



PUBLIC NOTICE

APPLICATION FOR PERMIT

LOS ANGELES DISTRICT

Public Notice/Application No.: SPL-2010-00157-RRS

Project: Alta La Jolla Drainage Repair Project, Phase 1 and 2

Comment Period: April 19, 2012 through May 21, 2012

Project Manager: Robert Smith; 760-602-4831; Robert.R.Smith@usace.army.mil

Applicant

Michael Handal (619) 533-7588
City of San Diego, Engineering and Capital
Projects Division
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Contact

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Geosyntec Consultants
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Suite B-101
San Diego, California 92110

Location

The project is located in a deeply incised drainage south of Alta La Jolla Drive and north of Vicki Drive, in Lot 1, Unit 15 of La Jolla Alta Planned Residential Development, in the community of La Jolla in the City of San Diego, San Diego County, California. The site is depicted on the U.S.G.S. 7.5 minute La Jolla Quadrangle in Section 36, Township 18 South and Range 4 West. The proposed project impacts would occur in an unnamed tributary to the Pacific Ocean (See attached drawings). (The proposed project can also be found at: lat: 32°49'7" N; long: -117° 14'36" W).

Activity

The project includes reconstruction of a channel project that includes the Phase I portion that was already constructed in 2007/2008 and needs reconstruction and the proposed new Phase II construction that includes earthwork to stabilize canyon slopes, restore a severely incised drainage, construction of a flow weir box diversion structure to a storm drain system to restore hydraulics in the reconstructed drainage channel by diverting channel flows into a 36 inch pipe and into a reconstructed cobble-lined natural channel system, and construction of a detention basin. As proposed, the applicant's project would result in permanent impacts to 0.33 acres of Corps Other Waters of the U.S. (OWUS). No wetlands or other special aquatic sites are proposed to be impacted. All on-site drainages have been determined to be ephemeral, non-wetland OWUS. A total of 0.35 acres of OWUS will be restored onsite within a restored channel and with offsite removal of invasive plants (pampas grass) at Kate Sessions Park. For more information see page 6 of this notice.

Interested parties are hereby notified that an application has been received for a Department of the Army permit for the activity described herein and shown on the attached drawing(s). Interested parties are invited to provide their views on the proposed work, which will become a part of the record and will be considered in the decision. This permit will be issued or denied under Section 404 of the Clean Water Act of 1972 (33 U.S.C. 1344).

Comments should be mailed to:

LOS ANGELES DISTRICT, CORPS OF ENGINEERS
SAN DIEGO SECTION, REGULATORY DIVISION
Attn: Robert R. Smith Jr., P.E. Permit Nos. 2010-00157-RRS
6010 Hidden Valley Road, Suite 105
Carlsbad, California 92011

Alternatively, comments can be sent electronically to: robert.r.smith@usace.army.mil

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 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 that 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 (CRWQCB). Section 401 requires that any applicant for an individual Section 404 permit provide proof of water quality certification to the Corps of Engineers prior to permit issuance. For any proposed activity on Tribal land that is subject to Section 404 jurisdiction, the applicant will be required to obtain water quality certification from the U.S. Environmental Protection Agency. The applicant has applied to the CRWQCB and received a denial without prejudice letter dated December 23, 2011 from the CRWQCB.

Coastal Zone Management- This project is located outside the coastal zone and preliminary review indicates that it will not affect coastal zone resources.

Cultural Resources- The applicant has prepared a cultural resource report by Laguna Mountain, Inc. (Laguna, 2009) who conducted an archaeological survey of the site on September 10, 2009 that included a survey of the study area and records search to identify recorded sites. The project area site has no cultural sites that are listed on the National Register of Historic Places, the California Inventory of Historic Resources or the California Historical Landmarks databases. Three historic or architecturally significant buildings are located within a one-mile radius of the site. Record searches at South Coastal Information Center and the San Diego Museum of Man indicated that the project area had previously been surveyed for cultural resources and nine archeological sites have been identified within a one-mile radius of the site. One archeological site (CA-SDI-18562) is located on the east side of the ephemeral drainage channel within the area of project effect (APE). This site was originally recorded in 2008 by Brian F. Smith & Associates as a historic concrete slab/foundation and light trash scatter. This site was relocated during the 2009 survey and the slab/foundation was observed to include an inscription "G.L.D.//W.T.D.//1/22/48," indicating the foundation was constructed in January 1948. The foundation/slab was observed to be undermined and some of the cement block wall had fallen into the drainage channel.

The cultural report prepared states that Site CA-SDI-18562 was determined not to be eligible for the California Historic Register or eligible for nomination to the National Register. Therefore no additional work was recommended to address this resource by the applicant to date. The potential for buried archaeological resources is present within the project area based on archival research. As a result, an archaeological and tribal monitor would be required during grading activities to minimize potential for destroying unidentified archaeological resources that may have been buried or obscured during previous surveys by dense vegetation. The Corps has submitted the cultural report to the Native American Heritage Commission (NAHC) and received a letter from the NAHC dated April 14, 2011 stating no Native American cultural resources were found within ½ mile of the area and there was a list of tribes provided that the Corps should consult with. The Corps and the

cultural report consultant then submitted letters to each tribe on the NAHC list and to date have not received a response from the tribes. The Corps shall complete its duties under Section 106 of the National Historic Preservation Act during the Corps permit process.

Endangered Species- Rocks Biological Consulting (RBC) conducted a general flora and fauna survey of the site on August 26, 2009. The site supports the federally threatened coastal California gnatcatcher (*Polioptila californica californica*). The coastal California gnatcatcher was observed foraging at the southwest corner of the project area near Vickie Drive, outside the Multi-Habitat Protection Area (MHPA) and near the northeastern boundary of the project site within the MHPA. The coastal California gnatcatcher is a 'covered' species under the City's Multiple Species Conservation Plan (MSCP), thus impacts on this species are allowed when development is performed in conformance with the City's regulations and a Site Development Permit is issued. Impacts will be mitigated in accordance with the City of San Diego MSCP Subarea Plan and all implementing regulations.

The Corps initiated formal consultation with the USFWS on February 28, 2011 for potential direct and indirect effects to the coastal California gnatcatcher. It is anticipated that direct and indirect effects would be avoided by clearing occupied habitat outside of the nesting season (March 1 through August 15), avoiding noise impacts during the nesting season, implementing construction best management practices (BMPs), such as dust, erosion, and sediment controls, and permanently restoring disturbed areas with native vegetation, resulting in a net gain of coastal sage scrub, the preferred habitat of the coastal California Gnatcatcher.

As a result of the potential effects of the coastal California gnatcatcher that are covered under the City's MSCP Subarea Plan, the Corps requested a letter of concurrence from the U.S. Fish and Wildlife Service (USFWS) stating that the proposed project would not have an adverse effect or jeopardize the existence of the coastal California gnatcatcher if implemented in conformance with MSCP regulations and guidelines.

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

Project description- The proponent proposes to implement the Phase 2 drainage repair activities in accordance with the Settlement Agreement between the City and La Jolla Alta Master Council. The project objective is to finalize stabilization of the canyon slopes, restore the severely incised drainage, and restore the reconstructed drainage channel. In addition, the project shall improve the functions of the streambed. The Corps has completed the jurisdictional determination of impacts to waters of the U.S. and the Phase I portion impacted 0.13 acres of waters of the U.S. and the Phase II portion would permanently fill 0.2 acres of ephemeral waters of the U.S. associated with diversion of flows into a storm drain pipe and a restored channel to maintain functions and slope and channel stability. The Phase 2 activity is mass balanced with cut and fill, and no soil will be imported. Total impacts to non-wetland

waters of the U.S. for Phase I and Phase II sum to 0.33 acres.

Phase 1 and 2 include the following activities:

- 1) Grading to improve functions in the Phase 1 and Phase 2 areas;
- 2) Installation of permanent unimproved maintenance roads;
- 3) Installation of a temporary equipment staging area in the southern portion of the site;
- 4) Installation of an 0.67 acre detention basin in the southern portion of the site;
- 5) Replacement of the Phase I 660-foot 42-inch CMP storm drain line with a 42-inch reinforced concrete pipe (RCP) to meet City specifications;
- 6) Replacement of the two tributary storm drain lines on the western slope (21-inch and 18-inch) with a 24-inch RCP and an 18-inch RCP, respectively;
- 7) Installation of a 24-inch RCP in eastern tributary;
- 8) Installations of a concrete energy dissipater (CED) with a weir structure at the terminus of the Phase 1 42-inch storm drain line. CED and weir structure designed to split and discharge flows into two drainage systems within canyon.
- 9) Installation of 36-inch RCP that will transition into a 42-inch RCP that will convey low flows (e.g. non-storm drain flows) and excess flows, resulting from the urbanized watershed, from the CED to the detention basin;
- 10) Construction of a restored natural drainage channel designed to match pre-development slope and geometry, as determined by historic topographic maps and will create channel conditions (velocities, shear stresses, etc.) that mimic pre-development hydraulics, to the extent possible. The restored approximately 1,270 linear foot drainage channel will consist of a flat one-foot deep and four-foot wide natural bed, with natural banks approximately eight-feet. To minimize erosion of the restored natural channel, an approximately 1-foot thick layer of cobbles with mean diameter (d50) of 6 inches will be placed in the channel bed that will extend approximately 5 feet (½ foot in elevation) up the channel banks. Flows will be able to sinuate naturally within the channel banks and no berms, channelization, manmade constraints or barriers will be constructed in the restored channel.
- 11) Re-vegetation of all disturbed areas at completion of construction including the detention basin, maintenance roads with native vegetation in accordance with regulatory and environmental permits and the Revegetation Plan prepared for the project by Rocks Biological Consulting (Rocks Bio, June 2011).

Additional Project Information

Background information- The project area receives storm water and non-storm water runoff from the surrounding urbanized area via four storm drain outlets and overland flow. The main channel and tributaries became severely incised due to storm water and non-storm water runoff over the past few decades. As a result of the deeply incised channel along the toe of slope, homes along the northwestern boundary of the project were at risk of potential slope failure. Due to slope stability concerns, the La Jolla Alta Master Council initiated an emergency repair project in 2007 to stabilize the northern portion of the project area under a Corps Regional General Permit (RGP) 63 (Permit SPL-2007-01229-RRS). This emergency action initiated Phase 1 of the project and consisted of placement of imported fill material to create an earthen buttress and fill pad, channelization of runoff in the northern portion of the site into corrugated metal pipe storm drain lines, and re-vegetation of the disturbed areas with a Coastal Sage Scrub seed mix. Phase 2 of the project includes finalizing the drainage repair and restoring the functions and values of the Alta La Jolla Drainage. The project functions and values to be restored include water quality, flood control, toxic sediment retention, wildlife habitat, and groundwater recharge. The City also seeks to, for the developed watershed runoff, attenuate 100-year peak flood events to the extent possible, restore degraded upland coastal sage habitat and meet the requirements of the Settlement Agreement between the City of San Diego and La Jolla Alta Master Council.

A notice of non-compliance associated with Permit SPL-2007-01229-RRS was issued to the City by the Corps in a letter dated September 17, 2010 letter. The letter outlined ten work activities that were in non-compliance with the RGP 63 permitted plan and requested the City provide relevant information and evidence of compliance for each of these deviations. The City provided a response letter to the Corps that provided information demonstrating the project was in compliance with the RGP 63 permitted plan. After a field review of the site with the City and the Regional Board on January 18, 2012 the Corps has closed out the majority of the non-compliance actions but is still reviewing compliance with the need for Phase I mitigation and the success criteria for the ecological restoration during the Phase I part of the project.

Existing Conditions – The site encompasses 7.9 acres of privately-owned open space canyon vegetated with native and non-native vegetation. The project lies within the boundaries of the City's MSCP Subarea Plan and is partially located with the MHPA. The ground surface within the existing canyon bottom slopes down from north to south and varies in elevation from approximately 380 feet above mean sea level (msl) along the northern Phase 1 emergency repair fill pad (described below) to 276 feet above msl at the Vickie Drive storm drain inlet.

As a result of Phase 1 emergency repair activities, portions of the northern half of the canyon were recently graded and contain manufactured fill slopes and a few concrete storm drain inlet and outlet structures. Drainage in the fill area is diverted into a 660-foot long 42-inch diameter corrugated metal pipe (CMP) storm drain. Runoff from two tributaries located on the western slope of the canyon is diverted into a 129-foot long 21-inch diameter CMP and a 155-foot long, 18-inch diameter CMP storm drain line, respectively. One un-channelized

tributary is located on the eastern slope of the canyon. The 42-inch storm drain line and three tributaries discharge into an ephemeral drainage channel located in the southern portion of the project area that discharges into a City of San Diego 48-inch storm drain inlet at Vickie Drive, and ultimately into the Pacific Ocean at Tourmaline Beach about 1.5 miles southwest of the site. Portions of the active drainage channel and the eastern tributary are deeply incised from previous and current erosion and contain vertical cuts in excess of 20 to 30 feet. The southern portion of the project area is relatively undisturbed with the exception of a dirt access road leading from the terminus of Vickie Drive to the southern end of the Phase 1 area. Several remnant concrete pads dating back to the 1940s are situated on the eastern side of the drainage in the central portion of the southern canyon. The only other structure in the southern canyon is the concrete culvert and inlet structure at the northern end of Vickie Drive.

Delineation of jurisdictional waters of the U.S. was performed in 2007 by Land Design Consultants (LDC) as part of the Phase 1 emergency repair activities and submitted to the Corps on September 12, 2007 for coverage under RGP 63. The Phase I project area included impacts to 0.13 acres of waters of the U.S. (WOUS) over a length of 730 linear feet. The Phase II project area has a total of 0.2 acres (2,590 linear feet) of WOUS. No jurisdictional wetlands are located within the project area. The project supports primarily Diegan Coastal Sage Scrub, Non-Native Grassland, Ornamental, and Ruderal vegetation. Small isolated patches of Saltbush Scrub and Lemonadeberry, which are subtypes of Coastal Sage Scrub, and Developed areas, are also present. Many areas of the channel support dense, upland vegetation that is dominated by non-native, non-wetland species such as Papas Grass (*Cortaderia* sp.), Tobacco Tree (*Nicotiana glauca*), Castor Bean (*Ricinus cummunis*; RACU), and Fennel (*Foeniculum vulgare*), as well as native upland species such as Goldenbush (*Isocoma menziesii* var. *menziesii*).

Alternatives Analysis -

The applicant has prepared a preliminary alternative analysis for consideration as part of the permit application. EPA's 404(b)(1) guidelines require the preparation of an alternatives analysis to determine the least environmentally damaging practicable alternative. The Corps is currently working with the applicant in revising the alternatives analysis.

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. The basic project purpose for the proposed project is flood control, environmental restoration, and geotechnical channel slope stability improvement. The activity is water dependent because the described project is constructed in, and will be maintained in aquatic systems, and the goal of the work is to restore the functions of the drainage within the project area.

Overall Project Purpose - The overall project purpose serves as the basis for the Corps Section 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 that allows a reasonable range of alternatives to be analyzed. The overall project purpose for

the proposed project is to stabilize slopes in the northwest Phase I portion of the drainage and restore the functions and values of the Alta La Jolla drainage in the Phase I and Phase II area.

The following is a summary of the project alternatives considered by the applicant in the initial analysis. This is provided to solicit comments regarding the adequacy of alternatives presented and does not represent a final determination by the Corps.

“No Action” Alternative: The “No Action” Alternative would involve leaving the Phase 1 emergency repair structures in place without any of the necessary repairs to the remainder of the drainage channel or the storm drain system.

This alternative would cause continued incision to the channel, and habitat and water quality degradation. The potential for loss of property and life would increase as the erosive storm water and non-storm water flows increase the potential for slope failure in the canyon. This alternative would not provide an opportunity for invasive species removal. Under the “No Action” Alternative, the CMP storm drains installed during the emergency repair project (Phase 1) would not be replaced with RCP storm drains and would not be compliant with City’s design standards. This alternative would cause the City to be negligent with respect to the Settlement Agreement with La Jolla Alta Master Council.

Restoration of Channel to Non-Eroded Configuration: Restoring the channel to its non-eroded/incised configuration would involve removing all temporary structures installed during Phase 1. The entire drainage channel would be re-contoured, which would require import of additional fill and a natural bed and bank channel would be constructed in the canyon bottom.

This alternative would temporarily restore the natural channel, but would not address the erosive storm water and non-storm water flows from the surrounding developments, which would ultimately result in the channel returning to its degraded incised condition. Stability of the channel, canyon slopes, and earthen buttress installed during the emergency Phase I activities, would subsequently be compromised, increasing risk to the surrounding property owners. Habitat restoration efforts along the stream corridor would fail as the channel incises over time. This alternative would require the City to perform on-going channel restoration (fill and grading activities) and maintenance to meet the requirements of the Settlement Agreement. Maintenance and permitting cost would be higher than the other alternatives, due to on-going fill requirements, and would be a financial burden to the City.

Gabion Mattress Grade Control Structures: RiverTech, Inc. conducted a study for La Jolla Alta Mater Council to identify alternative plans for stabilization of Alta La Jolla Creek in 2006. RiverTech’s preferred alternative included flattening the stream bed slope and installation of a series of stair-step type Gabion Mattress Grade Control Structures to control flow velocity through the canyon. All structures installed during Phase 1 emergency activities would be removed under this alternative. The entire drainage would be re-contoured, which would require import of approximately 48,100 cubic feet of additional fill. Permanent stability structures and six Gabion Mattress Grade Control Structures would be

installed at specified intervals in the drainage channel. Riprap outlets and energy dissipaters/impact basins would be constructed at the outfalls of the temporary 42-inch and 24-inch storm drains. A permanent maintenance road would be installed the length of the canyon along the western bank that would be vegetated with saltgrass (*Distichlis spicata*), a native grass.

Project construction cost would be higher from soil import and purchase of grade control structures than the other alternatives. This alternative would require a larger construction footprint with greater impacts to waters of the U.S. than the Proposed Action. This design is not allowed under City engineering regulations, is not compatible with MHPA guidelines, and therefore the design is not logistically practicable.

Proposed Project Alternative:

The proponent proposes to implement the Phase 2 drainage repair activities in accordance with the Settlement Agreement between the City and La Jolla Alta Master Council. The project objective is to finalize stabilization of the canyon slopes, restore the severely incised drainage, and restore the reconstructed drainage channel. In addition, the goals of the project are to restore the hydraulic capacity of La Jolla Alta Channel to pre-development conditions, improve water quality of the untreated developed watershed runoff, attenuate 100-year peak flood events to the extent possible, and restore degraded riverine and upland coastal sage habitat. The proposed project would allow for channel flows to be controlled such that the degradation of the channel due to sediment starvation and incision would be greatly reduced by channeling the erosive flows into a weir diversion box that would bifurcate the flows into a 36 inch RCP and a restored natural cobble-lined channel. Both the RCP and the restored channel would both flow into a detention basin that would discharge eventually at Tourmaline Beach. The City proposed the project at an interagency pre-application meeting and maintains that most of the agencies would be amenable to their proposal and it would comply with the Settlement Agreement.

Other Corps and Regional Board proposed alternatives:

Both the Corps and the CRWQCB have requested the applicant to review other alternatives as stated below:

Alternative 5 – (San Diego Regional Water Quality Control Board alternative) Retrofitting the existing developments to minimize, capture, and treat flows prior to entering the canyon.

Alternative 6 – (San Diego Regional Water Quality Control Board alternative) Widening, stabilizing, and/or restoring the area north of Alta La Jolla Dr. to minimize downstream erosion.

Alternative 7 – New Corps alternative concept of using bio-engineered drop structures for both Phase I and II with a special ERDC based designed water quality basin at downstream end of the project. Phase I would have an elevation of a restored channel invert to allow for proper slope stability and to allow existing Phase I buttressing to remain to resolve

residential slope failures of northern portion of the project area.

Alternative 8 – New Corps alternative concepts with other various configurations of high flow pipe flow diversions and restored channel flow diversions with other alternative restored natural channel and basin designs and flow diversions.

Alternative 9 – Corps alternative of using a different basin design for better water quality benefits (Hawaiian design) with the use of a rain garden-bioswale treatment & retention feature down both sides of the valley (Phases 1 and 2 areas). In the detention basin have the nitrogen and phosphorus reduction in groundwater technique installed. On the stream floodplain have them put in the microhabitat, increased edge and plant the willow poles deep and perpendicular to flow so the project does not get wiped out with a flood after planting. If possible, transplant plants from disturbed areas to streamside areas.

Alternative 10 - New alternative of restoration of channel to non-eroded configuration by removing Phase I fill and pipe and re-contouring entire Phase I and II channel and importing fill and restoring and re-vegetating restored channel. Restore and stabilize bank erosion caused by the storm drain pipes on the east and west side of the canyon and lower outlet to the canyon floor. Include a water quality treatment/detention basin at the bottom of the canyon.

The Corps welcomes public comments on the above alternatives and other variations per the Section 404(b)(1) guidelines and our Public Interest Review.

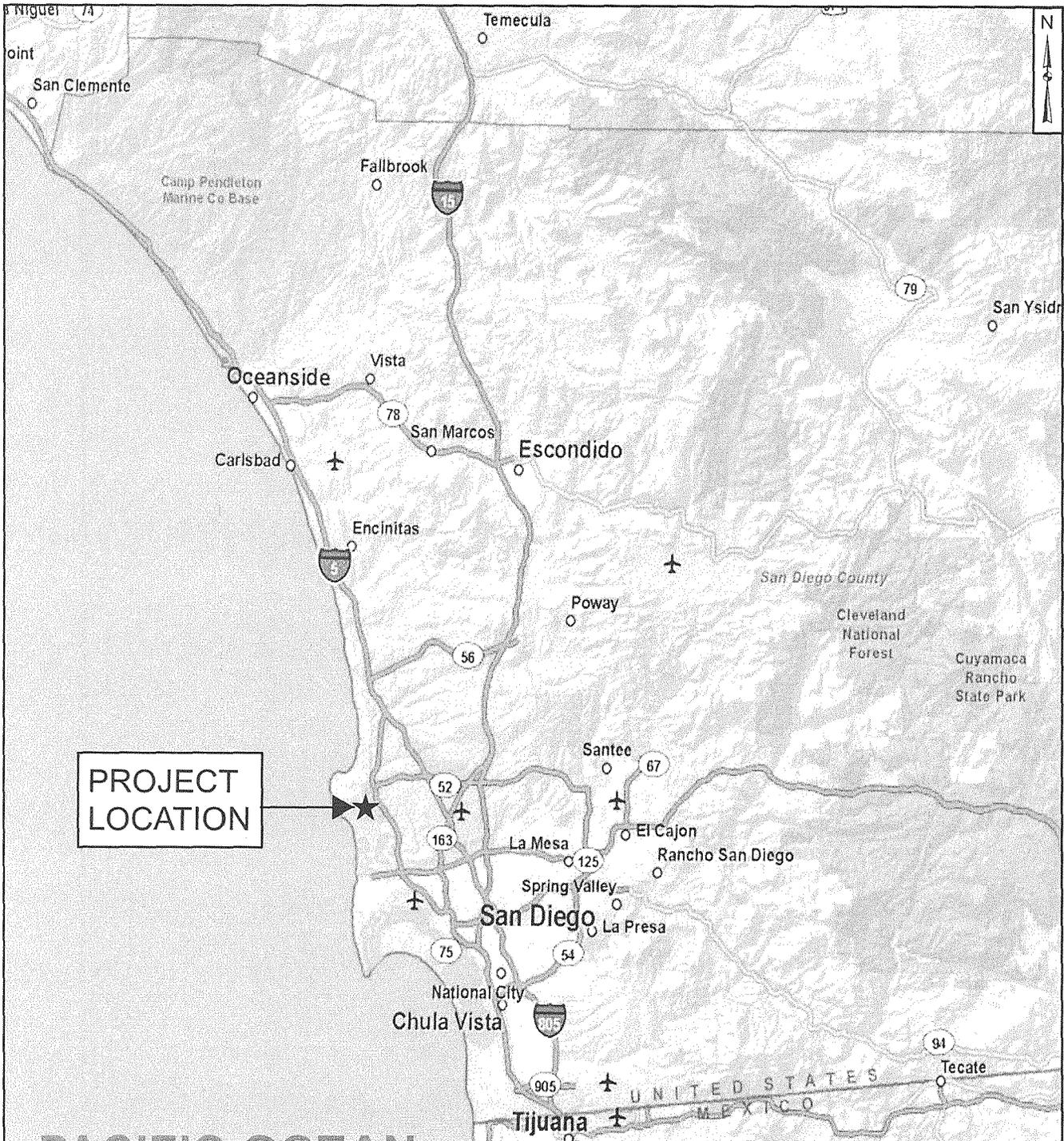
Proposed Mitigation – The proposed mitigation may change as a result of comments received in response to this public notice, the applicant's response to those comments, and/or the need for the project to comply with the 404(b) (1) Guidelines. In consideration of the above, the proposed mitigation, as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

Unavoidable impacts to OWUS will be compensated for through the restoration of an on-site natural drainage channel, construction of a detention basin, and through improved hydraulics, water quality, and revegetation. The Project design will provide improved riparian habitat, stream course stability, and water quality than the pre-existing conditions. Approximately 0.35 acres (1,270 linear feet) of the restored drainage channel will meet Corps criteria for OWUS and will serve as compensatory mitigation for total impacts on approximately 0.33 acres of OWUS. A combination of container plantings and hydroseeding will be used to revegetate the drainage and adjacent banks with wetland species including Mulefat (*Baccharis salicifolia*) with transitional and upland species along the banks.

The detention basin (0.67 acres) will be planted with riparian-upland transitional hydroseed mix. The basin is anticipated to provide compensatory mitigation in the form of wildlife habitat, improved water quality, flooding control, and sediment trapping. Vegetation within the detention basin will be maintained through periodic thinning and/or removal as required. Periodic sediment removal will be conducted to maintain the functionality of the sediment basin. Bollards will be installed in the basin to establish visibly

identifiable sediment accumulation height that would trigger sediment removal. Sediment will be removed when it accumulates to a height of 2 feet above the base of the detention.

For additional information please call Robert Smith of my staff at (760) 602-4831 or via e-mail at robert.r.smith @usace.army.mil. This public notice is issued by the Chief, Regulatory Division.



**PROJECT
LOCATION**

PACIFIC OCEAN



**REGIONAL VICINITY MAP
ALTA LA JOLLA DRIVE DRAINAGE
REPAIR PROJECT, PHASE 2**

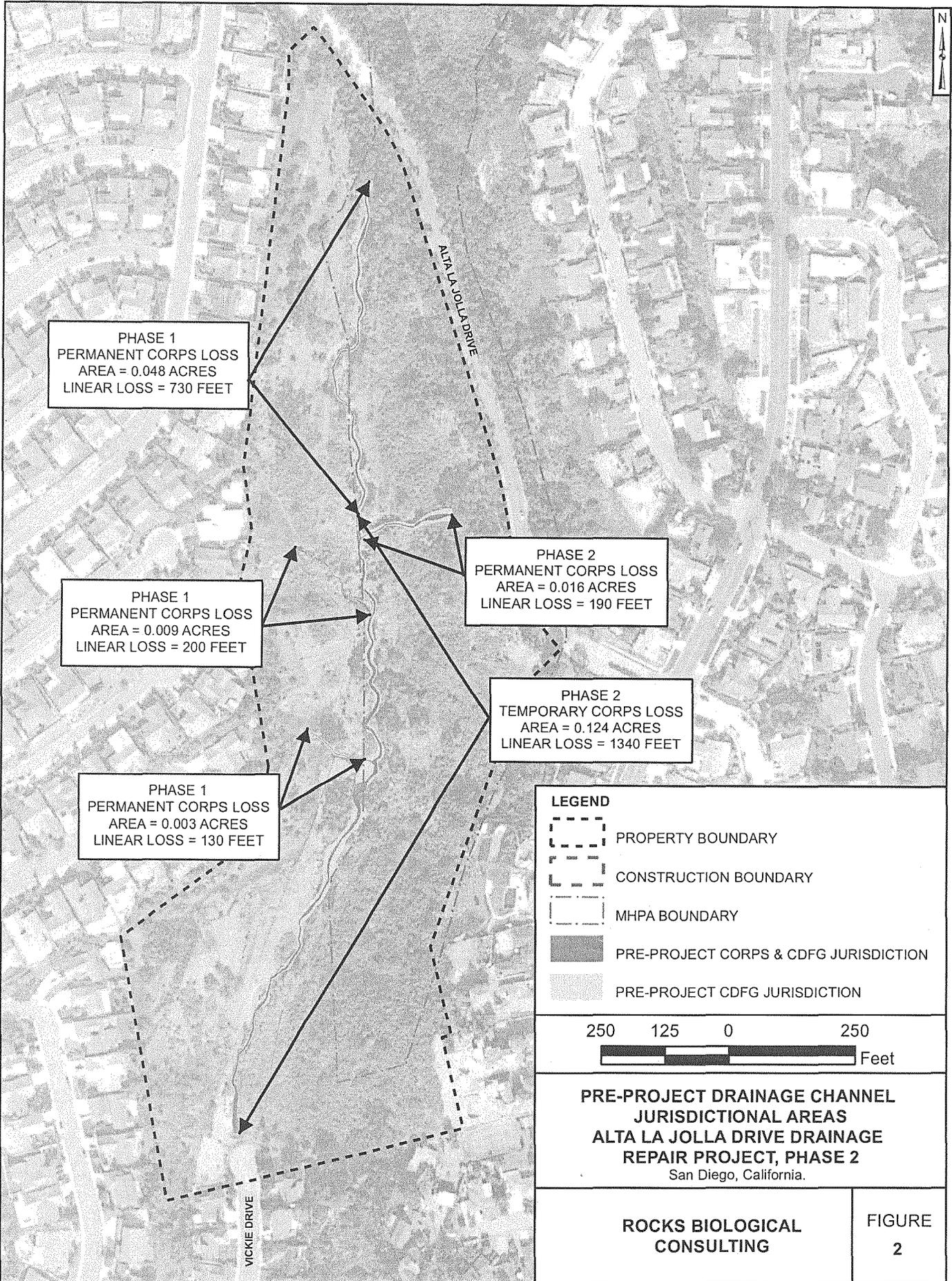
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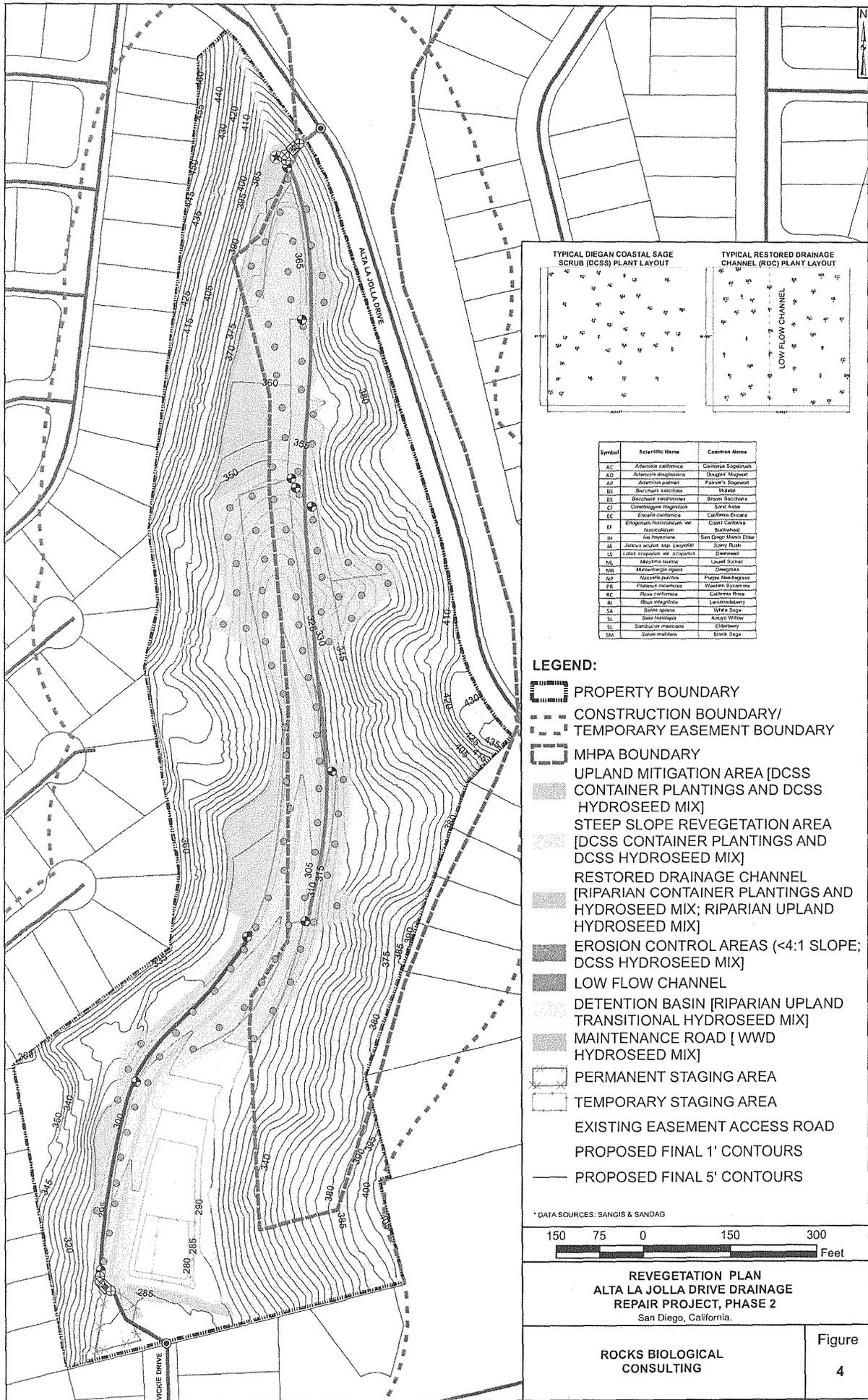
**ROCKS BIOLOGICAL
CONSULTING**

Figure

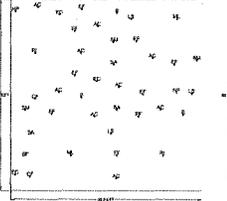
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* ESRI WORLD STREET MAP

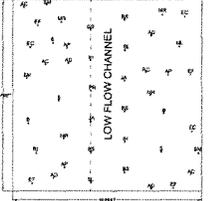




TYPICAL DIEGAN COASTAL SAGE SCRUB (DCSS) PLANT LAYOUT



TYPICAL RESTORED DRAINAGE CHANNEL (RDC) PLANT LAYOUT



| Symbol | Scientific Name | Common Name |
|--------|-----------------------------------------------------|----------------------------|
| AC | <i>Adenocaulon californicum</i> | California Sugarbush |
| AD | <i>Adenocaulon douglasii</i> | Douglas' Mugwort |
| AP | <i>Adenocaulon patens</i> | Patens' Sugarbush |
| BL | <i>Baccharis fasciculata</i> | Shrub |
| BS | <i>Baccharis stricta</i> | Brown Baccharis |
| CF | <i>Chamaecrista nuttalliana</i> | Yard Lotus |
| EC | <i>Eriogonum californicum</i> | California Escalier |
| EF | <i>Eriogonum fasciculatum</i> var. <i>maculatum</i> | Coast California Buckwheat |
| HI | <i>Ipomoea pes-caprae</i> | San Diego Hoop Elder |
| IA | <i>Juncus acutiflorus</i> ssp. <i>leucostachyus</i> | Spry Rush |
| LS | <i>Lobelia spicata</i> var. <i>arizonae</i> | Elevenwort |
| ML | <i>Muhlenbergia laevis</i> | Layard's Suncup |
| NR | <i>Muhlenbergia rigida</i> | Deergrass |
| NP | <i>Nassella pulchra</i> | Purple Needlegrass |
| PK | <i>Panicum racemosum</i> | Western Sycamore |
| RC | <i>Rhus californica</i> | California Rose |
| RY | <i>Rhus vitifolius</i> | Lemonadeberry |
| SA | <i>Sida spicata</i> | Tierra Sage |
| SL | <i>Sida fasciata</i> | Amigo Willow |
| SL | <i>Sida spicata</i> | Elephant |
| SM | <i>Suaeda maritima</i> | Black Sage |

LEGEND:

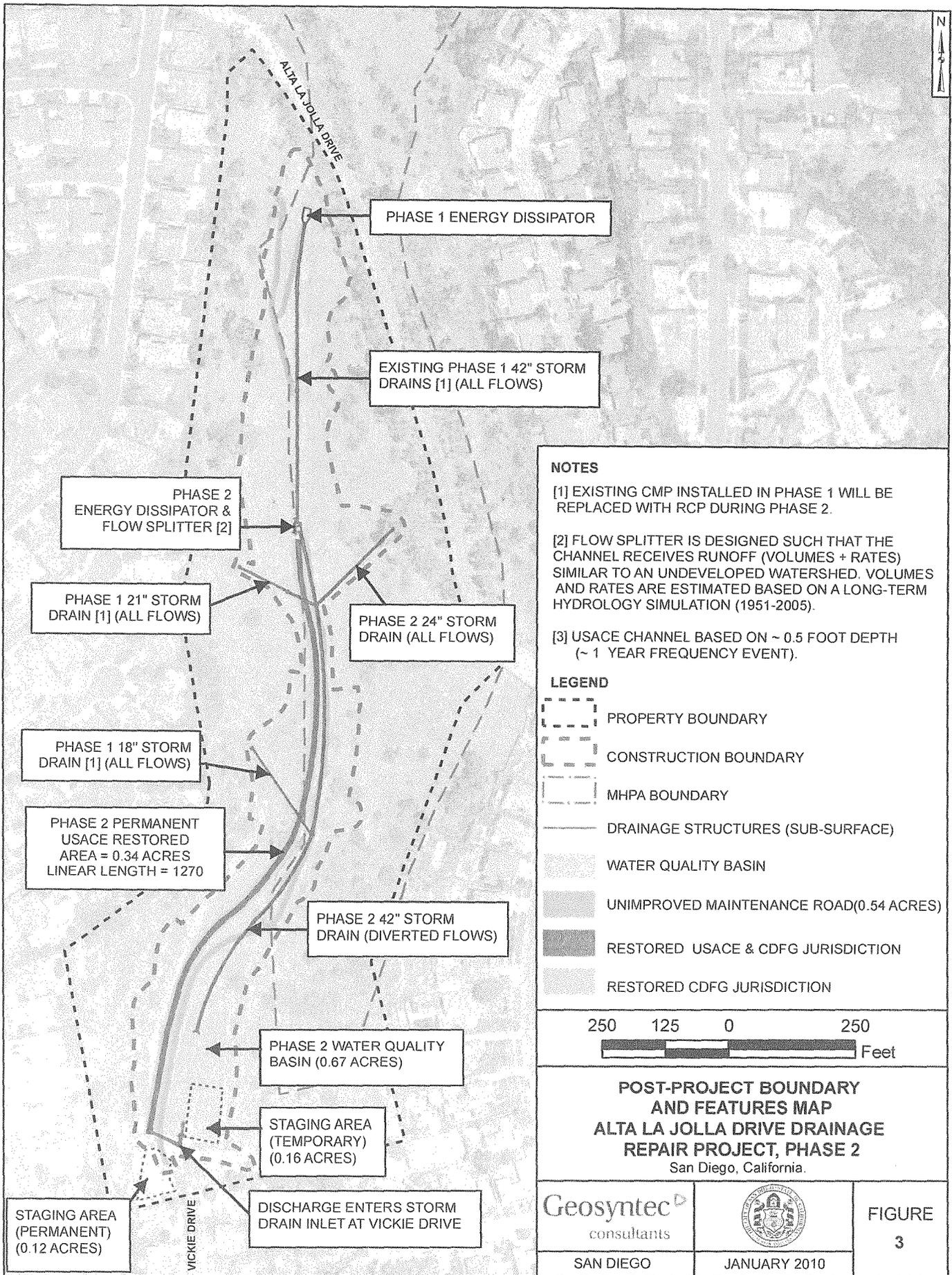
- PROPERTY BOUNDARY
- CONSTRUCTION BOUNDARY/
TEMPORARY EASEMENT BOUNDARY
- MHPA BOUNDARY
- UPLAND MITIGATION AREA [DCSS
CONTAINER PLANTINGS AND DCSS
HYDROSEED MIX]
- STEEP SLOPE REVEGETATION AREA
[DCSS CONTAINER PLANTINGS AND
DCSS HYDROSEED MIX]
- RESTORED DRAINAGE CHANNEL
[RIPARIAN CONTAINER PLANTINGS AND
HYDROSEED MIX; RIPARIAN UPLAND
HYDROSEED MIX]
- EROSION CONTROL AREAS (<4:1 SLOPE;
DCSS HYDROSEED MIX)
- LOW FLOW CHANNEL
- DETENTION BASIN [RIPARIAN UPLAND
TRANSITIONAL HYDROSEED MIX]
- MAINTENANCE ROAD [WWD
HYDROSEED MIX]
- PERMANENT STAGING AREA
- TEMPORARY STAGING AREA
- EXISTING EASEMENT ACCESS ROAD
- PROPOSED FINAL 1' CONTOURS
- PROPOSED FINAL 5' CONTOURS



REVEGETATION PLAN
ALTA LA JOLLA DRIVE DRAINAGE
REPAIR PROJECT, PHASE 2
San Diego, California.

ROCKS BIOLOGICAL
CONSULTING

Figure
4

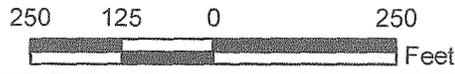


NOTES

- [1] EXISTING CMP INSTALLED IN PHASE 1 WILL BE REPLACED WITH RCP DURING PHASE 2.
- [2] FLOW SPLITTER IS DESIGNED SUCH THAT THE CHANNEL RECEIVES RUNOFF (VOLUMES + RATES) SIMILAR TO AN UNDEVELOPED WATERSHED. VOLUMES AND RATES ARE ESTIMATED BASED ON A LONG-TERM HYDROLOGY SIMULATION (1951-2005).
- [3] USACE CHANNEL BASED ON ~ 0.5 FOOT DEPTH (~ 1 YEAR FREQUENCY EVENT).

LEGEND

- PROPERTY BOUNDARY
- CONSTRUCTION BOUNDARY
- MHPA BOUNDARY
- DRAINAGE STRUCTURES (SUB-SURFACE)
- WATER QUALITY BASIN
- UNIMPROVED MAINTENANCE ROAD(0.54 ACRES)
- RESTORED USACE & CDFG JURISDICTION
- RESTORED CDFG JURISDICTION



**POST-PROJECT BOUNDARY AND FEATURES MAP
ALTA LA JOLLA DRIVE DRAINAGE REPAIR PROJECT, PHASE 2
San Diego, California.**

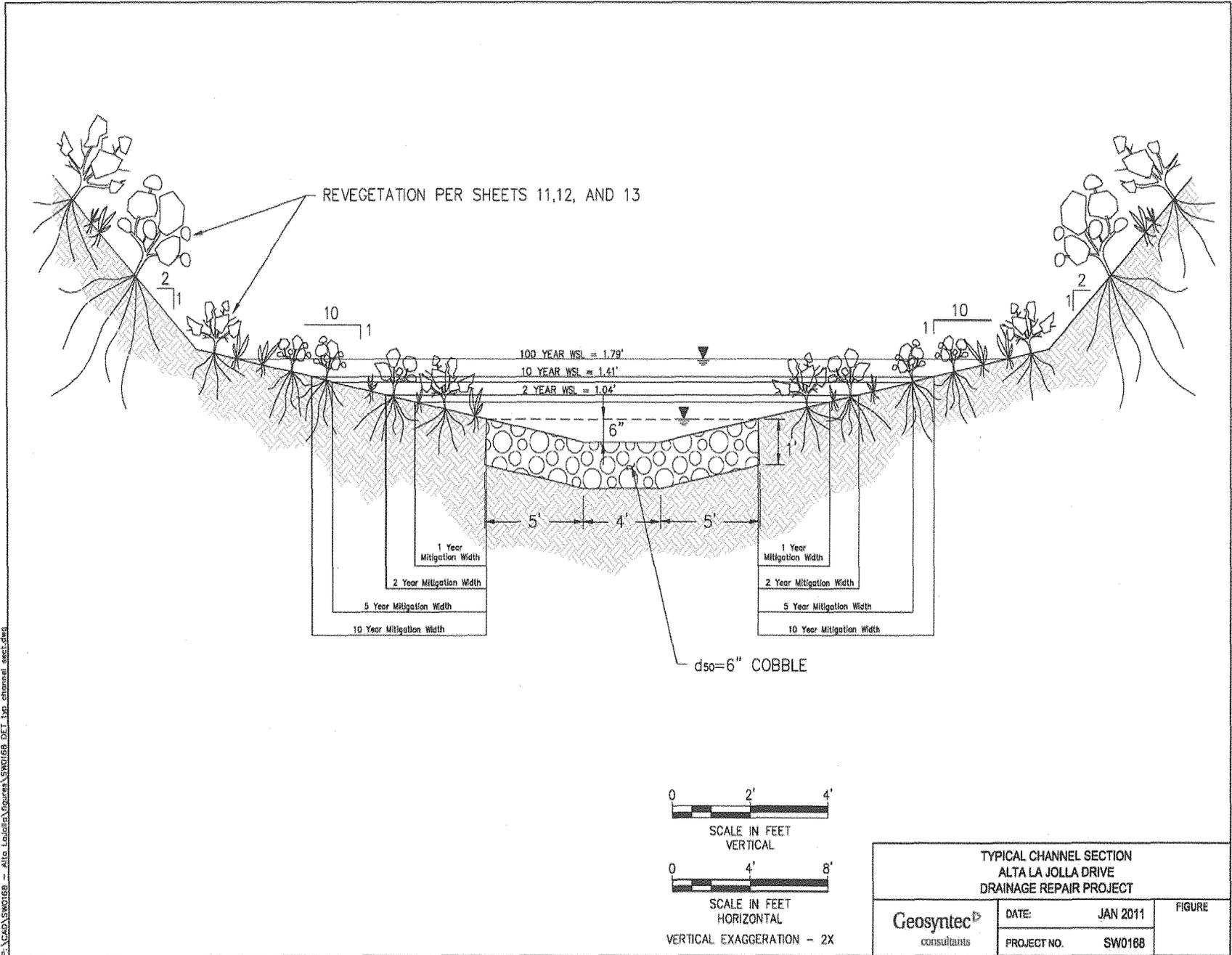
Geosyntec
consultants



FIGURE
3

SAN DIEGO

JANUARY 2010



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