promote sediment transport from upstream. During sediment removal activities the top of the side slopes of the channel and the access roads would be periodically re-shaped to minimize potential erosion. During dredging operations the collected sediment slurry would be conveyed to the sediment storage basin through a temporary, above ground, 12 to 18-inch diameter discharge pipeline. Booster pumps may be required to efficiently transport the slurry. Each day the dredge would operate and partially fill the storage basin with slurry, at the end of the day the dredge would be shut off, the sediment allowed to settle out of the water in the storage basin, and then the decant water would be conveyed back to the sediment removal channel to make room for the next day's slurry. Dredging operations may last up to 1 year starting in the spring of the first year and ending once the sediment storage site is full, or once storm events force demobilization of the dredging equipment, whichever comes first. In the event a significant storm event is forecasted that threatens the safety of personnel, equipment, or existing infrastructure, the dredging equipment and other heavy equipment would be demobilized and staged in an upland location approved by the Corps.

Phase 5 – Sediment Re-entrainment

Phase 5 involves activities for the re-entrainment of sediment. Once adequate dam release flows occur, the sediment would be remixed with water and the slurry would be conveyed to the sediment re-entrainment area. Make-up water would be required at the sediment storage basin. This water would be drawn from Prado Basin as needed by using a temporary pumping system. Flow releases of 500 cubic feet per second or greater are targeted for re-entrainment. Re-entrainment would be accomplished with separate pumps or by placing a dredge in the temporary storage basin and re-dredging the slurry into the lower Santa Ana River immediately downstream of the Prado Dam concrete outlet channel. Dry sediments stockpiled adjacent to the storage basin would be pushed into the storage basin by a bulldozer for removal by the dredge/pumping system. An above-ground discharge line (12 to 18-inch diameter) and booster pump system would transport the slurry to the re-entrainment location. An adjustable piping system would be placed at the outlet channel to ensure the sediment was distributed evenly in the re-entrainment area.

Phase 6 – Monitoring and Site Restoration

Phase 6 activities include those required to collect data, monitor Project performance, and restore portions of the site disturbed by the Project. Site restoration would include removal of all equipment and re-grading the temporary sediment storage area to pre-project conditions. The sediment removal alignment, access roads, and sediment storage site would be managed to promote the growth of native vegetation and discourage the presence of non-native species. Additional performance monitoring would include regular aerial and ground surveys to track the movement of the re-entrained sediments and the sampling of water quality parameters.

Proposed Mitigation– The proposed mitigation may change as a result of comments received in response to this public notice, the applicant's response to those comments, and/or the need for the project to comply with the 404(b)(1) Guidelines. In consideration of the above, the proposed mitigation sequence (avoidance/minimization/compensation), as applied to the proposed project is summarized below:

Avoidance: Because the proposed project is water dependent (the removal of sediment within the Prado Basin), avoidance of waters of the U.S. is not practicable. However, the proposed sediment removal channel has been sited within an area dominated by *Arundo donax*, a non-native and invasive giant cane species, where its removal will benefit native habitat opportunity within the basin.

Minimization: Best Management Practices (BMPs) will be conducted during project implementation. Please see the attached proposed Special Conditions for typical BMPs. The minimization measures of re-vegetation of native riparian habitat within the Sediment Removal Channel and at the Sediment Storage Site would be described in the Habitat Management Plan (HMP) described below for compensatory mitigation.

Compensation: Compensation for impacts is proposed as follows:

The implementation of the Project would result in temporary impacts to 33.66 acres of waters of the U.S. (31.69 acres wetland waters, 1.97 acres other waters). Of the proposed 33.66 acres of temporary impacts, 10.75 acres of impact are associated with the installation of proposed mitigation, and 20.43 acres of impact are associated with the removal of non-native and invasive *Arundo donax* vegetation. These two types of temporary impacts (installation of mitigation and removal of *Arundo donax*; 31.18 acres total) would not require compensation. The remaining temporary impacts to 2.48 acres of waters of the U.S. (1.39 acres other waters, 1.09 acre wetland waters) are proposed to be mitigated at an approximately 4:1 ratio, with the specific required acreage and types to be determined. The Applicant proposes to prepare a HMP to implement the Project's mitigation requirements. The HMP would include non-native vegetation removal methods, native vegetation planting methods, plant pallet and planting methods, performance standards, and monitoring program and maintenance and adaptive management strategies. The HMP would include the following components;

- Restoration activities to re-establish native riparian habitat at a compensatory mitigation site.
- Restoration activities to re-establish coastal sage scrub habitat at a compensatory mitigation site.
- Ongoing restoration activities at Sunnyslope Creek to enhance habitat conditions for the Santa Ana Sucker.
- Installation of a rock gabion project to create potential refuge areas for the Santa Ana Sucker upstream of the River Road Bridge.

Proposed Special Conditions

The following list of draft Permit Special Conditions have been proposed by the Applicant and could become conditions of a permit decision.

1. All vegetation removal and clearing activities at the sediment removal channel and sediment storage/green waste processing area shall be conducted outside of nesting season from March 15 to September 15. Prior to vegetation removal activities a qualified biologist approved by the Corps shall survey the sediment removal channel and sediment storage/green waste processing area to confirm there are no active nests. If active nests are present vegetation removal activities shall occur no closer than 500 feet to the nest.
2. All ground disturbing activities shall be monitored by an archaeological professional meeting the Secretary of the Interiors Professional Qualifications Standards.
3. The Permittee shall implement a Riparian Habitat Monitoring Program (approved by the Corps via letter or email) to determine potential Project effects to the lower Santa Ana River riparian habitat. Baseline surveys shall be conducted in the soft bottom portions of the lower Santa Ana River to document existing habitat conditions and changes to riparian habitat after the Project is completed. The monitoring plan shall be implemented annually for 5 years following conclusion of the Project.
4. The Permittee shall implement a Dam Operations and Structures Monitoring Program to determine if removal of sediments from Prado Basin affects dam seepage. The monitoring program would monitor and evaluate pre-project and post-project condition water levels near the dam. Water levels will be monitored with the use of piezometers, boring samples or other approaches approved by the Corps.
5. The Permittee shall implement a Sediment Movement Monitoring Program to determine sediment profile changes in the Prado Basin and along segments of the lower Santa Ana River and upstream of the sediment removal channel. The purpose of the monitoring plan is to monitor changes in sediment deposition and erosion patterns along the lower Santa Ana River and head cutting and migration of sediments into the Prado Basin. The monitoring program would calculate volumes removed by dredging, volumes that accumulate after dredging, volumes that erode after dredging, and areas of disposition and erosion. At the end of each year the Permittee would measure potential head cutting caused by the Project. In the event the head cutting is more extensive than expected, sediment removals shall be focused on extracting new incoming sediments depositing into the sediment removal channel.

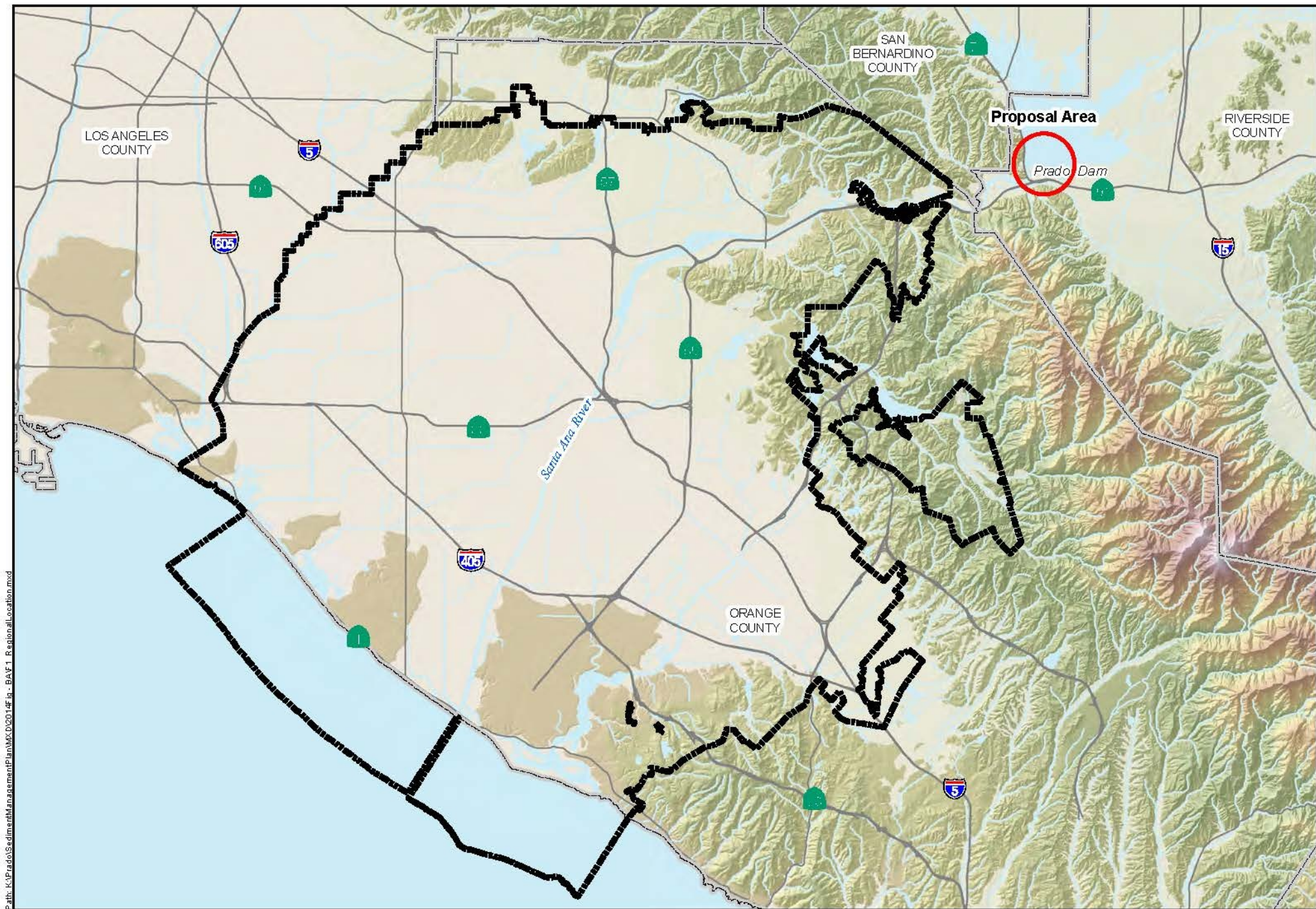
For additional information please call James Mace of my staff at 951-276-6624 x263 or via e-mail at James.E.Mace@usace.army.mil. This public notice is issued by the Chief, Regulatory Division.



Regulatory Program Goals:

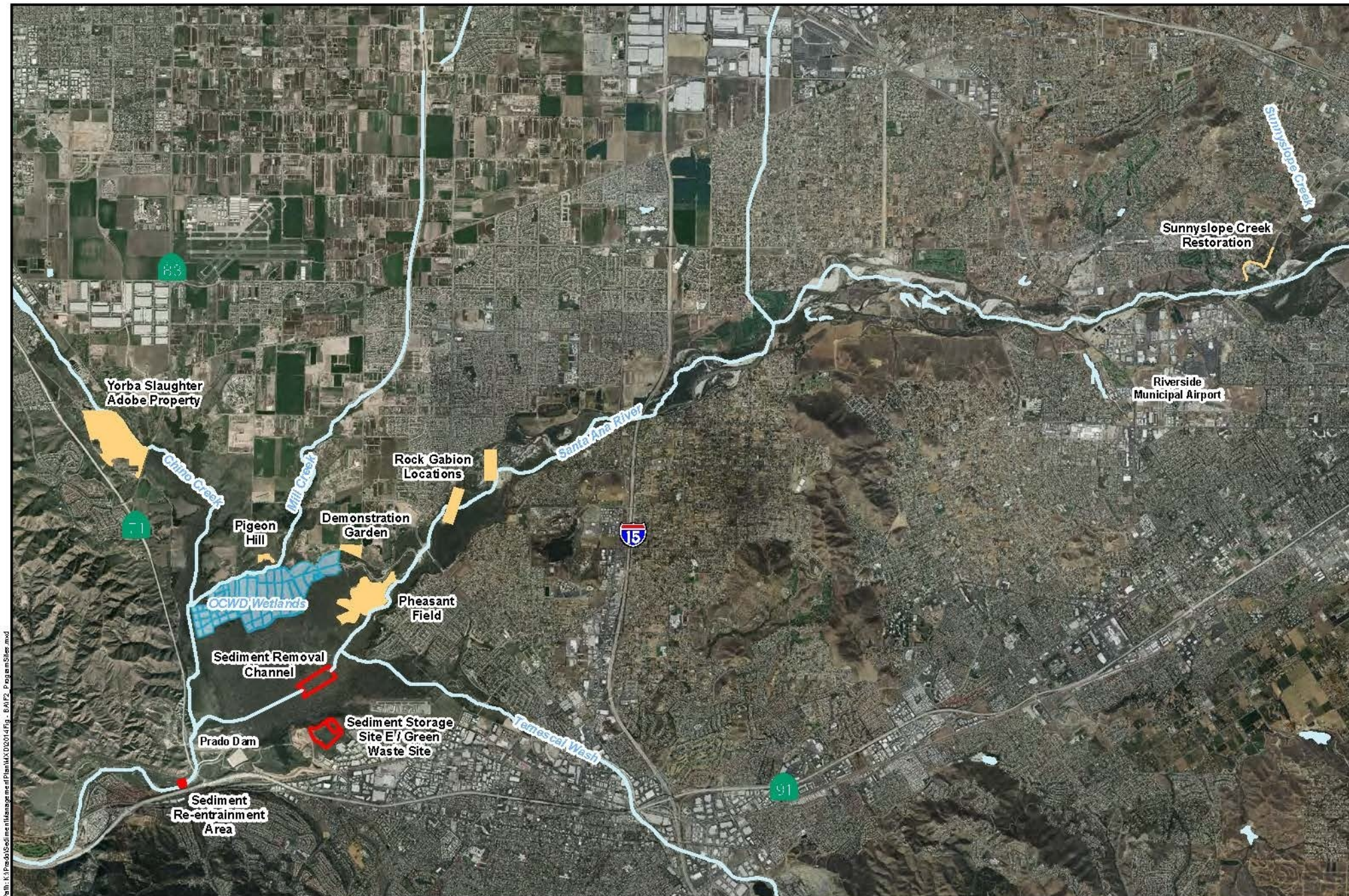
- To provide strong protection of the nation's aquatic environment, including wetlands.
- To ensure the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps' administration of its regulatory program.

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1451 RESEARCH PARK DRIVE, SUITE 100
RIVERSIDE, CALIFORNIA 92507-2154
WWW.SPL.USACE.ARMY.MIL/MISSIONS/REGULATORY

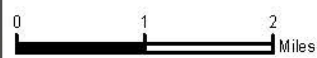


Prado Basin Sediment Management Demonstration Project
U.S. Army Corps of Engineers SPL-2011-00961

Figure 1. Regional Map



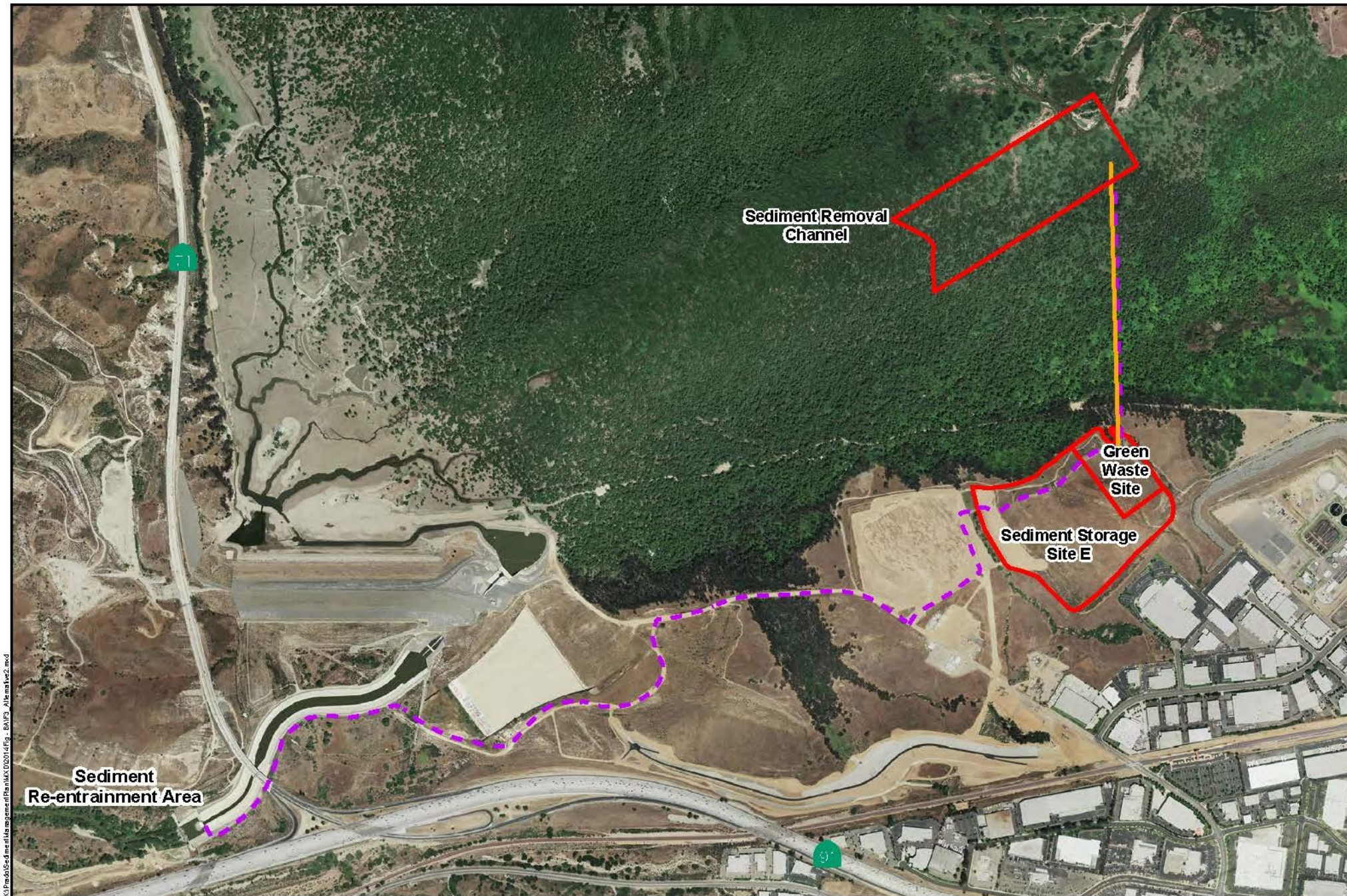
Path: K:\PradoBasinSedimentManagementPlan\Map\0201\Fig. 8A12_ProposalSites.mxd



 Proposal Areas Mitigation Program Sites

Prado Basin Sediment Management Demonstration Project
 U.S. Army Corps of Engineers SPL-2011-00961

Figure 2. Proposal and Mitigation Locations



0 750 1,500
Feet

— Proposed Access Roads — Above Ground Pipeline

Prado Basin Sediment Management Demonstration Project
U.S. Army Corps of Engineers SPL-2011-00961

Figure 3. Project Layout